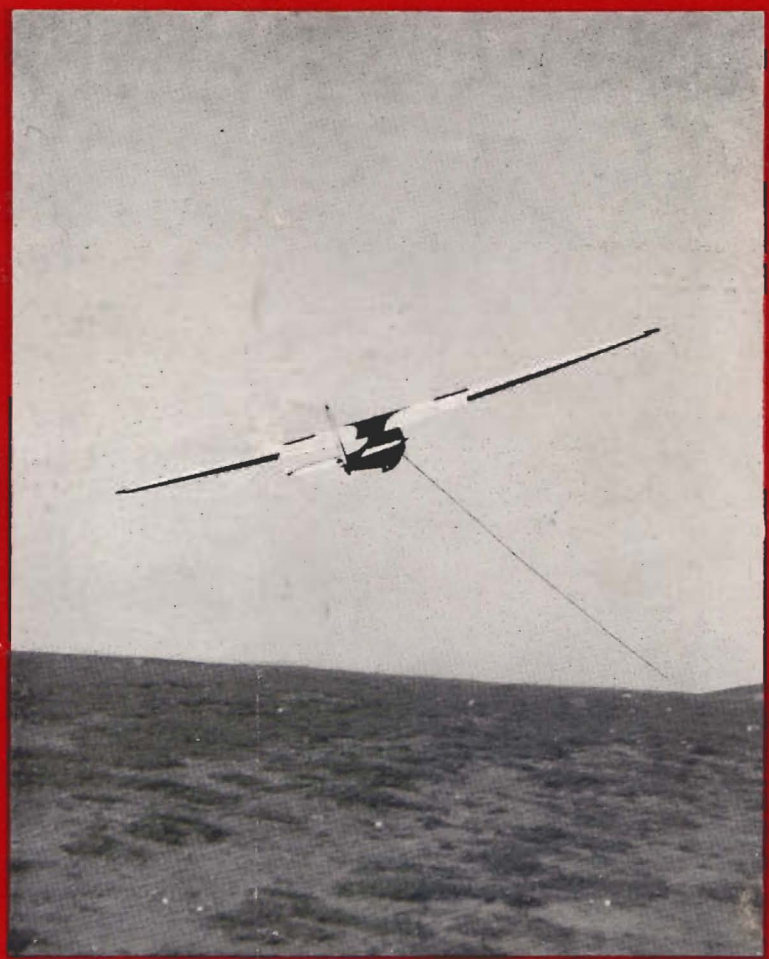
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*The First Journal devoted to Soaring and Gliding*



OCTOBER 1948

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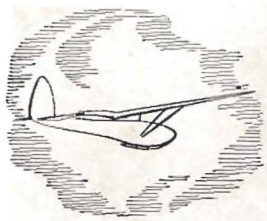
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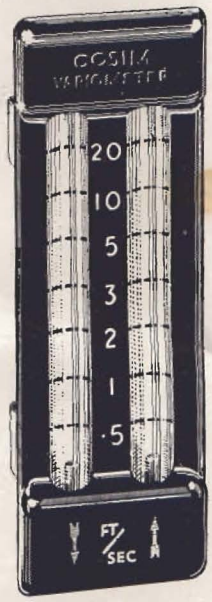
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OCTOBER 1948 ★ Vol XVI No 10

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*Cover Photo taken by GUY BORGÉ shows La Montagne Noire. A Rhonbussard takes off across wind in a "Great Launch."*

# LUNATIC REGULATION

THE heading does not refer to the regulation of lunatics, but to the regulations which are to be introduced by the Ministry of Civil Aviation in regard to pilots' power flying licences, just announced.

Whereas formerly a power flying "A" licence could be obtained after three hours' solo flying, a new "ab initio" applicant, will have to do 15 hours' solo and forty all told. This is lunatic regulation.

The announcement by the MCA reads as follows: "The Class 'A' Pilot's licence for non professional flyers is to be replaced shortly by a Students Pilot's Licence and a Private Pilot's Licence. It is proposed to introduce the new licences as part of the revised code of Air Navigation regulations now nearing completion following agreements reached by the International Civil Aviation Organisation.

At present there is no control over any 'learner flyer' who has reached the stage of solo flying, so long as he keeps within three miles of the aerodrome and has reached the age of seventeen. When the new regulations come into force, a learner will not be allowed to fly solo at all until he has obtained a Student Pilot's Licence, the only requirements for which are to be aged 17 and to have passed a medical examination. The holder may then fly under the orders of an authorised flying instructor, but he may do so anywhere in the U.K.

A Class "A" licence can now be obtained after only three hours' solo flying; the applicant for the new Private Pilot's licence (unless he already holds an "A" Licence) will have done 40 hours of flying, of which 15 have been solo. At present the only examination for the "A" Licence is in Aviation Law; the candidate for the Private Pilot's Licence will also take examinations in navigation, weather and aircraft operation.

While an "A" licence holder may fly any type of land aeroplane (or seaplane, if his licence is for seaplanes) without further formality the new licence will be rated separately for each of three categories or "groups" of aircraft; light weight single engined planes (like an Auster), light weight multi-engined planes (such as a Gemini); and heavier types.

Licences will be valid for two years for pilots under 35 years old, one year for those between 35 and 50 and six months for those over 50!!

Was ever such nonsense planned by anyone outside the Mad Hatters Castle?

Thirty years ago, when aircraft were a good deal more difficult to fly than they are now, and much less reliable, the Royal Flying Corps and the Royal Naval Air Service, possessed hundreds of pilots who not only went solo after two or three hours dual, but who went into operations with less than 40 hours and some times less than 20 hours' flying all told. Most of them are alive and well to-day. It is true that higher standards of flying are required by the Services now, but it is a good deal easier, less trying, and less tiring than it was, and much less hazardous. So that on practical grounds there are no reasons for the new proposals. But there are a good many reasons against them.

First the cost. Who (and especially if he is only 17) is going to be able to afford 40 hours' flying at say £2. 5s. 0d. an hour (the average figure). Total cost about £100. The flying clubs are already unable to make ends meet because of the few people who are able to afford to fly to-day. If those few are going to be mulcted every two years in order to be able to keep their licences, then there will be few licences taken or renewed. This only applies to those under 35.

The age business is probably the biggest nonsense of all. If a pilot is fit, let him fly solo whatever his age. He will be much safer than if he were in a car on the ground, and it's his own neck he is risking.

Clearly whoever thought of these regulations did so 'in vacuo.' They are founded on theory, but is that theory derived from experience? The theory is that you can fool all the people some of the time. But you can't fool some of the people any of the time. This time the flying community are going to tell the MCA that they are not fooled a bit. These regulations are ridiculous, and the sooner they are dropped the better. We want more and cheaper flying, not much less because it is much dearer. We want less regulation, not more. Let fitness to fly be governed by those whose business it is to take the risks involved. Base any regulations on the pilot's duty to himself and his family first and the State afterwards and you will be on the right lines. If he is fit he will pass a medical examination for an insurance policy. If he can satisfy an experienced instructor that he can fly, navigate, and service his own machine he will be eligible for a third party insurance policy, and that is the acid test.

As for "flying . . . under the orders of an authorised flying instructor . . . anywhere in the U.K. . . ." Any sensible pilot with enough petrol would make for France, where you can learn free if you are magic seventeen. Or even to Spain, where anybody can learn to fly and spend a month every year until he dies, gliding and flying at the expense of the State. Mad Hatters Castle indeed.

# GLIDING PROGRESS IN NEW ZEALAND

VARIOUS clubs and individuals in New Zealand can date their active interest in gliding back for eighteen years or more. The exploits of several "lone wolf" pilots can be recalled as far back as the early nineteen-twenties. It is perhaps interesting therefore to attempt some analysis of the factors affecting the lack of real development of the sport "down under," and to draw some conclusions therefrom.

Certainly the most potent retarding factor has been, and still is, our geographical isolation. In fact it may be possible to lay the entire blame there, when all things are considered. In the first place, overseas gliding news and achievements seldom penetrated through to the New Zealand public in pre-war days with sufficient impact to arouse that interest or understanding which is an essential background to any popular sport. Consequently in pre-war New Zealand, gliding was little known and was regarded as a hare-brained stunt indulged in by a handful of enthusiasts.

These "keen types," without exception, flew in open primaries, a class of machine which no one could call interesting or attractive, and in which few would find any sporting qualities. These primaries were never at any stage a preliminary to more advanced types, they were the sole equipment of the organisations and groups which flew them, although the hope was always held in those days that in due course better machines would be used. The deficiency of intermediate and advanced sailplanes was due of course to initial "undercapitalisation," aggravated further by the generally higher costs of importation. These costs were due in the first place to an unfavourable exchange rate, and secondly to the shipping charges over a route of 13,000 miles. Naturally, local amateur constructional skill was responsible for these primaries, but had barely reached the stage of attempting more advanced designs when war broke out, and all activity was forbidden.

At war's end, a much wider and deeper appreciation of the sport rapidly became apparent. Furthermore a significant change in viewpoint and emphasis in regard to the technical and training aspects was noted. The sport has drawn adherents from several sources; ex-service pilots and airmen, power pilots from the flying clubs, and the younger section of a public which has learned the lesson afforded by the German glider training programme. Clubs formed in all main centres and several provincial towns, and a National Gliding Association was subsequently formed. Considerable research into the failure of pre-war clubs to make progress resulted in several important features of policy now adopted by all clubs. The most far-reaching of these was the relegation of the primary trainer to the scrap-heap. None of the pre-war primaries was airworthy, after six years, and the all-round increase in the cost of replacement made solo training, with its inherent faults, appear in an uneconomic light. It was further found that pre-war clubs invariably lost members when they had mastered the primary and had nothing further to fly, and the cost angle already discussed had always made it difficult for clubs to add to their equipment. Sooner or later in the training cycle a good two-seater becomes highly desirable, so the decision was taken to equip and train on two-seaters from the outset, and the necessary greater funds were soon raised after intensive "money-grubbing" efforts.

As an instance, the Canterbury Gliding Club (Inc.), of which the writer is a member, stood in just such a position 18 months ago. In addition it possessed a 250 acre field, with 90 ft. by 60 ft. hangar, a winch and cable. It still has these assets, and the money in the bank to boot. No flying has yet taken place, no machines are as yet on order.

The reasons are not hard to find. Firstly, there were not, twelve months ago, many dual machines available. One well-known post-war English design was just coming into service, another was still in the prototype stage. Four American 2-seater types were offering, at definitely more attractive prices than the English. It would have been simple to select from this number a suitable aircraft, but there were greater obstacles, all thoughtfully provided at no additional charge, by the Civil Aviation Branch of the N.Z. Air Dept. In anticipation of impending I.C.A.C. glider requirements (to be promulgated in about 5 years' time), C.A.B. had at war's end adopted, with one stroke of the pen, the U.S.A. C.A.A. requirements for gliders and gliding, and added a few refinements of its own. Briefly, they require for any glider, imported or locally made, so comprehensive a type record that one overseas designer has expressed at least mild astonishment at its scope. C.A.B. further sewed the situation up by banning club constructional work and insisting that any local construction be entirely in the hands of the trade, thus preventing the fraternity from realising in any way on its own potential of skilled tradesmen as an aid to economy. The clubs accordingly had to choose American types as they were the only ones for which type records were available at the time of decision. If English type records were in fact available at the time, no manufacturer said so, and several did not reply to letters. In fact, one well-known English manufacturer's visiting representative attempted to get orders for types of aircraft which were definitely forbidden for club use by C.A.B. At the same time he indicated that there would be no interest in the N.Z. market unless orders were received for 20 machines.

Forced into acceptance of American types, clubs planned to get around the dollar shortage by arranging the construction of the selected type for standard club use in N.Z., by an approved firm, from approved plans. This course offered no prospects of economy, but was the only way out in the circumstances. This plan was implemented 15 months ago, but suffered repeated setbacks on technical points. It has now been abandoned this month, on receipt of information from the English firm referred

to, to the effect that type records have now been prepared for their range of machines. Further information is now required in order to decide whether to build under license or import direct. Latest news from overseas sources reveals that an exceedingly attractive two-seater will be available shortly in Canada, at an equally tempting price, and that it will have a type record acceptable to C.A.B. The appreciation of the £NZ. to parity with sterling as of last month makes the prospects of obtaining a machine from overseas sources extremely bright.

A change of heart on the part of Air Dept. in recent weeks has further improved the situation. The needs and ability of the movement have now somewhat belatedly been recognised, and clubs are now permitted to perform a reasonable and quite worthwhile portion of assembly and constructional work. Thus an unfortunate and unnecessary 3 years of stalemate appears to be drawing to a close.

The Air Dept. attitude is easily understood. Foreseeing that overseas gliding would eventually have to come into line with expected I.C.A.C. gliding requirements, and in so doing scrap fleets of machines or subject the authorities to a troublesome period of transition, C.A.B. have decided to by-pass such a transitional stage by prohibiting import or construction of types which are not fully documented or fall below a definite high standard of design. While such a decision has undoubtedly made for economy of effort on C.A.B.'s part, the N.Z. gliding movement has been subjected thereby to 3 years of wasted effort, loss of public sympathy, and individual frustration. It argues well for the future that our ranks have not been depleted by waning enthusiasm.

Making allowance for production dates, and the inevitable shipping and supply delays, it can be cautiously predicted that gliders may be flying in N.Z. a year from now. That millennial day will, we feel, release such a flood of enthusiasm as will provide a sound basis for our future expansion, with widespread popular backing of the sport.

We have our own standing waves, our own lusty thermals, hills and mountains, and brisk ocean breezes, to say nothing of our own up-to-date variety of red tape. Let's hope that from such a brew we can in time provide some interesting line-shooting for your pages.

A. W. S. STUCKEY.

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# SOARING IN FRANCE

## *The Montagne Noire National Soaring Centre*

**by GUY BORGÉ**

NEAR Toulouse (40 miles) stands the important Montagne Noire National Soaring Centre, at the border of three nice countries: Haute Garonne, Aude, and Tarn.

The Centre, away from inhabited land, has difficult access by a bad road crossing the Nr. 624 Castelnaudary-Revel Way. Its situation is superb, at 2,000 feet, and visibility almost round 360 degrees, covers 70 miles to the high Pyrenees; the Centre apparently has a position rather similar to the Long Mynd.

That is why the Montagne Noire looked a beautiful Soaring site to Messrs. Thomas and Guarrigue when in 1932 they sought a suitable field for their Toulouse Soaring Club. Their prospecting flight in a "Sulky" glider gave some good results in spite of many difficulties, mainly due to the need of an access road; oxen were often enlisted to tow the cars from the mud. In October, 1932, Guarrigue flew 1 hour 30, Thomas 3 hours 25, two good performances. 1933 saw the erection of a hangar on the hill, and M. Castello, an engineer from Dewoitine, interested by the tests, built for Thomas a new performance sailplane, the Castel "Condor."

In 1935 Thomas broke the French distance record by going to Mazamet (21 miles !). But one unhappy day, the terrible autan wind blew down the hangar and all the gliders collected during five years of continuous work. This disaster did not cool the



*A double Roll of Stationary Strato—Cumulus in the lee of Le Montagne Noire caused by the Autan wind.*

souls of the promoters who built a new hangar and (in 1936) organised an Easter Contest between 21 competitors flying 10 machines. It was successful and international owing to the participation of a Swiss team flying a " Spyr 3." One also saw the good performances of the tailless sailplane " Fauvel A.V.3 " and of the new " Castel " two-seater.

By 1940, Soaring was reorganised in France, and La Montagne Noire became a big Centre with a splendid equipment of fixed winches, hangars, barracks and workshops. At Castelnaudary, 7 miles away in the plain, studies of prototypes and production of serial types were carried out to supply the Centre and give it means to train the numerous pilots. Now it has the most important fleet of sailplanes in the world : about a hundred, of which a number is stored in the country owing to lack of room. I have counted in the hangars fifty machines ready to fly, or derigged :

**Primary—**
6 " Avia 152 " Nacelled Primaries.

**Training—14**
3 " Wolfs "
1 " Hutter 17 "
5 " Emouchets "
3 " Grunaus "
2 " Nord 1300's "

**Performance—13**
5 " Castel 310 P "
5 " Avia 40 P "
2 " Rhonbussards "
1 " Rhonadler "

**High Performance—8**
1 " Mü 13 Atalante "
3 " Spalinger S.18 III "
1 " Weihe "
1 " Minimoa "
2 " Nord 2000 Olympia "

**Two-Seaters—11**
4 " Caudron C.800 "
1 " Castel 242 "
2 " Castel 25 "
1 " P.M. 200 "
3 " Kranichs "

25 people are kept busy administering the Centre. The kind Centre Chief, a pre-war Silver " C," is called " the Father." The C.F.I., M. Gourbeyre, who studied the French method of training in two-seaters, has over 1,500 hours of Soaring, and is assisted by M. de Lasageas. Flying instructors are Messrs. Tardy, Delhoumme, Ambrosi, and Levet, all Silver " C." The technical instructor, M. Emond, a Pont Saint Vincent Silver " C." Each job has a special appointment : there are 5 joiners of whom the chief, M. Aubriot, is a Silver " C " holder, some drivers, mechanics, secretaries, one manager, one warehouseman. They use a very complete equipment that makes La Montagne Noire a model Centre.

The Soaring site is a hill, 2 miles long of an irregular shape, but right for the North Wind. When this is strong enough (at least 15 feet/second), the sailplanes start near the hangars, launched by a small fixed winch with 100 yards of cable and a pulley. The launch is sufficient for putting the machines in the air, and more economical than a bunjy ; it saves quantity of fuel and man-labour. A soaped wood split receives the skid of the heaviest sailplanes such as the " Kranich " to help the start.

The landing runway, just in front of the hangars, joins the shape of the hill with many protuberances, and a landing, which looks like a ski descent on the snow, calls for special care if the wind is strong, ascending and across the runway. Without sufficient training in the two-seater, many skids would be broken.

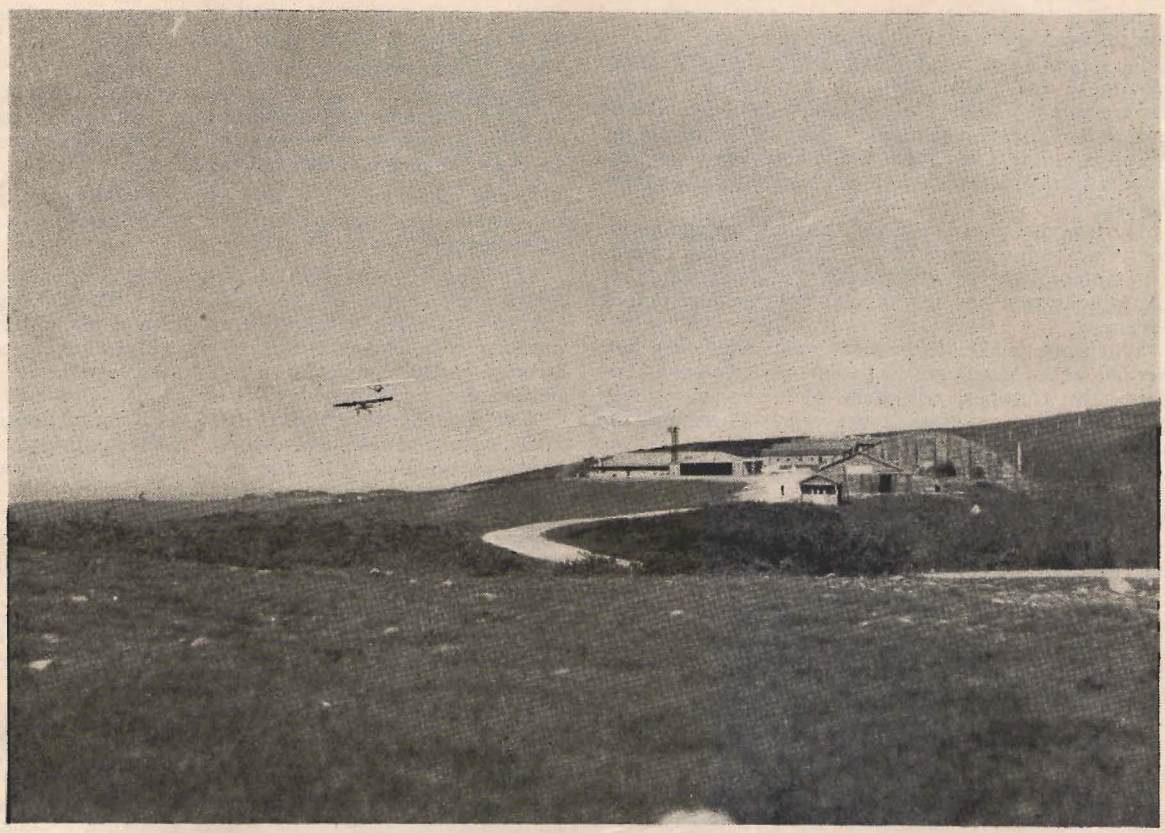
If a pilot sees his landing will be too long because of the ascending currents, he must take the slope and try coming in again as in a power plane. If he is too short and cannot land near the hangars, he uses one of the small runways along the hill, with a 45 degrees inclination, where he lands tailwind.

Fifteen sailplanes playing follow my leader along the slope was very nice but very tiring, and I often preferred to pick a thermal and take a trip over the plain ; in April I frequently found a 10-15 feet/second lift under the clouds at 3,000 feet above the start. Under these conditions, launches by the small winch can be laborious when one releases near several sailplanes and between two clouds : one flies at 20 yards from the hill and the down current considerably exceeds the slope lift.

When the wind is not fast enough to operate the small winch, the sailplanes start from the end of

The following statistics show the yearly flying results at the Centre from its opening :

| Year | Hours | Launches | Badges | | Silver " C " Legs | | | Silver " C " | Golden " C " Altitudes |
|---|---|---|---|---|---|---|---|---|---|
| | | | " B " | " C " | Dur. | Alt. | Dist. | | |
| 1941 | 2.237.23 | 2.607 | 90 | 90 | 65 | 15 | 8 | 6 | |
| 1942 | 3.179.44 | 3.241 | 74 | 98 | 76 | 39 | 8 | 10 | |
| 1945 | 4.714.31 | 4.828 | ? | 21 | 36 | 26 | 22 | ? | |
| 1946 | 4.153.37 | 5.936 | 25 | 53 | 69 | 38 | 16 | 19 | |
| 1947 | 4.331.23 | 8.353 | 34 | 73 | 82 | 55 | 31 | 32 | 2 |
| Total | 18.616.38 | 24.965 | ? | 335 | 328 | 173 | 85 | ? | 2 |



*Le Montagne Noire.*
*A general view from the Soaring Centre. Left—the landing area.*

the tarmac, launched by a Ford winch with 700 yards of wire. The only currents then consist of pure thermals, and this weather is depressing because it frequently announces the autan wind, the universal terror at la Montagne Noire: it descends the hill and prevails a long time. Coming from the south-east, it is very turbulent and strong; it can easily top 60 miles/hour and more: a 100 m.p.h. gale twice blew off a hangar roof.

The autan presents a mixture of mistral (wind canalized by a valley) and föhn (wind descending a mountain). Therefore, I often noticed by the autan in the lee of la Montagne Noire a stationary roll of Strato-Cumulus, 15 miles long, manifesting waves.

Since 1941, the instructors have prospected all the Toulouse country seeking for a field convenient for flying in the autan, but these tests are dangerous, so turbulent and fast is the wind: in 1942, a pilot was overturned in a "S. 18," happily without harmful results to him.

Arrangements have been made for the use of a field in the plain during the autan periods, and perhaps it will then be possible to study the waves formed in the lee of the Black Mountain.

The instruction given at la Montagne Noire is perfect, and the Centre gave tuition to nearly all the French instructors flying to-day in the other Centres and the Aero-Clubs.

As everywhere, a pilot arriving at the Centre must fly a "C.800" with an instructor to learn the configuration of the site, learning the landings on the "help strips" across or tailwind, the execution and stopping of stalls or spins. When that is O.K., the pupil makes a few two-seater "control flights" under the supervision of the C.F.I., before soloing the "Avia 152" nacelled primary. The progression is the following: "Avia 152," "Emouchet," "Grunau," "Castel 310," "Avia 40"—high performance machines ("Mü 13," "S.18," "Rhonbussard," "Rhonadler," or "Minimoa").

But this progression is right only when the pupil does not show a fault in his pilotage; otherwise a mistake, immediately written in his personal note-book kept by the Centre, is sufficient for descending

the ladder and coming back to the two-seater and the primary.

Such a strict method gives the best results and limits breakages to a noticeable minimum.

The pupils learn aerobatics, blind flights inside clouds, in the " P.M. 200 " or a " Kranich," aero-towing in a " C. 800 " or a " Castel 25." The Centre owns 3 " Fieseler Storch," but their use is infrequent : only for these lessons of aero-tow, the towing of sailplanes or their retrieving from distance flights.

During the autan periods the link-trainer works for blind flying instruction. There are also courses on meteorology, aerodynamics, material aids to the preparation for the official Soaring Instructors, Licences.

When one wishes to find the right wind, the best periods at la Montagne Noire fall in May-June, and September-October, although the perverse autan could blow at any time of the year. Therefore, the success of the courses entirely depend upon the autan : during certain periods, the pupils do not fly more than 10 hours. In the following one, they will top 40 or 50 hours and be too-tired to fly !

The easiest flights to perform at la Montagne Noire remain the durations : the air is generally calm, and the " five hours " less tiring than in the turbulent air as at Challes les Eaux.

The altitude legs present more difficulties because of the low ceiling on certain days ; on an occasion, I have even flown under a cloud ceiling at 600 feet and with 11 other sailplanes in the air. One must open the brakes to avoid entering clouds and risking collision with other machines in the same situation.

The best time to succeed in the Altitude exists during the distance tests, that are always performed to the Lezignan airfield, because of the scarcity of fields (inhospitable vines are a country speciality) and the proximity of the Mediterranean Sea. On certain days, the travellers to Lezignan can use good cloud streets and arrive at 5,000 feet above their goal after 30 minutes of flight. On other days, the conditions are less seductive, or changing very quickly : M. Levet, an instructor has attained his distance leg by taking off so late as 6.30 p.m. ; he climbed to 6,000 feet above his launching point although no sailplane could soar before that time !

Strong winds make easier the flight to Lezignan, but sometimes add to the difficulty : a 20 m.p.h. north wind at la Montagne Noire becomes at least 40 miles fast in the plain. One day, a pilot was overturned on landing by a 60 m.p.h. gale, and very lucky to be saved by the presence of a ditch where he fell upside down. The trailer brought back to the Centre his " Avia 40 " destroyed as I never saw before a sailplane.

At Lezignan, the airfield chief has received so many " Avia 40's " or " Castel 310's " that he knows very well their de-rigging ; sometimes better than the pilots !

The flights at la Montagne Noire are ruled in the same way as on a great airfield : the airborne sailplanes receive some instruction by a flying control with a great marks panel and signal lights. Each machine, of which the number appears above the panel must land as quickly as possible because the normal strip does not allow of more than one coming in at a time. A red light means the landing is forbidden. A green light means land.

Quick interruptions of this light mean a very imperative order. A red panel orders any sailplane to land immediately, for instance when a storm arrives. All the strips become covered with machines, and the retrieving teams have a hard job !

A red panel with a yellow bar gives warning to be careful on landing since the wind has become very strong.

The best day was the 1st March, 1945, when 125 hours were flown by 18 sailplanes. The special conditions of the landing strip do not allow this number to be exceeded and to get all the machines airborne ; the hours flown would have otherwise been more numerous.

Best months were March, 1945 (952 hours flown) and August, 1947 (844 hours). The number of hours at the Centre in one month could be envied by some Aero-Clubs' secretaries during a year period !

The good situation of the Montagne Noire Centre, with regular winds blowing on a period of days, has brought the breaking of many duration records. For this purpose, several high performance machines possess night equipment ; the most interesting is one of the " Mu 13," provided when Mrs. Melk wanted to break the feminine world record : a big beacon retracts in the side of the fuselage with an automatic control.

The French duration record to-date still belongs to Eric Nessler : 38 hours 21 minutes in a " Spalinger" that I saw in a hangar ; and the feminine records were broken here by Olga Girod, Suzanne Melk and Marcelle Choisnet flying an " Avia 40 " or a " Castel 242."

Some altitude performances when the wind is slight (don't forget the proximity of the Mediterranean Sea) are possible in Cu-Nb clouds. By these means, Messrs. Gourbeyre and Lasageas gained in 1947 their Golden " C " Altitude, the former in a " Kranich " and the latter in a " Minimoa."

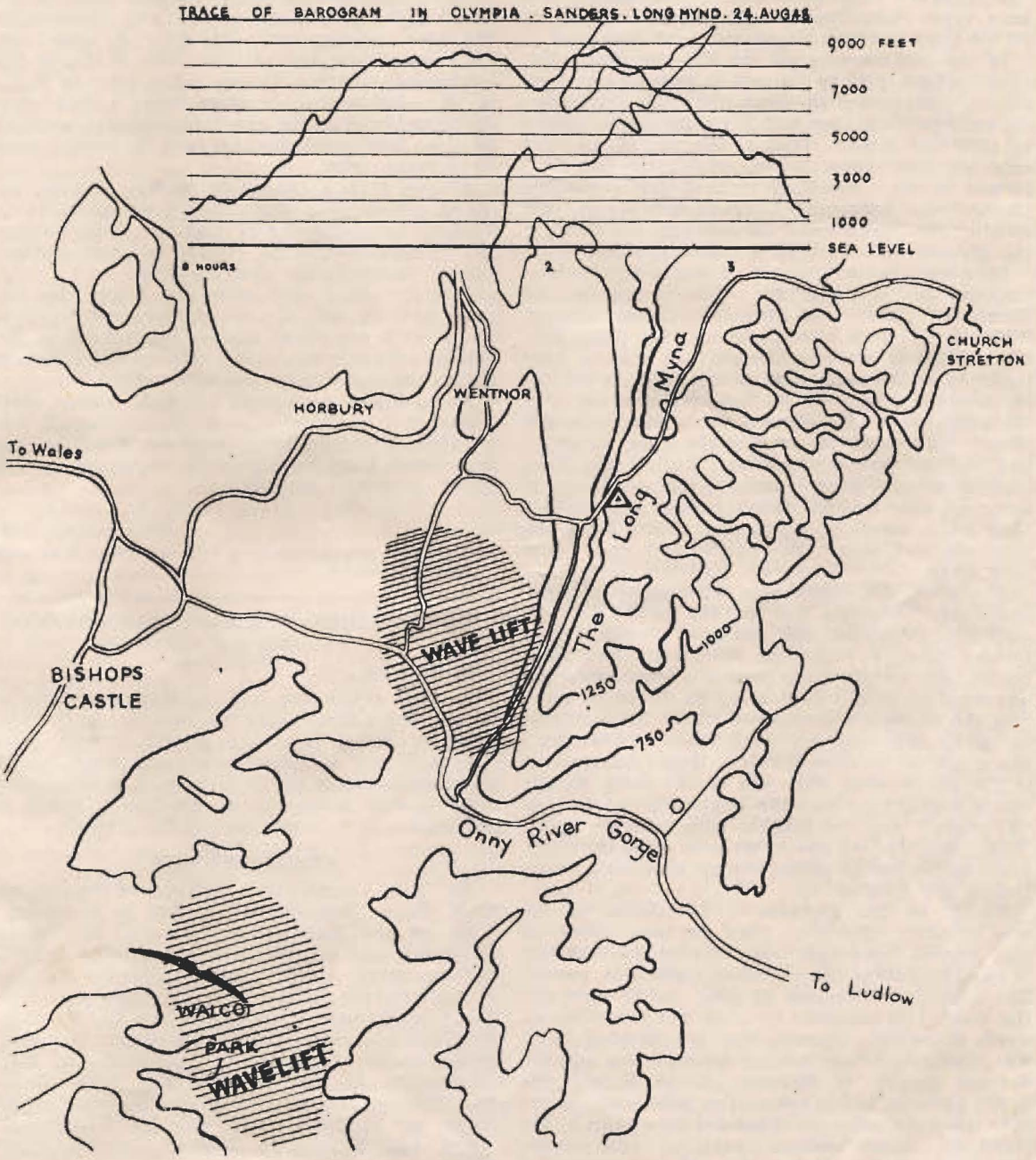
The sea also limits distance flights ; the best was already accomplished by the pilot Orbillot to Perpignan (63 miles) near the Spanish Border. But the instructors look at the eventuality of 200 miles or more distances crossing the Pyrenees Chain. It does not seen impossible for the lowest point of the Pyrennes just in front of the North wind stands at the Perthus pass near Perpignan (1,000 feet,) and some powerful currents exist close to the abrupt slopes. I even think that on account of this huge 10,000 feet chain arising from a great plain without a transition, the wind must become upward away from the mountain. But the difficulties will begin in Spain, where the actual currents remain very mysterious. The hardest work will be the first distance flight ; the others with the experience gained, will be easier.

I am sure that the Montagne Noire instructors will be able to surpass all these difficulties and show that their Centre, certainly the best in the world, is not only excellent for tuition jobs, but makes it possible to break any record.

## *Competition*

# NINE THOUSAND IN THE MYND WAVES

IN the morning the sun gilded the first cirrus of the warm front; and a blustering south-westerly, rushing down the hills, tugged at the rose bushes and whipped the copper beech in fluttering lines of brown leaves. I left Wales at nine, and by ten was grinding my way up the rutted track to the Midland Club's hangars, while overhead "Grunau" and "Kite" sailed the fresh breeze.



Alan had flown his five hours the day before, so the "Olympia" was waiting for me; polished wings gleaming in the pale sun, parachute checked, barographs inked and ticking. Away to the south-west, under the grey ceiling of altostratus, pale scud formed wispily over the rolling plateau of Clun Forest: but over the buttress of High Radnor snaked the sea-serpent shadow of lenticular cloud. Hopefully I struggled into zip suit, fur boots, fur hat, gloves and scarf: shoved my sandwiches in "Olympia's" wide pocket, and at ten-forty the keen types from Bristol and Poland bungied me off the 1,500 foot west slope into a fresh west wind.

In the cool morning air the lift was slack; but soon sunlight, playing through a space in the cirro-stratus ceiling, drifted down the valley springing thermals from the corn and I climbed in easy circles to 4,000 feet A.S.L. Then as the tops of the faint cumulus sank away below, while still no cloud formed in my thermal, I realised that something strange was happening: turned south-west, and steadily rose away from the hill and the cloud in the glass-smooth wind of a standing wave.

Long ago, before the war, I urged a "Kadet" through the Mynd hill-lift while Simpson's and Rattray's "Kites," and Thomas in the old crimson "Kondor," sailed high above in the 7,000 foot north westerly wave. Always since then I have hoped to do the same, even to make the 10,000 foot climb of the Gold "C" in that easy clear air; but the exigences of the Service (that usefully vague phrase) have never let me find the time, the place, and the sailplane all together. At last the thing seemed in my grasp; and, flying delicately at forty, I headed into the 35 m.p.h. wind pouring over Clun while slowly the altimeter ticked away the hundreds and slowly the purple and gold Mynd sank away.

The wind slid coldly past with never a ripple and slowly "Olympia" pierced the wave; lift grew gradually to sevens and gradually shrank away; turning back, I found the level crest two miles behind, dived swiftly into the rising wave again and quartered north and south along its three-mile span. Still the thousands sank away till at 7,500 the lift began to fade and, try as I might, "Olympia" would not rise above 8,500 feet. Here I hung poised in the glassy wind while out of the Long Mynd's purple background rose the bright plan of another "Olympia" and the familiar wide smile of Teddy Proll; and here we cruised an hour while far to the south and below us passed distant airliners between Dublin and London.

Under the flat greyness of altostratus the air was infinitely clear; so that the grey gleam of seas beyond Snowdonia and Plynlimmon, showing in splendid outline those western mountains, seemed like a painted backcloth by Dali. Roll upon roll the Welsh hills stretched to south and west; northwards in sunlight gleamed the ripe Midland farms with, in the east, the dark shoulders of Clee and the sleeping dragon of Malvern. Cloud flecked the sunlit plain and, far below, the pale scud drifted over the green valleys and wooded mountains of the Marches: lakes, villages, parkland and castles vivid and remote. Before the wide approaches to the Mynd all cloud was cleared, though north by Stiperstones and south by Onny Gorge it still sailed thinly past; and against the dark mass of the moor crept the bright tiny wings of all the other sailplanes, seeking the gateway to the wave.

The cold was sharp, and my shivering toes roused me from a contemplative lunch. I pushed the speed to sixty and dived south-westerly, upwind; down to seven thousand, the wings trembled softly, the needle rose gradually from minus seven, to zero, to five; once more at forty, I soared again to nine thousand feet. This wave, clear and cloudless like the other and three miles upwind of it, spread over the crescent lake and parkland hills of Walcot Hall by Bishop's Castle. If only I had gone to it first of all!—for as the barogram shows I found it in decay and from a brief nine thousand sank gradually to four: how strong might it have been had I found it an hour earlier?

At two o'clock the south westerly backed and faded and I spun down to a landing beside the hangar. Grey veils of rain hung over High Radnor; and by three the drizzle, floating in a soft southerly breeze, passed lightly over the Mynd.

Five days later, as I write, the August sky once more is filling with the leaping curves of the lenticular: off to the Mynd again! For hill lift is fun, cumulus is enthralling; but nothing else in soaring flight compares with the exaltation of the Wave.

These flights were made on 24th August, 1948. I have not soared any wave since, although there has been turbulence and lenticular cloud to show that waves have been present somewhere near the Mynd on several later days.

A. J. SANDERS.
30th August, 1948.

*(This is this month's winning entry in our "Is it worth while?" series.)*

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## ULTRA LIGHT AIRCRAFT ASSOCIATION

*(Continued from page 13)*

### Solo Training.

A most interesting and exhaustive treatise on Solo Training has reached me from Mr. A. R. Weyl, Chief of the U.L.A.A. Approved Design Team. This is a most complete survey and much too big for reproduction in the Bulletin as it stands. However, I shall endeavour to produce a precis for publication in a future issue of the Bulletin.

### ANNOUNCEMENTS.

Mr. G. A. Chamberlain, Chairman of the Aerotech Club, Hayes, has informed us that he is writing a book on the historic and technical development of aircraft and is anxious to include ultra lights in this treatment. He asks, therefore, for the assistance of readers of the Bulletin in the collection of material. What is required, in particular, are GOOD photographs of any ultra lights that have ever been built, flown and/or "pranged." Technical and other information is also required, the more obscure and unknown, the better. Will those who can help please get in touch direct with Mr. Chamberlain, whose address is: 86, Mildred Avenue, Hayes, Middx.

# ULTRA LIGHT AIRCRAFT ASSOCIATION

WITH each month that passes it becomes more and more obvious that the Ultra Light Aircraft Association has two distinct functions to perform. The first of these, getting people into the air as cheaply as possible by encouraging the formation of local ultra light aircraft Groups, is, we believe, by now well known. But because this particular function is well known we must take care not to lose sight of the second—and less obvious—one, which is to ensure that the ultra light aeroplane, as a desirable type, is developed to the best advantage.

The two functions of the Association are to a great extent inter-related in that those of our members who join a Group to get cheap flying benefit from the efforts of those whose main concern is the development of new and better types of ultra light aircraft, just as the latter benefit from the provision of numerous ready-made testing grounds in the form of various Groups. In another sense, however, the two functions are becoming quite separate and distinct from one another in that they are tending to attract members into the two classes, Group and Individual Membership. The person who is primarily interested in getting into the air is naturally attracted to Group Membership whereas the class of Individual Members tends to attract those who are mainly interested in design or who take a more academic view of the whole ultra light movement. It is true that in the latter class are also many who join in this way so as to keep in touch with the movement pending formation of a Group in their own district but sooner or later these Individual Members transfer to Group membership and the ranks of Individual Members are becoming increasingly filled with designers (amateur and professional) and technicians.

Whatever the interests of its members, however, the fact remains that for the successful performance of its various tasks the Association needs a well-balanced and steadily growing membership, both Group and Individual. And, we might add, never has this need been more pressing than at the present time. After almost two years of steady work, the ultra light aircraft movement is on the point of blossoming but the actual scope of this blossoming will be determined by the financial resources of the Association. These resources depend, in turn, upon membership and every member can, therefore, help to consolidate our present position and open the way for future developments by helping to recruit new members.

With one or two Groups already providing flying for their members, and several others on the verge of doing so, it is only natural that there has been a tendency for Group Membership to grow more rapidly than Individual Membership in recent months. Naturally we are very glad to see this steady growth in the size and number of Groups but at the same time, we feel that it is a bad thing that Individual Membership should begin to lag behind. This appeal is, therefore, directed more especially to our Individual Members since recruiting of Group Members is more directly the concern of the Groups themselves. We want to stimulate the recruiting of Individual Members and to this end we hope that each member in this class will look upon himself as a pioneer of the ultra light aircraft movement in his or her own particular area, making a point of introducing new members whenever possible. As a matter of fact many Individual Members have already done good work in this way but we believe that much more could be done. Will members please try to bring in a new member ?

As notified in the July Bulletin, the position of Honorary Secretary of the Association is vacant as a result of the resignation of Mr. Clegg from this office. Our call for volunteers to take over the duties of Hon. Secretary has, unfortunately, brought no response to date and we would, therefore, like to repeat it. The need to find somebody to fill this position is urgent and vital and we would be very glad to hear from anybody—member or otherwise—who would be prepared to tackle the job. Don't be put off by the fact that you have never done the sort of work involved ; the members of the Executive Committee will do everything in their power to help a newcomer. What is needed principally is common-sense, plus enthusiasm for flying, a reasonable amount of spare time and the ability to type. If you feel you would like to help with secretarial duties but don't care to tackle the job of Hon. Secretary, please get in touch with us just the same. There is always plenty to do for willing helpers. Please write to the Acting Hon. Secretary and let him know what you can do ! The address is 24, St. George's Square, Westminster, London, S.W.1.

## GROUP NEWS

**Aerotec Research Group, Bristol.** The Hon. Secretary reports that he has opened correspondence with the Gloucester Flying Club with a view to fostering better inter-relations in the west of England. The Group has been invited to visit the Club at Gloucester and it is hoped that the Gloucester people will return the visit later in the year. Having been engaged for some time on their own ultra light project—the " Sportsman "—a feeling is growing within the Group that it is time they became airborne. With this in view they have been examining various schemes, including the possible purchase of a B.A. " Swallow " or the possibility of building a " Praga 114." In connection with this latter idea, the Group believes that there must be quantities of parts of pre-war Hillson " Pragas " scattered about the country and would be glad to learn of the whereabouts of any of these. Members who have any information in this direction should get in touch direct with Mr. David R. MacFarlane, Hon. Sec., Aerotec Research Group, 38, Conygre Road, Filton, Bristol.

**Experimental Group, Elstree.** Members of the Group are busy on a number of projects, ranging from work on the overhaul of a " Bibi 550 " for C. of A. renewal to the digging of ditches to prevent flooding of their hangar after heavy rain ! The " Bibi 550 " (a 2-seater) is unfortunately just outside

the ultra light class, its all-up weight being some 35 lb. outside the upper limit. Powered with a 62 h.p. Walter Mikron engine, its performance and handling are typically ultra light and it will, therefore, serve as a useful training type for those who will later fly solo in ultra lights. It is anticipated that the " Bibi " will be ready for flying in the near future and dual instruction will then be offered at approximately 20/- per hour. Overhaul of the Group's Taylor-Watkinson " Dingbat " is also in hand and it is hoped that this machine, fitted with a Carden-Ford engine, will be ready to fly soon after the " Bibi."

**Aerotech Club, Hayes.** Construction of the Club's two-seat glider is now complete and the machine has been transported to Elstree aerodrome for erection in the Experimental Group's hangar there. We hope soon to be able to report that it has been satisfactorily test flown.

**Cardiff Ultra Light Aeroplane Club, Cardiff.** We were very sorry to learn from a report published in " Flight " that this Club has just lost its Taylor " Cub." The door of the hangar containing the machine was blown down and the aircraft completely turned over, being damaged beyond repair. After struggling for many months to buy this machine and have it overhauled, the Club members were just on the point of getting into the air. The C. of A. had just been renewed and the " Cub " was in fact, due to fly the next day. Unfortunately, we understand that the aircraft was not covered by insurance at the time of the accident so that the Club itself must bear the loss. We understand, however, that despite this crushing blow, members of the club have decided to start again from scratch and we would like to take this opportunity to commend them for their determination.

**Brookside Flying Group, Shoreham.** After an initial lapse, membership is reported to be increasing steadily and practically 100 hours' flying had been put in on the Group's " Magister " during the first two months of operation. The Group's two instructors are kept busy and two *ab initio* pupils have already soloed and one " A " licence has been granted. Two qualified pilot members of the Group recently flew to Scotland and back as part of an advanced training scheme. Having now gained some experience of operating an expensive machine such as the " Magister," the Group is very interested in obtaining an ultra light single-seater in which to provide really cheap flying and favours something like the Fairey " Junior."

**South Hants Ultra Light Air Club, Christchurch, Hants.** This is the latest Group to affiliate to U.L.A.A., having been allocated Group No. 10. They have already acquired a Heath " Parasol " single-seater which is to be re-conditioned and are negotiating with a view to buying an " Aeronca 100 " two-seater with the help of a loan from the Kemsley Fund. Most of the members of the Club are employed by Messrs. Airspeed Ltd. and it is hoped to obtain use of the local aerodrome at Somerford. Lord Ventry, the airship enthusiast and a recent recruit to the ranks of U.L.A.A. Individual Members, has consented to become President of the Club, which will now include small airship work amongst its activities.

**Community Flying Club, Woodley Aerodrome, Reading.** Some mention of this Club has already been made in past Bulletins and we are, therefore, very glad to report that they have now applied for affiliation to U.L.A.A. We understand that the Club has now taken delivery of a second aircraft and we shall look forward to giving more detailed reports of their activities in the future.

## NEW AND PROJECTED GROUPS

Mr. G. Don Bedson, one of our Individual Members, reports that, as a member of the Committee of the recently formed B.O.A.C. Flying Club, he has been able to interest his fellow committee-men in ultra light aircraft and an ultra light section has been formed within the Club. So far, we gather, two " Aeronca 100's " have been bought and negotiations are under way with a view to the purchase of a partly completed Luton " Minor."

Existence of another newly-formed Club interested in ultra light aircraft has just been notified, this being the Preston Flying Club. Present membership is twenty, five of whom hold " A " licences and the rest being under training. The Club has up to now been hiring " Auster " aircraft for training purposes but, finding this much too expensive, have recently acquired a " Drone " ultra light which they hope to get into flying trim.

Another Individual Member, Mr. David F. Ogilvy, is busy forming the Thames Valley Flying Group which will operate from White Waltham aerodrome. He will be very glad to hear from other enthusiasts in the Maidenhead area so will those interested please get in touch direct with Mr. Ogilvy, whose address is 9, Imperial Road, Windsor, Berks. We understand that it is intended to buy a Carden-Ford engined " Chilton " to start with while if the support forthcoming is sufficient, a " Tipsy " two-seater may also be obtained.

The Flintshire Aviation Group is being formed in North Wales by yet another Individual Member, Mr. J. J. McLellan. No specific plans for purchase of aircraft have yet been made, the idea being to get the Group going with meetings to discuss aviation matters in general. Enthusiasts in the North Wales area should get in touch with Mr. McLellan direct, his address being: Aelwyd Uchaf, Cwm Dyserth, Flintshire, N. Wales.

**Mr. A. R. Weyl, A.F.R.Ae.S.** We have very great pleasure in announcing that Mr. A. R. Weyl, head of our Design Team, has consented to sit on the Executive Committee of the Association as Chairman of a Research Sub Committee. Mr. Weyl has, in the past, worked closely with G/C. Mole, Chairman of our Design Sub Committee and will, we hope, continue to work in this way in his capacity as head of our Design Team. By taking the Chair of the Research Sub Committee, however, he will be in a position to study future trends in design on behalf of the Association and to guide the development of the type accordingly. We are very glad to have Mr. Weyl with us and are confident that the future of ultra light aircraft design could not be in better hands.

## DESIGN SUPPLEMENT

*Contributed by G/C. E. L. Mole—Chairman, Design Sub Committee.*

### Kits of Parts for Home Construction

1. We were interested to see some remarks by " Spectator " in the August issue of " AIR RESERVE GAZETTE," in which he mentioned our efforts to persuade the Fairey Aviation Co. to supply their " Junior " in kit of parts form for home construction by our Groups. Whilst he considered that home construction should give A.T.C. Cadets valuable training in half a dozen aspects of aeronautics, culminating in the satisfaction of seeing their completed aircraft in the air (or even flying it themselves), " Spectator " doubted if home construction would show a worth-while reduction in the cost of an aircraft.

2. Whilst we appreciate that some Groups may be in the happy position of being able to afford to buy their aircraft in the completed state (possibly by means of hire-purchase if this can be arranged), we are doing our utmost to enable other Groups less fortunately situated to be able to purchase aircraft in kit form, as we believe this is one of the best means of obtaining a machine at the cheapest possible cost. The kit would include all parts and fittings requiring welding, splicing, machining or other processes beyond the capacity of the average amateur constructor. Moreover all ribs, frames and formers etc., requiring complicated jigs would be pre-fabricated and included in the kit. Thus a Group would require only a normal tool-kit and a simply equipped workshop, while members of the Group need only be experienced in general fitting, carpentry and fabric work.

3. A considerable proportion of the man-hours required to produce an aircraft are taken up in covering components and in the final assembly, e.g. ply skinning, fabric work, doping and painting, connecting up controls, fitting instruments, etc. This work is well within the capacity of the average Group and it is of interest, therefore, to quote Mr. Slingsby's provisional estimate of the cost of the " Motor-Tutor," which he hopes to sell in kit form. This aircraft is likely to cost £560 complete ex-works whereas in kit form, the cost should be approximately £285, less engine and propeller. Assuming that a Group buys such a kit of parts and obtains its engine (a J.A.P. 37 h.p. unit for which the " Motor-Tutor " is designed) through the Association at the special discount terms offered to our members, a saving of something of the order of £200 would result—an appreciable sum to any Group !

4. A further advantage of the kit of parts scheme was suggested to us recently by Mr. E. O. Tips, who designed the Fairey " Junior " with this idea especially in mind. He considers that production of aircraft in kit-form lends itself admirably to ease of packing and despatch by the manufacturer to customers a long distance overseas and thus the scheme may have possibilities in aiding our export drive !

5. We hope before long to be able to offer kits of parts and working drawings of suitable approved U.L.A. designs for home construction. Groups having adequate technical experience and resources, and who build their aircraft under the guidance of our inspectional organisation (now forming) will, subject to a satisfactory final inspection and test flight, be eligible to obtain a Certificate of Air worthiness for their aircraft under the terms of the recently negotiated ultra light aircraft requirements.

### Mr. R. F. Stedman, A.R.Ae.S.

6. Members will be interested to learn that Mr. R. F. Stedman, who has been responsible for all the prototype and development flying of the Chrislea " Ace," has offered his services to us as a test pilot consultant approved by the Air Registration Board. Mr. Stedman was well-known to us before the war in connection with the design and flying of gliders and we have every confidence in his ability and experience. His services will be of value to Groups who require official test flights to be carried out on their aircraft prior to the issue of a C. of A. after construction or its renewal after major repairs and modifications.

### Suggested Standardisation of U.L.A. Components.

7. We have received a long letter from Mr. Angus Malcolm of the Caribbean Petroleum Company in Venezuela in which, amongst other points, he makes the interesting suggestion that we should decide upon, and standardise, the design of as many U.L.A. components as possible. Thus, we should lay down a wing rib standard and ribs built to this standard design would be fitted on to spars of standard section whose length could be varied to suit different aircraft designs. The wing could be used either on low or high wing types of aircraft, and could be fitted either as one complete wing or as outer panels attached to standardised centre-section fittings. Mr. Malcolm considered that his idea could be applied further to include undercarriages, fuselages, tail-planes, etc., and he suggested that we should get out a handbook of standard U.L.A. components. In his opinion, the loss of efficiency resulting from such standardisation would be amply compensated for by the reduced cost and ease and speed of construction.

8. We put the suggestion for comment to Mr. A. R. Weyl, the well-known authority on aerodynamics and, as reported elsewhere in this Bulletin the recently elected Chairman of our Research Sub Committee. Mr. Weyl thought, however, that a " Meccano " type of design was certainly not practical, at least not to the extent outlined by Mr. Malcolm, but he considered that we should certainly come to the use of standard materials and half-fabricated parts. He hoped, moreover, that we should eventually adopt a rugged standardised " Primary " airframe design for the constructional and flying training of our Groups. In addition, Mr. Weyl also suggested a standardised General Purpose U.L.A. capable of being made in quantity and suitable for competitions and pylon racing, etc., where the skill of the competitor is to be the sole deciding factor rather than technical differences in the aircraft participating.

9. We would be most interested to have members' views of both Mr. Malcolm's and Mr. Weyl's ideas.

**Jet-Propelled Airscrews.**

10. We have received details of a most interesting invention by an Austrian engineer, Herr Josef Reder, of Wiesloch/Baden, formerly with the Junkers works. The invention consists of an airscrew which is jet-propelled at its tips, an idea which is not new but which, in this case, seems to have been approached in a way which overcomes the major difficulty involved. The problem is that, whereas the simple ram-jet is hopelessly ineffective when operated at a speed below about twice that of sound, the airscrew itself suffers a considerable loss of efficiency as its tip speed approaches that of sound.

11. Herr Reder gets over this difficulty in his "Re-Jet" propeller by utilising pulsating ducts for his jets, the principle being the same as that used in the engine of the V.1 flying bomb. This enables ram pressure to give a reasonably efficient jet thrust at the sub-sonic speed of the airscrew tips. He claims to be able to improve the combustion of pulso-ducts by utilising air pressure vibrations of ultra-sonic (i.e. inaudible) frequency to produce spontaneous ignition of the mixture, i.e. a succession of detonation waves with complete combustion. This, he states, will give a higher jet velocity and hence more thrust.

12. The estimated performances of two sizes of "Re-jet" propellers are quoted. The first, of 1 metre diameter, gives 28 b.h.p. at 40 m.p.h. forward speed, the power increasing with speed to about 90 b.h.p. at 200 m.p.h. The other propeller, of 2 metres diameter is outside the U.L.A. sphere of interest; it gives 115 b.h.p. at 40 m.p.h., increasing to 400 b.h.p. at 200 m.p.h. The estimated fuel consumption of the propellers seems to be about double that of the normal aero-engine, but Herr Reder claims that any low-grade fuel could be burnt so long as it does not gum-up in thin tubes.

13. As readers probably know, for a given power output, an airscrew gives a much better thrust at take-off and at low forward speeds than is obtainable from pure jet propulsion, the latter only becoming efficient at high operating speeds. The "Re-jet" propeller, if successfully developed, would give a very light and cheap means of propulsion which would be extremely simple to instal, and which would have great possibilities in the U.L.A. field. For the purpose of an auxiliary-powered sailplane, for example, a retractable jet-propelled airscrew would seem to be an ideal means of propulsion and, as the power would only be required for short intervals, the heavy fuel consumption could more readily be accepted.

14. Herr Reder proposes to apply his propeller to a single seater, tail-first, pusher type of U.L.A. which he designed in 1935 and called the "Ducky-Duck." He has another U.L.A. design in hand called the "Merry Duck" which he claims to be an improved version of the Italian super-lightweight single-seat "Colibri." He states that the Russians are paying much attention to ram-jet propelled airscrews from designs at the Junkers works, which have been transferred to Russia, and he is anxious to be invited to complete his research work in this country.

15. Mr. A. R. Weyl, Chairman of our Research Sub Committee, has studied the "Rejet" scheme and is of the opinion that its development should be well worth-while—he considers that the jet-propelled airscrew is bound to come. We are, therefore, submitting Herr Reder's suggestions for consideration by the Government authorities concerned.

**Marendaz Engine.**

16. We have received particulars of an extremely neat and compact little engine which, with little modification, should prove suitable for auxiliary-powered sailplanes. This is the new 650 c.c. Marendaz vertical 3-cylinder in-line engine, with a chain driven overhead camshaft. The engine has been designed for sustained hard work in small tractors and lighting plants and develops 18 b.h.p. at 4,000 r.p.m. for a weight of 54 lb.

17. The cylinder block is deeply finned and, with the crankcase, is made in a single casting in light alloy into which centrifugally cast liners are pressed. The cylinder head is also of light alloy with bronze inserts for valve seats and sparking plug bosses. The three-throw crankshaft is carried on two large white metal plain bearings, pressure lubrication with a dry sump being used, provision being made for the incorporation of an oil cooler if required. Ignition may be by coil or magneto, the drive being taken from the free end of the overhead camshaft.

## OPERATIONS SUPPLEMENT.

*Contributed by F/O. I. G. Imray—Chairman, Operations Sub Committee.*

**W.J.A.C. Rally at Hendon, 17th July, 1948.**

A small but important page of Association history was written at Hendon on the 17th July. The occasion was the National Rally of the Women's Junior Air Corps at which the Association was invited to provide a flying display. Arrangements, plans, meetings and correspondence commenced in the middle of May for this, the first flying display provided entirely by ultra lights and organised by the Association.

It was arranged that aircraft participating should assemble at Elstree, the Headquarters of the U.L.A.A. Experimental Group and, incidentally, the nearest aerodrome to Hendon. At this stage I should like to place on record my appreciation and thanks to the authorities at both Hendon and Elstree for the help and co-operation afforded us.

At lunch time at Elstree there were assembled ready on the ground a Fairey "Junior," the Slingsby "Motor-Tutor," an "Aeronca" two-seater, a Comper "Swift" and the "Zaunkonig." The "Dingbat" and a Dart "Kitten" were, unfortunately, not serviceable at the time and, although we had not finally given up hope of seeing S/L. Porteous arrive in his "Chilton," there was no sign or word of him. Later, while airborne and waiting for the rest of us to take off and formate, the "Junior" lost its prop. However, the pilot made a perfect landing on the runway with no further damage to the machine.

This left only four of us, with the pilot of the "Junior" grounded and no doubt gnashing his teeth at his rotten luck. He had my commiserations—if they were any use to him!

The " Motor-Tutor," piloted by Mr. Leach of Slingsby's, led the formation, with G/C. Mole as No. 2 in the " Zaunkonig " (going flat out to keep up ! !) and myself in the " Aeronca " (well throttled back) as No. 3. The Comper " Swift," piloted by Mr. Cole, literally " made rings " round the formation, and looked most impressive from above. The formation leader realised that we would be ahead of E.T.A. so made another circuit before we reached Hendon, so that the formation arrived over the crowd at Hendon dead on E.T.A.

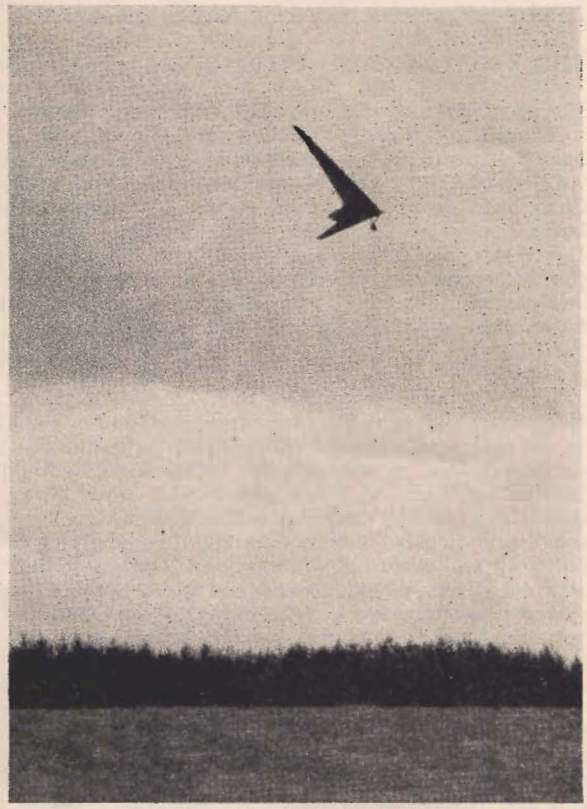
After landings had been made, and the non-appearance of the " Junior " explained (Oh ! that Fairey's had sent both the " Juniors "—one at least would then have been displayed), Mr. Leach gave a very convincing display of the method in which ground training sequences can be put into effect with the " Motor-Tutor." He followed this up with a demonstration of " how not to do it " which was a joy to watch. In a general demonstration of the machine, he actually made it fly sideways ! ! After a beautiful landing (how it should be done), G/C. Mole took off in the " Zaunkonig " and proceeded to give a very able demonstration of that machine's capabilities, upon which I commented in a recent issue of the Bulletin. He demonstrated its practical " unstallability " and its great manoeuverability, which was to stand him in good stead in the race.

I must here make mention of the Heath " Parasol." This machine, built by one of our Individual Members, Mr. R. H. Parker has (temporarily only, we hope) been refused a Permit to Fly. However, Mr. Parker's enthusiasm is to be commended and pointed out as a shining example of what is meant by " an enthusiast." He dismantled the machine, towed in by road 26 miles to Hendon, and there re-erected it so that it was available as a "static " exhibit. When I took off in rain to return to Elstree at the end of the display, Mr. Parker and his willing helpers were at work in the rain dismantling this little machine preparatory to its return journey by road. Such enthusiasm should not go unrewarded and we hope they will have a Permit for the " Parasol " soon. (Editor's Note : A limited Permit is to be issued for the purpose of carrying out flying tests and if these are successful, a normal Permit to Fly will then be granted).

The final item on our programme was the " Round the Perimeter Track " race. The unfortunate absence of the " Junior," and a last minute decision to withdraw the " Motor-Tutor," cut down the contestants to three. The handicappers sent the " Zaunkonig " off first, followed by myself in the " Aeronca." I was on my second lap when I saw the Comper " Swift " still on the ground but this did not prevent the " Comper " from winning ! The manoeuverability of the " Zaunkonig " stood G/C. Mole in good stead on the " corners " and he maintained his lead over me. We taxied into the aircraft park at the end of the race and switched off just in time to see Mr. Cole receive the Cup from the hands of Miss Valerie Hobson. This brought our contribution to the Rally to an end. In spite of disappointments, I think it was a successful show. My heartfelt thanks to all who participated for their hard work and valuable service.

(*Continued on page* 8)

## THE MOST EFFICIENT SAILPLANE IN THE WORLD





*The " Horten I V." Flown at Oerlinghausen by R. C. Forbes.* (PHOTO : WOLF HIRTH).

# NEWS FROM THE CLUBS

## THE PORTSMOUTH GLIDING CLUB

*Friday, 2nd July.*

Elliotts of Newbury delivered one of their demonstration "Olympia's" to the club as Ron Clear had agreed to give an aerobatic display at Hamble's "Open Day." He had an aero-tow during the afternoon and flew to Lee-on-Solent and back, practising aerobatics between bouts of blind flying in the clouds.

*Saturday, 3rd July.*

The "Olympia" was towed over to Hamble and when its turn came in the programme the release failed to operate and a landing had to be made back at Portsmouth with the rope still attached. The snag was quickly rectified and a faultless exhibition of aerobatics was eventually given at the end of the programme with a head-on approach and final touch down a few yards in front of an appreciative crowd.

In the evening Parslow and Fripp had their first aerotows in the machine, the latter taking photographs of the tug whilst on tow and practising aerobatics.

*Saturday, 10th July.*

The Portsmouth branch of the Air League held an "At Home" at the Airport and Elliotts' kindly loaned their "Olympia" for the occasion. As we rigged in the morning Clear treated us to a low beat up in the "Ambassador" and later flew up from Christchurch in the "Hornet" putting up another good show during the afternoon with the "Olympia."

*Sunday, 11th July.*

Parslow and Fripp had a last tow in the "Olympia" both finding lift from zero to 6 ins. per second in the vicinity of the gasworks. Fripp tried unsuccessfully to hold the machine in a spin and amused himself with a bout of aerobatics including six successive loops.

*Sunday, 18th July.*

The rebuilt nacelled "Dagling" was rigged after a late night session of work in which Pete Davis was last to knock off at 3.15 a.m. and Ron Clear flew it on a test circuit. After some minor adjustments the machine was hopped and circuited for the rest of the day by all present.

**Summer Camp**

The "Dagling" was taken out to our camping site at Amberley whilst back at the Airport, Parslow and Fripp aided by Johnney Pears, worked feverishly to get the "Ventura" ready and a short test flight was made by Parslow at dusk. They finally arrived at the camp around midnight ready to hit the hay.

All that can be said of the camp was that the weather was perfect for camping but from the flying point of view it was a dead loss and both the "Scud III" and the "Ventura" were left in their trailers.

Some flying was put in on the "Dagling", but for most of the time the heat was too intense to do anything except swim and sunbathe.

*Saturday, 7th August*

Clear was aero-towed in the "Scud III" with the idea of doing "Silver C" distance. However he unfortunately struck a bad patch and landed at Petersfield, 11 miles. Before he had time to leave the cockpit a perspiring press photographer, who had been detailed to cover the local team in action, rushed up with that joyous "scoop" look in his eyes.

*Sunday, 15th August*

During the morning much work was put in on our newly acquired Studebaker retrieving car, but in the afternoon it was noticed that though the wind was blowing in from the sea the clouds were still drifting over from the north.

The "Ventura" was brought out and Fripp went off to explore. He cast off from the tug at 2,500 feet and climbed up into the clouds in very smooth lift reaching 4,600 feet and remained in the area for an hour.

Clear was towed up in "Scud III" with the object of qualifying for his "Silver C" height, but his barograph failed to record.

By the time the trouble was put right conditions had deteriorated somewhat and 2,800 feet was the maximum altitude obtained with a duration of 1 hour 17 minutes.

*Sunday, 22nd August.*

Bert Parslow was aero-towed in "Ventura" but conditions were not as good as they looked and he returned to the airport after a vain search for lift. The rest of the day was confined to circuits on the "Dagling" and a couple for luck by "Ventura."

*Sunday, 29th August*

Ron Clear and Ken Fripp had aero-tows in "Scud III" and "Ventura" respectively, but experienced very poor lift. Fripp ventured too far from the airport and landed four or five miles away. The "Dagling" squad were hard at it doing circuits from 500 feet, several delaying their descent appreciably by "slope soaring" along the ramparts.

## DERBYSHIRE AND LANCASHIRE GLIDING CLUB

**Club Notes for August**

*Sunday, 1st. Wind West 10 m.p.h.*

This day was remarkable for the total number of flights, ninety-six in all. The two-seater was well organised for giving trips to members of the public. Taking off south south west from the middle of the field and landing on the spot again the "T.21" made thirty-five flights. Mr. Woolhouse Senior marshalled the public and organised the list and Mr. Woolhouse Junior saw to it that the wire was waiting for the machine all the time.

The lift was not very good and at first, only the "Olympias" stayed up, later on in the afternoon, however, the "Tutor" and other machines were able to stay up a little.

Total 96 launches. 17 hours. 22 minutes.

*Monday, 2nd. N.W. 5 m.p.h. Overcast.*

No chance of soaring, so we took the opportunity of doing some training. Mario Bosi of the Argentine did three excellent circuits for his "B" Certificate.

Total 21 launches. 1 "B" Certificate.

*Tuesday, 3rd. Wind South 5 m.p.h.*

Roger Dickson and George

Thompson returned from White Waltham in the small hours in Roger's M.G. followed, more or less, by the "Viking" trailer. The "Viking" was rigged about lunch time and duly tested by its new owners, Roger, George, and Phil. Leech, who unanimously agreed that it was certainly better than any "Olympia," "Mini," or "Buzzard," in fact, it only just missed being better than a "Weihe" because there was not one around with which to make a fair and unbiased comparison.

Total 8 launches. 50 minutes.

*Saturday, 7th. Wind West* 10 *m.p.h.*

A bright day with good cumulus. George Thompson was early on the job with the "Viking" but he failed to connect on his first launch. Roger Dickson followed and climbed rapidly to about 3,000 feet. This was the first opportunity of putting the "Viking" through its paces and Roger made the most of it.

Thermal conditions obviously being good, the "Olympias" were soon off, all of them had good flights, Stan. Armstrong in particular. In a flight of three hours he eventually reached a height of 9,600 feet after having reached 6,000 to 7,000 feet three times previously. This establishes a new Club height record. Gerry Smith in the two-seater reached 3,000 feet under the same cloud, which later broke and deluged us all.

Total 30 launches. 12 hours. 53 mintes.

*Sunday, 8th. Wind N.W.* 10 *m.p.h.*

After a dull wet morning there was a bit of a clearance but the sky remained dull with good lift up to 700 feet. Bosi, Tweedy, French and Bulling all obtained "C" Certificates.

Total 43 launches. 29 hours. 38 minutes.

*Saturday, 14th. Wind S.W.* 5 *m.p.h.*

A few circuits in the "Kite" and "Cadet" and the rest of the activities were confined to the "Eon" Primary. Brayshaw had a try for his "A" and managed 35 seconds but it was such a shocking bad flight Louis wouldn't give it to him.

The Cambridge Club were good enough to let us have their "Kranich" for one week's camp which starts to-day. During the afternoon, the machine was rigged.

*Sunday, 15th. Wind S.W.* 20 *m.p.h.*

The new bungy launching slope was in operation for the first time to-day. With every machine in the Club lined up on the back wall, a good soaring breeze and hordes of people about, the organisation was soon strained. Although we did not want to use the new slope until the soil had settled, the temptation was too great and soon the machines began to move slowly over to the wind sock, to be popped off the edge in quick succession.

It was an ideal soaring day for Club members. Cuthill obtained his "C" Certificate.

Several members flew the "Kranich" and were very impressed by its good handling qualities and excellent performance.

Total 56 launches. 33 hours. 29 minutes.

*Monday to Sunday, 22nd August.*

To summarise this period, we had 263 launches totalling 144 hours. On Tuesday, Davies rather bought a packet by trying to get his "C" below the stipulated height and as a result landed inelegantly at the bottom, the "Cadet" ending up poised on what would have been its nose if there had been any left.

Thursday was quite the best day. Towards the end of a bright clear day with the wind north west 15 m.p.h., the machines over the edge began slowly to increase their height. At 8 p.m. conditions reached their peak and machines launched at that time climbed rapidly in perfectly smooth lift, reaching 3,700 feet in fifteen minutes. Above this height there was a marked decrease in the rate of lift and the next 1,300 ft. up to 5,000 took twenty-five minutes. As usual, up wind a sea of low cloud obscured the setting sun and down wind, a similar layer covered the whole of the area of high ground between Bradwell Edge and the Hope Valley at Hathersage. Directly above the Bradwell and Hope Valleys no cloud was to be seen.

Bert Wardle in the "Kite" took advantage of the opportunity to obtain his Silver "C" height with a climb to 4,700 feet. George Thompson in the "Viking," the "T.21," the "Grunau" and about three "Olympias" all managed to get off before the lift failed at ground level. All pilots noticed the wave effect on the top of the clouds and some of them encountered a vicious down draught just in front of the Edge, in spite of the westerly wind.

Phil. Leech did 5 hours in his "Viking" and Reeks and Davies obtained "C" Certificates and so did Barbara Richards, and a good thing too as she would not face her family again without it.

Sunday provided anything but a quiet finish to the week. Cirrus strata soon obscured what looked like a really promising day and although the high clouds dispersed later, it was never as good as it appeared to be.

Derek Roper got away in the "Kite" at just the right moment and landed at Lindholme, the other side of Doncaster. That gave him his Silver "C." Phil. Leech in his "Viking" was less fortunate. Getting away at just the wrong moment, he found no further lift and damaged his machine in landing at Dore Moor near Sheffield.

Total for the week, 263 launches. 144 hours.

*Saturday, 28th August. Wind S.S.W.* 12 *m.p.h.*

Training in the "Primary" and "Cadet," Chris. Brayshaw took his "A" Certificate.

*Sunday, 29th August. Wind West* 15 *m.p.h.*

The westerly wind still persisted and once again we experienced conditions which could reasonably be attributed to a standing wave, on a somewhat minor scale this time. Shepard was first off in his "Olympia" and it was soon obvious that something more than hill lift was keeping him up. Charles Faulkner, Gerry Smith and L. Robertson soon followed in "Olympias" and heights up to 3,900 were obtained. The wave conditions died away at lunch time. In the afternoon Ron Booth completed his "B" Certificate.

Total 78 launches. 16 hours. 15 minutes.

Once again, in spite of much rain, the amount of flying has been considerable. The totals for August are :—

644 launches—251 hours.

1 "A," 2 "B," 8 "C" Certificates. 3 Silver "C" legs.

Camphill has always lacked a proper bungy launching slope on

the actual site. Having seen our Chairman safely off to Switzerland, we procured a bulldozer which knocked hell out of a small stretch of the edge just north of the windsock. This will speed up our launching, enable us to put in more flying time and altogether fulfils a long felt want. Even Basil was not as mad as he might have been, when he surveyed the results.

In this column some slightly bitter comments have appeared from time to time on the current fashion for standing waves. The events of the last month or so seem to indicate some connection between the standing wave and the so-called evening thermal, so that even the more sceptical members are beginning to look forward to the time when the evening thermal can be forecast twelve hours in advance.

The film people have gone. They have been at Camphill for all our holiday weeks this summer and we had come to regard them as a customary adjunct to gliding. Many of us have been surprised to find that for tantalizing unpredictability filming runs gliding a close second. The film, which will probably appear in cinemas this autumn, will be of general interest to many readers of the "SAILPLANE" and of particular interest to members of the Derbyshire and Lancashire Gliding Club. Beautiful scenes of the Derbyshire hills, unique shots of training, high jinks in the bar, air to air shots and brilliant aerobatics. Some shots of the latter which we nearly got were absolutely breathtaking. The Chief Instructor executed a magnificent loop for the cameraman (the camera jammed at the top of the loop). He also carried out a stall turn (magazine ran out), a spin close ahead of the two-seater (cameraman fainted), a high speed vertical turn round the nose of the two-seater (everybody fainted). It's certainly going to be a remarkable film.

**THE BRISTOL GLIDING CLUB**

The nine gliding courses, each of a week's duration, which the Club has been running at Lulsgate during recent months have been completed. Eighty-three persons attended the courses of which 46 obtained their "A" certificate and 13 their "B" certificate from a total of over 1,500 launches. The results achieved are considerably below those anticipated, but are entirely due to the appalling weather conditions that prevailed during course weeks. There was only one week when the training programme was not interrupted by gales or rain and then only one of the pupils failed to obtain a "B" certificate.

Although the bad weather was a bitter disappointment to the course pupils, it did at least, present an opportunity to acquaint them with the maintenance and repair side of the Club's activities and also the chance to visit Cheddar Gorge, Weston-super-Mare and many other places of interest. In a particular case The Bristol Aeroplane Company Limited kindly arranged a tour of inspection of the "Brabazon I" airliner and the new hangar. This visit was greatly appreciated and enjoyed by all concerned.

Many appreciative letters have since been received from persons who attended the courses and it can be stated without doubt that everybody who attended had a thoroughly enjoyable stay. This is, in no small measure, due to Mrs. Clarke of The Golden Lion Hotel, Wrington, whose hospitality and attention was superb and the Course Instructors, especially Messrs. Seddon, Smith, and MacFarlane.

The winch, which was designed and built by members under the guidance of our Ground Engineer, Tony Heron, is now in use and performs very well indeed. A Ford V.8 engine is mounted on a special two wheeled chassis manufactured on site. The 15 cwt. cable is run off from the drum, parallel to the wheel axle. An automatic feed mechanism operated by a chain and sprockets from the drum ensures even laying of the cable on the drum. Four adjustable jacks are fitted to the chassis which is thus maintained in an horizontal position when parked without the towing vehicle or when in operation. All the controls are hand operated and the side load on the winch when launching an aircraft is taken by a strut inclined at a suitable angle in the ground.

Our "Grunau Baby" was, in co-operation with the Midland Club, sent to Long Mynd where it compiled no fewer than 36 hours' 29 minutes' flying in ten days. Messrs. Hinton (J. M.), Laight and Pitt all made flights of 5 hours' duration or more. Members are very grateful to the Midland Gliding Club for ensuring that our visits are both enjoyable and a great success.

Five of our members, Messrs. Chantrill, Cochrane, Farrar, Lance and Perrott went to Switzerland for their summer holidays and enjoyed some excellent gliding at Samaden. All members of the party qualified for the height section of the Silver "C" certificate. David Farrar almost achieved the distance requirements as well as the height requirements on the one flight.

Total flying for the month of August totalled 39 hours 37 minutes from a total of 768 launches. Two "A," four "B" and three Silver "C" (Duration) certificates were gained from flight in Club aircraft.

The two most notable flights of the month were made by Rex Young and David Farrar. Rex Young, flying an "Olympia" and using local thermal conditions within a radius of 3 miles from the aerodrome remained in the air for 5 hours 10 minutes. The cloud base was at 3,300 feet, wind 5/10 m.p.h., and the lift encountered 3-5 f.p.s. David Farrar's flight was a cross country of 22 miles to Charmy Down in an "Olympia."

**MIDLAND GLIDING CLUB**
**August, 1948.**

During the month, two camps were held at the Long Mynd, a Midland Club Camp starting on 31st July, and a training camp for A.T.C. instructors starting on 29th August. Those who attended the Club camp were unfortunate in striking a spell of strongly anticyclonic weather, so that there was no hill soaring wind and thermal activity was almost completely damped out durimg the first six days of their stay. An intensive programme of winch circuits was put on, but no one connected with worthwhile lift. There was some compensation in the fact that excellent soaring conditions obtained for the last two days of the camp. The A.T.C.

instructors were more fortunate, and soaring conditions were laid on for them by the time they had completed their series of winch circuits for familiarisation with the site.

The highlights of the month were some standing wave flights on the morning of 24th August, and the establishment of a new Polish two-seater endurance record on 26th August after an unsuccessful attempt to fly through the night of 25th/26th. This latter is subject to confirmation by the F.A.I.

The following are extracts from the log for the better days :

*7th August, Saturday.*

Wind W/10 m.p.h. Excellent build up of 5/10 cumulus. Price reached 2,600 feet in club "Olympia." Ince Senior took his "B," and Smeed took his "C," and the C.F.I. took the "T.21" to the bottom. There had been sundry large downs between the ups, and he ignored the fatal one.

*8th August, Sunday.*

Wind light at first, freshening to W/15-20. Cloud base at two to three thousand feet above hill top was 10/10 cover at first, breaking at about noon. Terasewicz and Morris got "C's," and 40 fights were made for a total of 20 hours' flying time. The "Silver Tutor" got blown over and damaged at the edge of the hill because we had become careless after so many days of flat calm at the beginning of the camp.

*15th August, Sunday.*

Wind from SSW to SW and varying between 15 and 25 m.p.h. with occasional squalls. The best heights of the day were of the order of 2,700 feet, the "Petrel" went to Stiperstones and back, Gilchrist and Sanday were converted to the "Kite."

*22nd August, Sunday.*

Wind SW/15-20 m.p.h. A good day with bungy launching throughout. The best height of the day was by Sanders in "Olympia" owned by syndicate from College of Aeronautics, consisting of Sanders, Yates, and Marshall. He reached 3,700 feet above hill top. Two Polish pilots were passed out in "T.21" and launched in "Tutors." Day's flying amounted to 34 hours.

*23rd August, Monday.*

Wind WSW/15-20. Slight thermal activity in morning followed by overcast and slight showers. Yates did 5 hours in "Olympia" (syndicate machine) to complete his Silver "C."

*24th August, Tuesday.*

Wind light westerly till 10.00 hours and then W-WSW/15-20 m.p.h. Two "Olympias" with Sanders and Proll were launched at 10.30 hours and contacted a standing wave to the south west of the club rising to 7,000 feet and 7,000 feet respectively. The wind backed later through S to SE. Four Bristol Club members arrived on a visit with their "Grunau," Hahn, Laight, Pitt and Hinton.

*25th August, Wednesday.*

All nine occupants of the bunk house were up and about at 05.00 hours to launch Mikulski and Grzejrzulke on an attempt to raise the Polish two-seater endurance record which stood at 14 hours 25 minutes. The wind was SW 20 m.p.h. at first, and rain and low cloud postponed the start. Then cloud lifted and wind became W/30-40 and blew the sock down. Flying commenced but the Poles felt that it was now rather late to make a start. Laight of Bristol Club did 5 hours in "Grunau." Eventually the Poles took off at 15.54 hours prepared to fly all night. As dusk fell, two hurricane lamps flickered fitfully and motor cycles and cars stood by to floodlight the landing area. At 10.30 the ground crew could not see the two-seater, but a few minutes later they noticed a flashing torch on the hill top a mile to the north where the Poles had evidently landed in complete darkness. They ran apprehensively through the heather to find that all was well, but that the nose of the two-seater was within three yards of a fence. The wind remained westerly 30 to 40 m.p.h. all night, and though rain showers were frequent the cloud had broken to 5/10 and the moon had risen at the time of the over confident turn down wind that caused the


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***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.***

hill top landing. After some blasphemy in both Polish and English the hangar was closed and all were in bed by 01.00 hours.

*26th August, Thursday.*

Scarcely asleep before the indefatigable Poles had everyone up again for a bungy launch at 05.44 hours. Hinton of Bristol Club launched for 5 hour flight which he completed successfully. After second breakfast at 11.00 hours Deaves and Ivin were launched on 5 hour flights which they completed in excellent lift. The Bristol "Grunau" was later launched for a second 5 hour flight, this time with Pitt aboard. Yates reached the best height of the day with 3,000 feet in the "Olympia." Hill lift was consistent to about 1,000 feet and there was good assistance from cloud based at 1,500 feet. The "T.21" landed at 21.27 hours with Mikulski and Grzejrzulke having established a new Polish two-seater record of 15 hours 43 minutes. They would have raised the figure by a much more substantial gain if they had been able to fly through the night as planned.

*27th August, Friday.*

Complete change in conditions, Wind now E-SE and very light. Persevered with winching but, in spite of appearance of good looking cumulus, only one "T.21" launch contacted useful lift.

*29th August, Sunday.*

5/10 Str. Cu. at medium levels. Lenticular formations observed early. Conditions generally anticyclonic. All aircraft flew until noon, but lift was deteriorating. "T.21" and "Olympia" just stayed airborne until mid afternoon, and then "T.21" gave joy rides amounting to nothing more than slightly delayed descents. A.T.C. Instructors' course assembled.

*30th August, Monday.*

Wind SSW/10. Clear skies. A.T.C. Circuits.

*31st August, Tuesday.*

Wind S-SW/10-15. Approaching warm front. A.T.C. Instructors and one Bristol Club member made extended circuits. Pearce took "C" in "Grunau."

Total flying time put in at the Long Mynd during August amounted to 189 hours, and this brought the total for the year so far up to the figure of 1,042 hours 45 minutes.

From a report by the Chairman of the Polish Gliding Association on the Polish Duration Record for two-seater Sailplanes, set up by F/O. Mikulski and F/O. Grzejrzulka at the Long Mynd Gliding Site, on August 26th, 1948,

". . . . We would do injustice to "Type 21B" if we did not mention its vital part in the execution of the flight. F/O. Mikulski and F/O. Grzejrzulka are unanimous in praising it. They say that it is an ideal sailplane for similar attempts and its stability in flight is astonishing. When flying in pitch dark, without seeing the instruments and being blinded by rain they entirely relied on the machine's stability which they had found out before to have been surprising."

## SCOTTISH GLIDING UNION

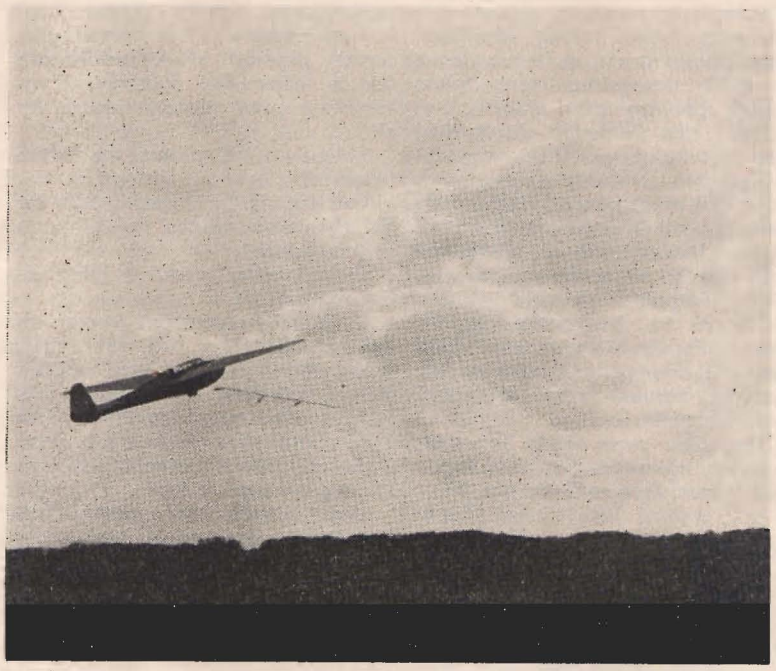
The third Holiday Gliding Course (August 21-27), with Tom Davidson as Instructor and Peter Pearce as Winch-driver, had eight members, all of whom gained "A" certificates, and two, with previous experience, "B" certificates, again with an average of twenty launches each. Our three summer courses have gained the S.G.U. 30 "A," and 4 "B" certificates, and several new members.

September showed a slight falling-off in attendance. However, there was soaring from Bishop Hill on the 12th. Perhaps the most notable feat of the day was that, when David Hendry landed at the foot of the Hill, thereby forfeiting £1, four members of the Club and some spectators dismantled the "Tutor" and manhandled her up the face of the Bishop! George Whyte took his "A" at Balado, and is also a qualified winch-driver now. We owe George thanks for much hard work and for his constant anticipation of and provision for whatever the S.G.U. may need—including strawberries and ice-cream one hot day in summer.

On Saturday, 18th September, there was circuiting at Balado, and on the 19th, the wind was high enough on the Bishop (25—30 m.p.h., gusting to 55 m.p.h. later) to permit launches without even bungy. Tom Davidson and David Hendry soared the "Tutor," without a barograph, for a pre-arranged 40 minutes each, and both gained Silver "C" height plus on the altimeter, reaching 3,200 and 3,300 feet respectively above the Hill. Then George Bolton launched the "Tutor," going backwards for a few seconds,



*"Professor Bussard" and his personal Instructor "Wilhelm"*



*Overtime joy riding in the "Kranich."*

before he dived over the edge of the hill and picked up height. He reached 2,500 feet and stayed airborne for 34 minutes.

### LUNEBURG GLIDING CLUB B.A.F.O.

**August.**

Although the weather has been below the usual standard for soaring this month, we have completed 789 launches with a total of 62½ hours' flying. This has been achieved in eleven flying days, which were the only off work days suitable for gliding.

The month started off well for on the 1st of August, Cpl. Hatch completed his last leg of his Silver "C" tests, by soaring solo in the two-seater "Kranich" for 5 hours 48 minutes. This makes the third Silver "C" holder in the club.

L.A.C. Lord obtained his Silver "C" height the same day by climbing to over 5,000 feet in a "Grunau Baby," he remained airborne for 2 hours 7 minutes. Cpl. Drysdale obtained his "C" certificate on the 2nd of August by soaring 16 minutes. Eight new members gained their "A" certificates, and 5 "B" certificates were awarded this month.

Several new members converted to the "Grunau," progress of the pupils has been very satisfactory, the crash rate has been very low.

Our total launches since April this year are 3,322, with 391 hours' flying.

### GUTERSLOH GLIDING CLUB B.A.F.O.

**A Gliding Gala**

It is said that every dog has his day; and so it seems with Gliding Clubs.

And our first public debut certainly was successful, perhaps not so much as a profit-making proposition (cash *is* a sore point), but certainly to stir interest in many who might never have given gliding another thought.

Saturday, August 21st, dawned bright and clear and our hopes for a successful Gala rose with the sun.

We had planned for three weeks. Posters were displayed in all the conspicuous places on the camp and in the various clubs in the nearby towns. The "gen" for the big day had also been broadcast over the B.F.N.

Our sailplanes were in excellent condition. Oerlinghausen G.C. had kindly consented to lend us the Horten IV "Flying Wing" and a "Weihe" which enabled us to set up a good display of gliders and sailplanes.

The show was due to commence at 14.00 hours. Everything seemed to be going according to plan—except that F/O. Ian Ladley hadn't arrived with the "Weihe" from Oerlinghausen. This was rather serious as he was using one of our vehicles—which left us with only one with which to tow our winches and sailplanes on to the airfield.

The Flying Control caravan had been positioned during the morning so that the "wireless wizards," A.C's. Dalton and Smith, could fix up the Tannoy loudspeaker and gramophone relay system. Plenty of chairs had been arranged for spectators—and a large marquee had been erected in case of wet weather.

Ian Ladley arrived ten minutes before the Show was due to open. This fact tended to increase the state of "nerves" we were in. Stage fright evidently!

Nevertheless, the spectators seemed very interested in the Glider display and as a stop gap, the nacelled "Primary," was launched on a so-called weather test.

From that moment everything was fine.

Numbered programmes at 6d. per copy were being sold like hot cakes. Several passenger trips in the two-seater "Kranich" were set aside for lucky-number programme holders. This definitely boosted the sale of programmes. (Ordinary passenger trips cost 2/- a time).

The first item on the programme was an instructional demonstration. Spectators were shown how any fit person is taught to fly. The whole syllabus from the first ground slide to the conversion to Intermediate Sailplane was demonstrated (by experienced pilots), and a running commentary kept spectators informed as to what was happening.

During the gaps afforded by the various stages of training the "Kranich" was launched on passenger flights. Within half an hour of the first trip the booking-list was full!! (Pete Latham was due for a hard afternoon's work).

The next item was a formation and aerobatic display by two "Grunau Babies." Pete Latham

and Ian Ladley took off within a few seconds, and feet, of each other (two winches were used) and gave a finely executed display of formation breaks, loops and stalled turns. Everybody was greatly impressed.

Then followed demonstrations by the more advanced sailplanes. Frank Smedley in the "Berliner," Ian in the "Meise," and last, but not least the "Weihe," with pilot from Oerlinghausen. Unfortunately the wind had backed a little so the "Flying Wing" could not be launched. It was a big disappointment.

At about this stage S/Ldr. McFee took off in a "Vampire" Fighter and for ten minutes showed us some of the jet's capabilities.

Of course, there had to be a crazy show and its commencement was heralded by the arrival of Sgts. Doug. Campion and Bill Smeed, dressed respectively as "Professor Bussard" and his personal instructor, "Wilhelm." Both were dressed to play the part. Top hat and tails for the "Professor," whilst "Wilhelm" was every bit of his part in plus-fours, check-shirt, helmet and goggles. Both sported large moustaches. There followed a hectic five minutes of how *not* to seat ones-self in an open "Primary" and *how* to fly following instructions from a bogus instructor. The launch was pathetic. Sheets of paper (presumably secret) were released in the climb and following a stall of the winch (in which one boot with parachute was cast off), plaintive cries for help reached the ears of the spectators. "Wilhelm" looked on admiringly! On landing (?) the nearly prostrate "Professor" was whipped away on a stretcher under "Wilhelm's" supervision (nice work—Steve and Frank!) The show brought plenty of laughs—except one little fellow who was crying his eyes out because he thought "Bussard" had flown for the last time!

After this diversion there followed a mock bombing demonstration from a "Grunau Baby," using paper bags filled with white distemper. The first demo. by Doug Campion was horrible, but later, Ken Hammer succeeded in dropping three "bombs" just where he wanted.

Another side line (directed by Bill Smeed), was now under way. He was busy selling montage-photographs made up from a dozen or more interesting shots taken during the previous months.

F/O. Ken Nicholls—car turned into a temporary office—was enrolling new club members.

At this point general flying commenced—which marked the end of the demonstrations. Pete had still plenty of work to do with the "Kranich," though.

Thanks to the mobile canteen potentially dry throats were kept wet and everybody present at the meeting seemed very interested and amused.

The club now waits for next summer, when it is hoped, a bigger and better show will be put on.

B.B.C.

## GLOUCESTERSHIRE GLIDING CLUB

With the successful conclusion of protracted negotiations for the use of the Staverton Aerodrome, the Gloucestershire Gliding Club was recently able to fulfil the conditions for its grant from the Kemsley Trust and has commenced operations with its first "Kirby Kadet." With four or five experienced instructors in regular attendance, the aircraft has been kept in constant use.

On recent fine weekends over fifty launches per day have regularly been achieved and a number of new pupils are well on the way to qualifying for their "A" licences, while "A" licence holders are getting in practice for the "B" licence stages.

The Club's equipment includes a mobile winch and two recovery vehicles.

Flying training usually finishes with circuits by the instructors and other advanced members who are awaiting the arrival of the Club's first sailplane.

## VICTORIAN MOTORLESS FLIGHT GROUP

### Newsletter for July and August, 1948

### Like to make 5 per cent on £5? Who Wouldn't?

Main topic of conversation and most important phase of our recent activities has been, of course, the erection of our hangar at the Berwick Aerodrome. First spadeful of earth was turned over on August Ist and soon eighteen eager types were digging holes, boiling tar, tarring stumps and sawing timber. That first day, a certain amount of demoralisation set in after the following conversation was clearly heard by all:

Voice: "Who's got the white twine?"

Voice (louder): "I said, anybody got the white twine?"

Small pause.

Second voice: "Eh? Oh, yes, ten to three."

Your lady members, eager to dig holes side by side with their fellow-members, became a little sullen as spade after spade was firmly removed from their hot little hands, the while they were delegated to such menial tasks as holding measuring-tapes.

Most popular spot, mid-afternoons these Sundays, is the campfire where Bill Iggulden Senior and Mrs. Iggulden dispense cups of tea and biscuits.

While the hangar job goes on, the runways are being rolled on Saturdays and Sundays by crews of our Group and the Beaufort Club. A terrifying tale is told by Mrs. Iggulden of the trip up to "Edrington" to house the tractor after a day's rolling. Les Williams and Bill Iggulden trundled ahead on the tractor while Iggies Senior brought up the rear in their car to light the way and help in case of trouble. The track was narrow and the only retreat was straight back, down a steep hill. Mrs. Iggulden reports that those in the car, with a close-up view of the huge and menacing back wheels of the tractor, suffered acute palpitations each time the tractor showed signs of wavering backwards. A very smart change into reverse gear took place several times. One lingers a little over the entrancing vision of a Ford V8 roaring backwards down a precipitous slope with a Fordson tractor in hot and nasty pursuit. However, when the tractor was safely put away, Mr. and Mrs. Casey, and Jane, nobly soothed shattered nerves with suitable and much appreciated refreshments.

*Still more workers* are wanted on the hangar job, equipped with carpenter's tools and 2 in., 3 in. and 4 in. nails.

**New Members.** Two new flying members who've earned a warm welcome are Bob Gray and Gordon

Macdonald. With no gliding memories to buck them up, they've nevertheless been working hard on the hangar and will have nobly earned their flying.

**The Party** at Bettye and Geoff Richardson's home last month was most enjoyable and stressed the fact that social activities can be a happy side of gliding, as well as a profitable one. The supper was something to dream about. The Social Committee is arranging another party and will notify you soon.

**Keith Meggs** has joined the RAAF, Air Crew, and no doubt one of these days will streak across the Berwick sky in one of them there new-fangled jet contraptions. We'll miss Meggsie, the bod. beaut. as he was popularly known last summer, and where, Meggsie, will we tell them to meet you Now? Good Luck, Keith.

**Visitors.** Alan Ash, erstwhile secretary of the N.S.W. Gliding Association visited Melbourne before his trip to England, and was the guest of the President of the Victorian Soaring Association, Bill Iggulden and Mrs. Iggulden. Alan undoubtedly felt right at home straight away as the first thing he became involved in was a typical gliding moment's-notice dash to the factory of P. J. Film Productions to view a colour film of our activities at Berwick. Bill collected a carful of people (including two well-trained and lion-hearted wives who deserted half-cooked dinners) and arrived at the factory ten seconds before the deadline. The film was one of the best we have seen, as those of you who were at the recent VSA picture night will agree. Photography was really excellent and made one, jaded with ground jobs, realise anew what a glorious sight is a sailplane soaring against blue sky and white clouds.

(Footnote: your correspondent has decided, but definitely, to throw away that hat.

Footnote to footnote: but has an uneasy feeling that the same resolve was made last year.)

Hilda and John Wotherspoon (President of S.A. Gliding and Soaring Club and Vice-President of S.A. Gliding Association) with Pat Tolhurst (sister of S.A. Club's instructor, Clive Tolhurst) made a brief stay in Melbourne, en route to Sydney, and were welcomed with great pleasure by Ron Roberts and your correspondent. It was great to hear of the progress being made by the S.A. clubs, of John's flights in his "Olympia," and to compare notes on Berwick, Waikerie and Gawler thermals. Hilda and John visited Arthur Hardinge, of the Gliding Club of Victoria, and were very enthusiastic about the Hardinge/Davies "Olympia," now close to completion.

Such visits, so thoroughly enjoyed by all, make one look forward to closer and more comprehensive inter-State co-operation. Exchange of ideas on equipment, methods and techniques of soaring, undoubtedly lead to improvements. We're a small band, widely scattered; it would be good to see closer contact with each other.

**A Resignation** from the Committee, reluctantly and regretfully accepted, was that of Hugh Fry. Hugh has served as a committeeman for almost four years and now, through pressure of other responsibilities, is unable to continue as such. Thanks are due to him from his fellow committeemen and from the Group as a whole not only for his efforts in the past but for the future, as we know that he'll keep on helping whenever and wherever he can. In his place, the Committee has elected Jack Scully, who has been doing good work as treasurer for the Social Committee.

**Dramatic Incident.** One night not so very long ago, a certain car, containing sundry Presidents, Vice-Presidents and Hon. Secs. of certain noble associations, was speeding towards Camberwell intent on seeing a gliding newsreel. Turning a corner on the proverbial two wheels (and your correspondent is not, for once, exaggerating) the occupants became uneasily aware of pursuit. A second later, a prowl car scooped them efficiently into the kerk. From this car a large policeman emerged, strolling in that menacing way large policemen have. With one foot on the running board, he cleared his throat and said Something. "I beg your pardon?" asked a President, placatingly. The large policeman cleared his throat again. "I said," he said, "Good Evening." (Nervous titter from an Hon. Sec. in the back seat, whose ankle was promptly and heartily kicked by a Vice-President). "Oh, good evening, good evening," said the President, heartily. Pregnant pause. Large policeman, diffidently. "I say, did you know your tail-light's not working?" He then stood amiably by while the President fixed the tail-light, then cheerily said ta-ta while this certain car sped into the night once more. Later on, after the regular show, the manager of the Camberwell theatre very generously gave a special screening (twice through) to a small but delighted audience of gliding types.

**Golden Eagle** which has always been regarded by many of us as challenged only by the Sydney Soaring Club's "Blue Gull" as the most beautiful sailplane in this country, is being made even more good to look at by her builder and owner, Geoff Richardson. Geoff reports as follows:—

"The Golden Eagle" is undergoing considerable modifications and although the work is proceeding rather slowly because of other commitments the machine should be flying again some time this year.

The fuselage has been dismantled back to the main bulkhead and has now been rebuilt to give 9 in. extra length in the nose. The neck has been broadened and strengthened considerably, the enclosed cockpit will be fitted with a perspex canopy, and the cockpit layout much improved, with greater width, more leg room, more comfort, curved seat, parachute box, adjustable rudder pedals, large easily-read rubber-mounted instrument panel, elevators trim tab control, and torque tube and controls mounted on ball races. A landing wheel has been fitted also. The instrument panel will hold a low reading A.S.I., electric Turn and Bank Indicator, Sensitive Altimeter, Rate of Climb Indicator, Variometer and Clock, with ample space for extra instruments such as Compass, etc. A Radio and Barograph compartment has been installed in the neck of the fuselage.

The wings will have lift spoilers fitted and a new aileron control system, and will be completely overhauled and recovered.

Finally the machine will be repainted and the fabric work

finished with pigmented dope. It is hoped that the entire result will be a pleasing appearance, greatly improved performance and a sailplane that will give excellent experience in flying in a closed cockpit.

More to the practical point, perhaps, than increasing good looks, is the effect these mods. will have on the "Eagle's" performance. With Berwick's thermal-happy conditions, we can expect to see something mighty interesting this summer.

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With which sound advice, adieu, friends. Yours Hon. Sec.,

GRACE ROBERTS.

*Victorian Motorless Flight Group.*

## YORKSHIRE GLIDING CLUB

**Notes of Activities, June—Sept., 1948.**

This column has not appeared for some time due mainly to hard work in the matter of its daily crust, and, in common with kindred, spirits, has also had to earn its gliding by the sweat of its brow. The labourer these days being worthy of his hire, and then some, this club cannot afford the supreme luxury of paid staff of any kind. Insurance terms on aircraft have hardened, so that the individual will have to face still higher financial responsibility and outlay for his flying as well as the usual output of sweat, aforesaid. Well, the day will come for those who can stick around and remain sane enough to understand how they are at last the lucky people!

**Flying.** June 26th there was a westerly, 20-25 m.p.h. and some useful associated weather. Michael Maufe re-appeared after quite a long time and there was a good show-up from Newcastle: 17 hours 10 minutes flying. The following day was more or less a repeat performance of weather—a fairly good turn-up, and F/Lt. Harrison took his "C": 21 hours 40 minutes flying. On July 3rd—a Saturday there were quite reasonable hill soaring conditions with 9/10ths at about 1,500 feet above the Bank. We had a visit from "Miss New Zealand"—her real name is Miss Wootton—and we found her a charming and most interested guest. She seemed thoroughly to enjoy the flight she had with Bill Sharpe in the "T.21"—her first soaring flight—and we hope these notes may be read in New Zealand where we should like it to be known how much we enjoyed entertaining Miss Wootton. Altogether 2 hours 30 minutes flying, and the following day, Sunday, 4th July, was a weather wash-out. July 11th, 1 hour 25 minutes flying. July 15th, an A.T.C. course was running and Slingsby tested the prototype "Prefect"—likewise on the 25th (during the next A.T.C. course), and also on the 26th, Slingsby soared this aircraft and the "Kite II," putting in altogether 2 hours and 5 minutes. A.T.C. courses were running until August 3rd, and no further Club flying took place until August 22nd when 9 hours 30 minutes flying was done, Hardie of the R.E. Club taking his "C." (Here we seem to have omitted 3 hours 46 minutes flying done on the 15th). Finally for August, on the 29th we had some good heights, notably Coulson and de Redder, the latter making a short but eventful Cross country flight to Wombleton.

**General.**

The Annual General Meeting was held at Sutton Bank on August 29th; the day was also made famous by de Redder's cross country flight, which although a short one was packed with rich incident. Most of us have our "upside - down - with - nothing - on - the - clock . . ." stories, but Mick de Redder's description of the horrors that befell him break virgin soil in that direction! The General Meeting was quite well attended and the financial position, carefully watched by the Hon. Treasurer Donald Sharpe, and under the expert guidance of our excellent Walter Bentham, showed a sound basis of valuation and reflected care and restraint in operating the Club in the last financial year. An important resolution carried was to change the financial year-end to the last day of February each year, thus we shall avoid subscriptions cropping up in the middle of the season, which has often been criticized, especially by new members who have joined in the springtime. The Chairman regretted that there is still no National support for Gliding Clubs: the system these days seems to be to neglect the strivers, subsidize the slackers and try to keep panic legislation one jump ahead of the spivs. All this is very expensive, and far too many are eating "on the house"—so what chance have gliding types . . . until the next call-up!!??

At the time of writing O'Grady and his team are having a few days "camp" and seem to have struck a good seam of weather. Several Silver "C" heights were reported on Sept. 16th, but details of this anon.

Our building license (Club-house fitting), and catering license, are still suspended somewhere on the horns of Bumbledom. Most of our troubles in this direction come from the fact that we are adjudged insanitary, having no water supply, and certainly not enough money to bore the bowels of the earth until we find one! The joke about this is of course that we pay as much rate to the parish as though we had the Public Fount at our remote and far flung doorstep.

## ULSTER GLIDING CLUB

September 4th was our first activity since mid-July.

Derek O'Callaghan (ex-Spitfire pilot) whose only previous soaring was 15 minutes at Sutton Bank in July, attempted his 5 hours, but was let down by failing wind at dusk after 4 hours 15 minutes.

Carl Beck, who seems to shuttle back between Magilligan and the Mynd every time the wind changes and who has put in a lot of hours this year, flew for 2 hours 50

minutes, and then landed at full tide on a narrow strip of soft sand a mile from anywhere. The retrieving was done after dark and by manpower. (A few silent thermals escaped the lips of his retrievers).

Others who flew on this good soaring but poor thermal day were Bowman 24 minutes; Bell 24 minutes; Darling 20 minutes. (These three Lieutenants R.N. from R.N.A.S., Eglinton). And William Douglas 30 minutes. It was good to see Willie Douglas enjoying himself after a long period of inactivity. Total time 8 hours 43 minutes. Not much on Dunstable standards, but a good day for us with two machines and a bad tide.

September 12th was that one day in a thousand that comes on a week-end. The tail of a depression, pouring rain all night and morning, and then a sudden wind shift to N.W. after noon.

Liddell got off just before high tide and O'Callaghan was launched with the tow car awash. After two hours Liddell reached 3,500 feet and beetled off to Mullaghmore Aerodrome, 14 miles away. O'Callaghan at 2,000 feet (800 feet above the moors) saw him go and following reached 3,500 feet and 34 miles, landing near Randalstown. A truly remarkable performance on his third soaring flight!

This is only the second time that Silver "C" distance has been flown in Ireland; the previous time was the late Norman Metcalf (Magilligan to Aldergrove, 44 miles) in 1938.

Liddell scratched his head a bit when he heard the news, 14 miles away. He has been trying to get 32 miles for the last sixteen years.

Good luck, O'Callaghan! May you get height and duration in record time.

**September 19th.**

The "Kirby Kite" is due for C. of A. so we have only the "Tutor" with which to finish the season. The wind came round to N.W. after noon and between tides eight launches were made totalling 3 hours 14 minutes. Lieutenants Goble and Corbett each soared for approximately 30 minutes on their first glider flights. Lieut. Overbury made two good circuits. Liddell went aloft in his "Gull," got into all kinds of knots in the overcast before reaching 3,800 feet and coming out some 10 miles away to land at Ballykelly Aerodrome.

## LONDON GLIDING CLUB

**August.** Another useful month with over 300 hours of soaring, including a Sunday with a record of 69 hours. Conditions do not appear to have been too good for the high performance types as only one noteworthy cross-country flight was made during the month; that of Dudley Hiscox to Stanstead on August 29th. August 26th had looked good but although "Gull IV" and "Minimoa" repeatedly reached 2,500 feet neither was able to contact cloud.

The August course produced a magnificent crop of certificates: 9 "A," 10 "B," and 8 "C." Three of the "C" were by people without any previous flying experience, as happened on the previous month's course, so that should prove it wasn't a fluke. Next month will see the last of these courses for 1948 and when we publish a final list of certificates awarded for course-members the protagonists for a "National Gliding School" will at last be answered; such a school is already in being; it happens to be at Dunstable and it happens to be run by the London Gliding Club. So what?

In addition to the "school" awards, a further 2 "A," 2 "B," and 11 "C" tickets were gained by club members during the month. The "A's" were taken by Mozolowski and Warner, the "B's" by Case and Mozolowski, and the "C's" by Jeffery, Carr, Dowdeswell, Case, Winter, Rivers, Castledine, Bray, Wood, Currie, and Mozolowski. Russell did his 5 hours towards his Silver "C."

This activity was not without some wear and tear on the flying equipment, but not always in the quarter expected! While the usual type of damage occurred to the "Tutor III" when Winter flew too far behind the hill, it is a little tough, to say the least, when an unfortunate ground slider has a "Dagling" collapse around his ears during the initiation ceremonies. The "Kadet" was badly bent by Logie, a "C" pilot, on the 26th August in the course of a hop. On the previous Sunday we were lamenting the fact that modern tendencies seem to make the hearty side slip a rare thing, when we spied the "Gull I" coming in doing a good old fashioned one. "That's what I call a side-slip," we declared.

Unfortunately the last part of this proceeding was obscured by a cloud of dust rising from Pratt's stubble field, out of which stepped Major Petre, after shaking off the rubbish, to make one of the most charming of apologies. The component parts of the "Gull" were then returned to the back of the hangar. It appears that, like other stimulating experiences in life, the great thing about side-slipping is knowing when to leave off.

We have also received good news regarding site improvements; the power wires are expected to be under-ground by the end of the year and our main Club House will also be ready for Xmas parties. Apart from the increased safety, the undergrounding of the cables will enable winch launches of from 800—1,200 feet to be made according to conditions.

Tony Reilly left us at the end of this month to pay a visit to Egypt. Apart from furthering the sales of Eon "Olympias" in Egypt he hopes to carry out further investigation of the "umbrella cloud" over the Khufu Pyramid, the soaring possibilities of which were first discovered by Prof. A. Aziz, as reported in "SAILPLANE & GLIDER" of May this year. Tony, incidentally, has put in 140 hours between August 2nd, 1947, and August 1st, this year; mostly in "Minimoa."

Temporary members from overseas this month included Thogerson, a Danish Silver "C" pilot, who came to get some hill-soaring experience (he got 16 hours of it) and Derbyshire, from the Melbourne Gliding Club.

**Summary of Flying for August.**

Number of Launches—954.
Number of Hours Flown—321½.
Certificates taken—11 "A," 12 "B," 19 "C."
Silver "C" Duration—1.
Cross Country Miles Flown—49.

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# ROYAL AERO CLUB GLIDING CERTIFICATES

**Issued during August.**

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

**GLIDING CERTIFICATES:** "A" .. 186 (Nos. 8606—8791 inclusive).
"B" .. 84
"C" .. 62

**SILVER "C"** .. 9 (Nos. 157—165 inclusive).

**Additions to Certificates gained in August, 1948.**

### "B" CERTIFICATES

| *No.* | *Name* | *A.T.C. School or Gliding Club* | *Date taken* |
|---|---|---|---|
| 3512 | Kevin Thomas | Imperial College G.C. | 14. 8.48 |
| 5671 | John Alfred Currie | London G.C. | 23. 7.48 |
| 6797 | Anthony James Eivers | Honiley Gliding Group | 1. 8.48 |
| 7826 | Donald George Osborne | London Gliding Club | 10. 8.48 |
| 7843 | Reginald Seaman | 104 G.S. | 1. 8.48 |
| 8578 | John Kumbell | Hamburg District G.S. | 11. 8.48 |
| 8698 | Charles Collins | London Gliding Club | 10. 7.48 |
| 8736 | William Riddoch MacLaren | R.N. Gliding Unit | 31. 8.48 |
| 8737 | John Richard McNeill | Cambridge University G.C. | 14.11.47 |
| 8741 | Charles John Owen | Cambridge University G.C. | 10. 8.48 |
| 8742 | George Albert Smith | Uetersen and District G.C. | 31. 8.47 |
| 8743 | Richard Corner Stoddart | R.A.F. Wunstorf G.C. | 25. 4.48 |
| 8744 | Stephen Titley Carwardine | Bristol G.C. | 22. 5.48 |
| 8756 | Rudolph Petrus Potgeiter | No. 126 G.S. | 28. 3.48 |
| 8760 | Anthony White Farrell | 105 Glider School A.T.C. | 18. 4.48 |
| 8761 | Frederick Leslie Harry | London G.C. | 18. 8.48 |
| 8775 | Peter John Bardon | Martin Hearn Ltd. School of Flying | 6. 8.48 |
| 8780 | Harold Edwin James Frosdick | Luneburg B.A.F.O. | 23. 6.48 |
| 8781 | Flemming Lorck | London G.C. | 9. 7.48 |
| 8787 | Julian Grindon-Welch | R.M.A.S. Flying Club | 20. 4.48 |
| 8789 | Christopher John Spurgeon Wood | Martin Hearn Ltd. School of Flying | 6. 8.48 |
| 8790 | Stefan Jerzy Medwadowski | London G.C. | 18. 8.48 |
| 8791 | Reginald Eric Titmus | 84 A.G.S. | 8. 8.48 |

### "C" CERTIFICATES

| | | | |
|---|---|---|---|
| 621 | Kenneth Lestrange Wood | London G.C. | 22. 8.48 |
| 5671 | John Alfred Currie | London G.C. | 22. 8.48 |
| 6799 | Frank Roy Padgham | Southdown G.C. | 7. 8.48 |
| 7786 | Robert Hellyar Perrott | Bristol G.C. | 8. 8.48 |
| 7826 | Donald George Osborne | London G.C. | 12. 8.48 |
| 8595 | Ian Hardie | R.E.F.C. Gliding Flight | 22. 8.48 |
| 8637 | William Woodney Boggs | Hamburg District G.C. | 15. 8.48 |
| 8656 | Mario-Luis Bosi | Derbyshire and Lancashire | 8. 8.48 |
| 8698 | Charles Collins | London G.C. | 12. 7.48 |
| 8737 | John Richard McNeill | Cambridge University G.C. | 16. 8.48 |
| 8742 | Georges Albert Smith | Uetersen and District G.C. | 16. 5.48 |
| 8743 | Richard Corner Stoddart | R.A.F. Wunstorf G.C. | 13. 6.48 |
| 8756 | Rudolph Petrus Potgieter | No. 126 G.S. | 13. 6.48 |
| 8780 | Harold Edwin James Frosdick | Luneburg B.A.F.O. | 1. 8.48 |
| 8781 | Flemming Lorck | London G.C. | 9. 7.48 |
| 8790 | Stefan Jerzy Medwadowski | London G.C. | 19. 8.48 |

### SILVER BADGES

| *No.* | *Name* | *Certificate No.* | *Date gained* |
|---|---|---|---|
| 157 | D. A. Smith | 356 | 27. 6.48 |
| 158 | P. J. Anson | 7850 | 23. 7.48 |
| 159 | J. H. Edwards | 4963 | 23. 7.48 |
| 160 | E. E. Hatch | 7706 | 1. 8.48 |
| 161 | I. G. Mackay | 8683 | 25. 7.48 |
| 162 | G. D. Perks | 7744 | 9. 8.48 |
| 163 | P. H. Blanchard | 6652 | 15. 8.48 |
| 164 | J. C. Rice | 823 | 22. 7.48 |
| 165 | G. H. Lloyd | 7818 | 31. 7.48 |

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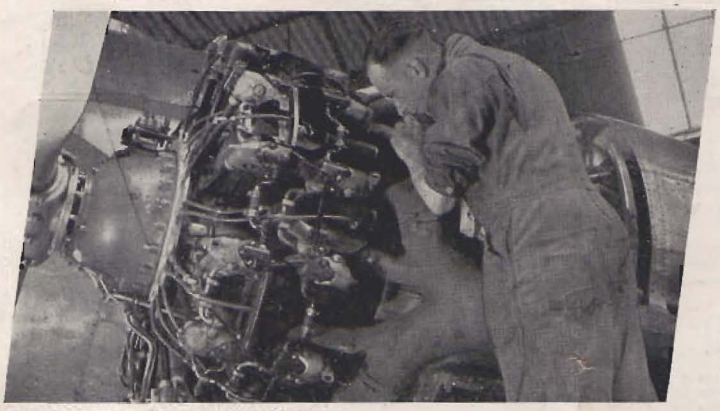
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