Sailplane and Glider

The First Journal devoted to Soaring and Gliding

MARCH 1949

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Sailplane and Glider

and ULTRA LIGHT AIRCRAFT

THE FIRST JOURNAL DEVOTED TO SOARING AND GLIDING

MARCH 1949 ★ Vol XVII No 3

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The *Sailplane and Glider* is published on the 15th of every month. Price One Shilling and Sixpence per copy; 19/- per year posted. Advertising Rates on application.

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

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COVER PICTURE:
Oerlinghausen, "Weihe." (F/O Grice up). 1/100 FII Super XX 2X Yellow.

EDITORIAL

OUR distinguished contemporary *Soaring*—the journal of the Soaring Society of America—is as perennially hopeful for the future of Gliding and Soaring as are many people in this country. But we hope we may be pardoned if we remark that they are a good deal more hopeful than we are in regard to the possibilities of extending the scope of gliding and soaring to a much wider number of people.

During the war years there was a widely held feeling that the end of the war would see a great upswing in the number of enthusiasts. What no one did expect was that the cost would increase so much so that whatever the wishes of the large numbers of enthusiasts, the numbers would be reduced to little more than they were before the war.

What prompts these remarks is a recent editorial in *Soaring*, which seems to indicate that in the U.S.A.—that fairy godmother to a lot of ungrateful European children—Gliding is to receive the sort of Government help that was extended to the British Movement in the year before the last war. The Civil Air Patrol of the U.S.A., which now has some hundreds of thousands of members is a development of the Civil Air Guard of 1939 and the Air Training Corps of to-day. The C.A.P. consists of boys and girls who are determined to become air-minded. With a uniform which is strongly reminiscent of that worn by American Army Air Force Officers in 1941-45, the Patrol is growing fast, even though its curriculum is as dull as the average A.T.C. But there is the difference that the Government scheme for G.I.s to learn to fly has resulted in there being hundreds of what are subsidised flying clubs, and these have been able to reduce the cost of flying so that more people can learn and enjoy it. But not enough. There is still a large unsatisfied demand for cheaper flying, just as there is in Great Britain, although the percentage of people who want to fly and cannot afford it, seems to be higher in this country.

The result is that it seems that Gliding is now about to be subsidised in U.S.A. *on grounds of national defence.* This cuts out—as we have always contended it ought—the subsidising of pleasure or sporting flying, although it is bound to lead to great deal more of both those forms of aviation. No doubt—or at least we sincerely hope so—the British inter-departmental committee which is re-examining the subject of aid to private flying in Great Britain, is thinking on similar lines, and we may expect in the coming months, some proposal of payment by results for the training of glider and power pilots by Gliding or Power Clubs, with an upward age limit but no limits as to numbers except those which are a natural result of physical and medical criteria and of morale.

But what can be done for those who, for various reasons they cannot help, will be " beyond the pale ".

First, as before, the natural result of the greater numbers engaged in the activity will be to cheapen costs, although we do not believe that even that will go far enough.

We still believe in self help, and, therefore, the efforts of the U.L.A.A. to produce the right ultra light aircraft with the right engine, meet with our special approval. A flying cost of 8/- an hour is the ultimate aim.

We are constantly hearing of development projects for new gliders or new aircraft. In some the idea is foolish, in others, it is impractical, others are too costly, but all seem to have the right aim—to reduce the cost so that more people can share in sporting flying.

In America it was believed that the coming of the all-metal sailplane would cheapen costs, especially as the development cost had been largely written off in war-time production. But it has not proved so. The Schweizer all-metal job is about 30-40 per cent dearer than our own all-wood Slingsby Gull IV, but although it flies faster, it also has a greater sinking speed, so that one cannot really compare the two machines.

Nevertheless, if flying by the masses does come, there will inevitably be a call for all-metal machines, which can certainly be turned out quicker and cheaper on mass production lines than can wooden aircraft. Nor has use enough been made of new materials—plastic wood, moulded glass, aluminium. We believe that it might be possible to design a centre section and fuselage which could be common to both power airplanes and gliders and we have seen one such design on paper which seemed to have thought of the drawbacks and overcome them.

It seems, therefore, that the ultimate fate of both the Gliding and the U.L.A.A. Movements lies with the designers and builders—a fact which is all too often forgotten even by those who are familiar with the history of British Gliding and of the services of Fred Slingsby and G. D. Shaw.

SOARING IN FRANCE

The La Tour du Pin Aero Club

by GUY BORGÉ

DURING 1948 I undertook to pay a visit to a number of Aero Clubs now active in the field of soaring so as to study varied meteorological conditions, to write for " Sailplane " readers and to add to my own training. It is now possible to take advantage of the splendid equipment of soaring sites that exists in every part of France, although travel limits training. In 1947 I flew eighty-five hours, but in 1948 only fifty-six because I visited six different soaring sites: La Montagne Noire, Grenoble, Fayence, La Tour du Pin, Ambérieu and Saint Auben; for this purpose I travelled in 1948 over two thousand four hundred miles.

I shall later tell the story of my visits to Ambérieu and Saint Auben, but this article will be limited to the La Tour du Pin Aero Club.

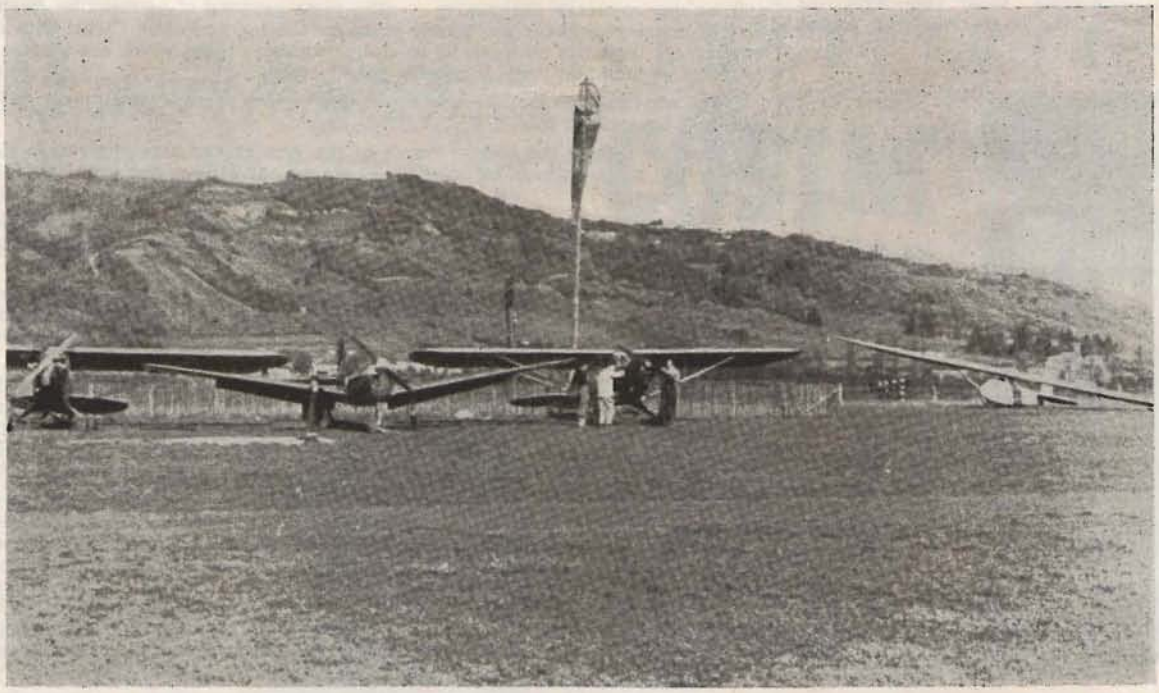
La Tour du Pin is a little town, thirty-five miles away from Lyons and as much an industrial as an agricultural area, on account of its being in the neighbourhood of the Silk Capital. In spite of the small population, three thousand seven hundred and forty-eight, its Aero Club, operating at Cessieu, displays noticeable activity.

The Cessieu airfield is small and triangularly shaped, one side of which joins the Lyons-Grenoble railway line. It is not very flat in the direction used when east-west winds are blowing, the winch driver cannot see the sailplane before it takes off; to do so he must climb to the top of the hangar.

However, as shown in the photograph, Cessieu has a splendid slope, six hundred feet high and five miles long, soarable in south winds. The reputation of this hill was the reason for my coming to this airfield.

Arriving after one hour's train journey at the station near the site, I saw M. Marty, who, at twenty-seven years of age, is the Flying Instructor of the La Tour du Pin Aero Club. As a welcome he was kind enough to take me up in his " C.800 " two-seater on a flight for all of two hours. During the trip, he showed me the characteristic features of his field and gave me, for training purposes, the controls to try out a few loops.

After landing, M. Marty lent me a " Nord 1300 " single-seater (similar to the " Grunau ") and I took off again. The length of the winching cable is limited by the space available, only seven hundred and fifty yards, so that one must start off with a closed release-type hook and hold the stick hard back on the climb. After casting off, I found violent turbulence that grew calm in proportion to the improvement of the lift. Very soon, it became absolutely quiet in lift of 0.3 feet per second to three thousand two hundred feet. This weak and calm lift was



THE CESSIEU AIRFIELD.
"Piper Cub", "Norecrin", "Piper" and "Nord 1300."

spread over a vast area and gave the impression of a standing wave.

The south wind was not very strong, being only twenty feet per second, but those flights where one finds weak lift seem much more interesting than ones with strong currents, because flying becomes more scientific and delicate; turns must be perfectly made so as not to lose precious feet.

Now daylight was fading and because of my return train, I had to open the spoilers and land after a flight of an hour and a half. Finally, I had stayed at Cessieu for five hours, of which three hours and a half were spent in the air.

The Aero Club owns a small hangar into which it is very difficult to put all the sailplanes and powered aircraft. I have seen, cramped together inside, a " C.800 " two-seater, a " S.G.38 " (used), two " Nord 1300 Baby," a " Castel 301," a " Nord 2000 Olympia," two Ford winches, a Stampe aircraft, two Piper Cubs and the President's " Norecrin " plane.

M. Marty, a holder of the Silver " C " with a Golden " C " altitude leg to his credit, is the only instructor for sailplanes and aeroplanes; his work is very important. The scarcity of crashery occurring at Cessieu: one " Emouchet " sailplane, broken during a night landing, shows, in spite of the difficulties of the field, the quality of his teaching. The 1948 results are as follows: 2,666 launches, 305 soaring hours, 3 " C " badges, 5 duration legs and 5 altitude legs, all obtained in winter using the south wind.

During last summer, M. Marty had only beginners to teach in the " two-seater " which was alone able to use the lift. The diverse properties of the landscape; now of small fields growing various sorts of vegetables, now of woods and the combination of hills and valleys produce an area rich in thermal activity, but such country is not suitable for distance flights by pupils. M. Marty hopes to complete his Gold " C " badge at Cessieu, but he knows all the difficulties of such a project. As a beginning, he would prefer to fly his " Olympia " to Lyons or Grenoble.

La Tour du Pin is a good example of the soaring abilities of a small town and one can quote (with a slight alteration) the French proverb:

" Pour un Aero-Club urbain, la valeur n'attend pas le nombre des habitants."

THE CASTEL MAUBOUSSIN C.M.7. SAILPLANE

THE new " C.M.7 " tandem two-seater, built in two prototypes, has just began her tests at Aire sur Adour (Landes).

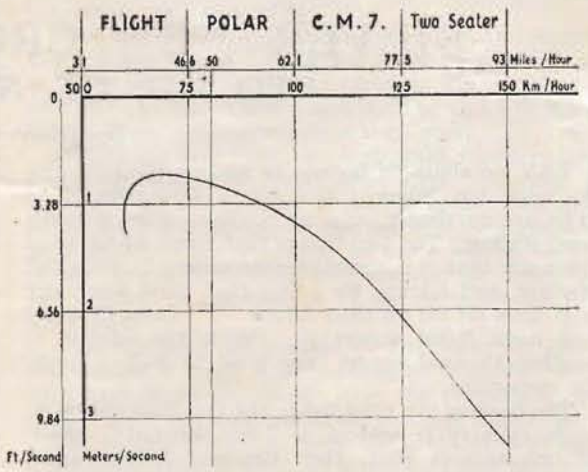
Studied for aerobatics training and performance flights, she has the following characteristics:

Cantilever monospar wing with forward sweepback.

Wood (fuselage and wings) and Magnesium (Ailerons, rudder and elevator) construction.

Dive spoilers.

Landing wheel with brakes.



Dimensions :—

Wing-span, 59 feet.
Wing area, 239,6 square feet.
Length, 26,2 feet.
Aspect Ratio, 15.
Empty Weight, 723 pounds.
Wing loading, 4,7 pounds/square feet.
All up Weight, 1,120 pounds.

Performances :—

Best gliding angle 1:26:5 at 48:5 miles/hour.

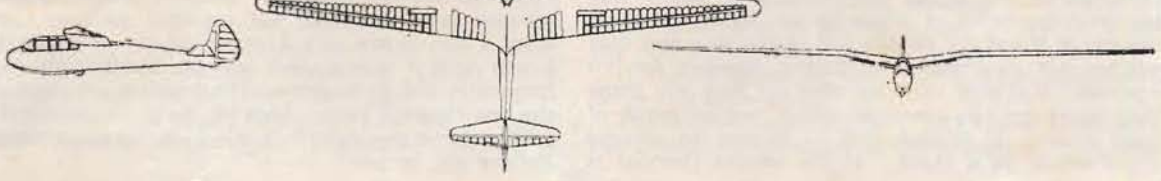
Minimum sinking speed, 2:37 feet/second at 41:7 miles/hour.

Sinking speed at 80 miles/hour: 3:54 feet/second.

Landing speed, 37 miles/hour.

Towing speed, 69 miles/hour.

Maximum permissible speed with opened brakes: 130 miles/hour.



Soaring Courses in the French National Centres

By GUY BORGÉ

ENGLISH pilots ask me frequently about the possibilities of soaring in France. Conditions in the National Soaring Centres are the following: a "two-seater" hour costs 2,400 francs; a "one-seater" hour, 1,500 francs, and an aero-tow hour, 2,400 francs.

Feeding costs 300 francs a day and bedding accommodation is free.

Subscriptions, which decrease the flying fees exist:

A two days' subscription with at least 1 soaring hour is 2,100 francs.

3 days with at least 2 hours: 4,200 francs.
5 days with at least 3 hours: 6,300 francs.
8 days with at least 5 hours: 10,500 francs.
15 days with at least 10 hours: 21,000 francs.

Here are the dates of the 1949 courses:

Saint Auben Soaring Centre.

1st April	—22nd April.
5th May	—28th May.
6th June	—29th June.
4th July	—31st July.
1st September	—30th September.
3rd October	—28th October.
7th November	—30th November.
5th December	—24th December.

Montagne Noire Soaring Centre.

21st March	—15th April.
19th April	—21st May.
30th May	—29th June.
4th July	—30th July.
1st August	—27th August.
1st September	—30th September.
3rd October	—30th October.

Challes les Eaux Soaring Centre.
Pont Saint Vincent Soaring Centre.

1st April	—28th April.
2nd May	—28th May.
6th June	—29th June.
4th July	—27th July.
1st August	—27th August.
5th September	—30th September
5th October	—28th October.
2nd November	—30th November.

Enquiries must be addressed to: Service de l'Aviation Légère et Sportive, 24 Boulevard Victor, Paris (15).

SILVER "C" CROSS COUNTRIES
TO DO, OR NOT TO DO

By Silver "C" 123

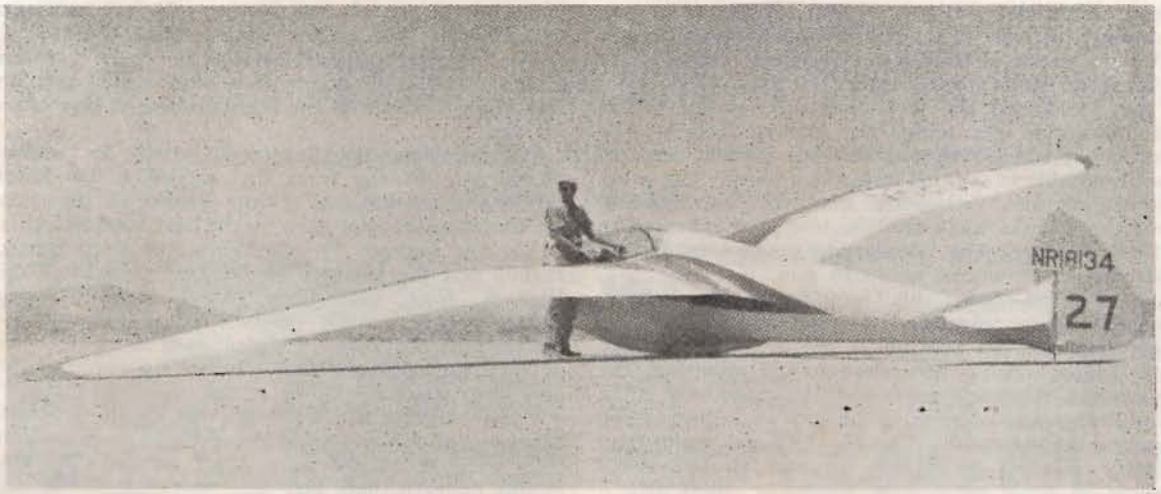
I LAY no claim to honour in writing the following rules for Silver "C" Cross Countries. The rules are so simple, and so obvious—they scarcely need stating. The two things that force me to write them are that it is sometimes necessary to state the obvious, and I know for a fact that there are many who have set off on their Silver "C" Cross Country and have failed miserably. With the advent of another thermal season, my remarks will, I hope, be opportune.

The basis of my rules lies in the fact that a 50 k.m. cross country is seldom a "one-thermal" affair. If one accepts that, then the rest follows automatically. The first deduction is that a second thermal is a minimum requirement. The moral is, therefore, to discover if, after the first thermal, there are any other thermals within possible reach. The procedure is as follows. Having found thermal number one, explore *up*-wind for another. (I suggest a triangular track is about the best.) If it doesn't turn up, then go home and land, and be content that you've not failed miserably, that you've not incurred the wrath of others by having denied them the use of the glider for the rest of the day, and that you've not incurred a retrieving expense for no purpose. If it does turn up, then for sure you know that there are *two* thermals about, within reach of each other. It is then not so absurd to assume there would be a third. If the second thermal is any good, work it to the full, and then set off, more or less down wind. (Don't jump to the conclusion that you'll then find the first one again! But there's a reasonable chance you'll find a third).

Time and time again, I have known folks who, after one thermal, have set off down-wind, having no idea about a second. And I repeat, a 50 k.m. cross country is seldom a one thermal job. I grant that to know there are two thermals about is no guarantee there's a third, but ones knowledge of two thermal conditions, their strength, their height, their distance apart, makes all the difference between blind hope and reasoned hope. You needn't kick yourself if reasoned hopes fail, but you should if blind hopes do!

And how high should these thermals be? Well, I reckon they ought to be up to 3,000 feet or thereabouts.

Have I tried these rules? Yes. My first cross country was a short one for the sake of the experience. My second was a Silver "C" one! Between the two was almost a whole summer season when, because my rules were not satisfied (at least, not when I was in the air), I never set off. Frequently I was told I was foolish not to have tried—but frequently did I chuckle at the fruitless attempts of the one-thermal boys. Indeed, 'twas by their folly I formulated my rules! Take them, or leave them. Believe me, or not!



NEWS! *New Single-Place National Altitude Record subject to homologation by the SSA and official approval by the NAA. John Robinson (above) telegraphs, "Flew Zanonia January 1, 1949, from Bishop to Muroc, Calif., reached ceiling 33,300 feet, gained 24,000 feet, three hours on oxygen."*

BISHOP SOARING

By HARLAND ROSS

BOTH the official and unofficial National Soaring Altitude Records were exceeded twice in two days during a sensational wave soaring expedition held at Bishop, California, over the Christmas holidays.

Paul MacCready, Jr. of New Haven, Conn., climbed the "Orlik" to 29,500 feet asl (above sea level) in a lenticular wave condition from a low point in free flight of 9,860 feet asl on December 31, 1948.

On the following day, John Robinson of Arcadia, Calif., made the outstanding flight of the entire two-week expedition when he piloted the record holding Ross-Stephens "Zanonia" to 24,000 feet above low point and to 33,300 feet asl.

Since John landed at Muroc Army Air Base and returned to his home the next day, I was unable to obtain all the highlights of his flight.

He took off at noon on January 1 and was towed by our BT-13 to 10,000 feet where he released near Mt. Tom west of Bishop in the lee of the Sierras. He climbed up on the wave and started south where I had pointed out the best type of cloud for his altitude attempt. He was on oxygen for three hours and his canopy was iced over for the complete flight. He reached his best altitude near Independence, Calif. Due to the Owens Valley becoming overcast he was forced to fly south toward the desert and landed just before dark at Muroc, a distance of approximately 175 miles.

Others present on the expedition at Bishop were: Fred Walters, Carl Walters and Dick Lyon with the Walters L-K; John MacDonald and Bob Symons with the Inyo-Mono Soaring Association TG-3; Dick Johnson with the rebuilt "Tiny Mite."

Lew Mass and John Olley crewed for the "Orlik" and "Zanonia" respectively. I served as "JATO"—Jack of All Trades Official—doing towing, crewing, officiating, etc. as needed.

Paul MacCready was the first to arrive and stayed the full two weeks, sitting out some very cold days with the temperature down near zero. He made some sink tests on his "Orlik" and both he and I flew the "Tiny Mite" to pronounce it very good.

During the first week two very weak fronts passed and Paul made one flight after dark, releasing at 10,000 ft. asl and climbed to 13,000 before returning to the field and landed by the use of a flare and the field lights. A few days later he was towed to the lee of the Sierra Mountains and released at 9,000 asl and climbed in the wave to 18,000 asl before the lift weakened.

After checking the weather on December 31, 1948, and finding a weak front moving in from the west with high lenticular clouds over the mountains, he obtained the winds aloft from the morning balloon run.

The surface wind was from the south at 3 m.p.h. From there up to 9,000 ft. asl it was light and variable. At 10,000 ft. the wind was 12 m.p.h. from the west, the velocity increasing up to 33 m.p.h. at 16,000 ft. while the direction stayed practically constant. From 18,000 to 20,000 ft. it was from 300 degrees at from 25 to 28 m.p.h. From 25,000 ft. to 45,000 ft. it gradually swung around from 260 degrees to 240 degrees and the velocity increased from 32 to 76 m.p.h.

Rather sharp shears occurred between 12,000 ft. and 14,000 ft. the velocity jumping from 18 to 31 m.p.h. and between 30,000 ft. and 35,000 ft. where the velocity went from 43 to 75 m.p.h.

It should be noted that Paul's flight terminated below this latter shear.

The take-off was made by BT-13 tow at 11.45, with the ground temperature at 39 degrees F. A large

lenticular cloud with very sharp front edge was standing just east of the White Mountains and about 20 miles north of the field, so a climb was made in that direction to try to contact it.

At 12,000 asl the tow crossed over the White Mountains to get under the leading edge of the lenticular, which was now in three layers. He had not been able to see this from the ground. The usual downdraft and turbulence zone was encountered, but the lift was weak and the tow pilot returned to Owens Valley. The release was made over Bishop Airport at 13,000 asl at 12.26 p.m.

Paul glided the " Orlik " west toward the Sierras, while some pictures were being made by the tow pilot, and arrived at 9,860 ft. asl where some climb was found. Being very close to the mountain the wave was extremely rough and the gusts were going up 2,000 fpm on one side of the turn while down 2,000 fpm on the other side. Despite the rough going Paul slowly climbed to 13,000 asl and started south where he could see a large lenticular cloud with a stationary roll cloud below.

By this time he was about 30 miles south of Bishop and climbing at 700 to 800 fpm in smooth lift. As he continued to climb the lift steadily increased to 1,000 and to 1,500 fpm. At 16,000 ft. he went on oxygen. As he neared the 20,000 ft. level the lift increased again and he reached the maximum of 2,000 fpm at 22,000 ft. asl. As he reached the base of the lenticular cloud, the lift slowed to 500 fpm. This occurred at 26,000 ft. asl. Continuing the climb up in front of the cloud the lift dropped to 100 fpm and he reached his ceiling at 27,500 ft.

Paul checked his equipment and everything seemed to be in order except the ice on the inside of his canopy. This was caused by the condensation of his breath at an outside temperature of —36 degrees C. His fingernails were normal in colour so he knew that the oxygen system was working all right.

By scraping the ice from the canopy he was able to take some pictures. He also saw some lenticular clouds to the north so he started in that direction along the Sierras. He found gentle lift and after going 75 miles north he reached the clouds at 22,000 ft. asl. After working around in this area for a while he found little lift and returned to Mt. Tom, just west of Bishop, gradually losing altitude to 17,000 asl.

The large lenticular cloud was still near Independence, 40 miles south of Bishop, so he flew in that direction and slowly climbed up toward the leading edge. His maximum rate was 800 fpm up to 28,000 asl where the lift slowed to 400 fpm and still flying south along the front of the lenticular he reached his best altitude, 29,500 ft. asl, near Independence.

He stayed near 28,000 until his oxygen was almost gone, while trying to get more altitude by flying into the lenticular, where he found zero lift. He did not want to run out of oxygen at this altitude so he flew across into the downdraft area and returned to Bishop at 100 mph. indicated speed, actually 156 miles per hour true speed at 28,000 feet above sea level. His flight was approximately five hours and he had spent over two and a half hours above 27,000 ft.

Paul was dressed with heavy flying clothes and boots but he complained of very cold feet and later found his left big toe was slightly frost bitten.

The two most difficult parts of the flight were the inability to keep the canopy free of ice and to keep his feet warm ; otherwise the flight seemed to be routine for him.

The following day, January 1, 1949, he reached 22,000 asl but the front had passed a few hours earlier and the lift was getting weaker all the time. He landed again after dark by the field landing lights.

Also on January 1, just before the front passed Bishop and the sky was 90 per cent overcast, Fred Walters, pilot, and Dick Lyon, co-pilot flying Fred's " L-K " were double towed toward the Sierras near Mt. Tom. They released at 9,500 ft. asl in very turbulent air and climbed up through the only clear space in the lee of the mountain range.

Upon entering the wave lift the climb indicator pegged at 15 fps and approximately 10 minutes later they were at 18,500 when Dick noticed the hole closing beneath them and they immediately decided to abandon the flight.

The ship was equipped with blind flying instruments and oxygen but the pilots had been so busy after release that they had failed to put on their masks. By opening the spoilers and placing the ship in a dive to 70 mph. they were soon in the clouds but Fred had no trouble in keeping under control and soon broke out 3,000 feet lower beneath the overcast.

They then put on their oxygen masks and both pilots reported their vision cleared. They had been unaware of lack of oxygen prior to this time. The maximum " G " load recorded by their instrument while in the turbulent cloud was 5½ positive and 2 negative. They continued the flight for another hour at about 11,000 ft. in a smoother wave beneath the clouds. They also had trouble with the canopy icing up and keeping their feet warm.

On this same tow John MacDonald, student with Bob Symons, instructor, released at the same time at the " L-K " and climbed up in the same clear space near the mountains.

They were flying a " TG-3 " with oxygen in the front seat but there was none for the instructor and no bank and turn in either cockpit. The air was very rough and they had trouble in finding the smooth part of the wave. It was only after reaching 16,000 feet that the climb increased from 1,000 fpm to 2,200 fpm at 20,500 asl.

They, too, noticed the clouds closing the hole below them, and Bob decided to try to climb over the overcast and then fly downwind to where there was a clear-spot to let down. Since they did not have blind flying instruments he did not want to try and get down through the clouds. But the clouds were climbing faster than the ship and soon engulfed them with severe turbulence. The canopy was iced over and John was unable to see out even before getting in the clouds.

Bob took over and tried to fly straight ahead but soon entered a spiral dive and the airspeed reached 110 mph. before he was able to recover. The compass was spinning and they did not know their direction of flight, but assumed they were drifting with the wind which was over 50 mph. from the west.

(*Continued on page 58*)

THE "WLM—1"

A Swiss high performance sailplane made by the Luzern firm of Weber—Landolf—Münch

THE design of high performance sailplanes is a matter of judicious compromise between conflicting factors and requirements—sailplanes cannot be used like golf clubs. A short span sets a lower limit to the sinking speed, but it makes for manoeuverability in the rolling plane and strength to resist the stresses of aerobatics, blind flying in cloud and bumpiness at speed.

On paper the " WLM-1 " is immensely strong and manoeuverable at the expanse of a lowest sinking speed of 2.6 f.p.s. Some of those who saw it fly at Samedan relate that during the diving starts to the speed races and whilst other machines were waving their wings and sometimes even wagging their tails at the spectators, the "WLM " whistled by unperturbed at a fantastic rate. This absence of flutter at very high speeds is not just a lucky attribute of the machine, it is the result of thorough and balanced designing.

One also heard from Samedan that during the periods of slope soaring in very light airs the " Weihes " and the " Air-100 " went up whilst the " WLMs " were going down (and, I suppose, the " Olympias " and the " Gulls " were maintaining height). Finally we were told that this new Swiss design flew upside down as well as the right way up.

If it is not yet possible to combine in one design qualities for the union of which a variable span would be required (this being the solution adopted by birds), a machine can be produced now with the combined speed ranges of different wing sections by altering the shape in flight by deflection of the slotted flaps and of the ailerons. This the " WLM " appears to do successfully, maintaining good L/D ratios throughout. The advantages of the vast speed range are immense with an aircraft built to cope safely with the upper limit of such a variation. Amongst many I might mention the possibility of being towed by a greatly increased number of aircraft, and that of frightening oneself at leisure in cloud, knowing that any kind of boobery will be condoned.

Very creditable efforts appear to have been made to build a roomy and comfortable cockpit. I have no actual reports on the subject but judging by photographs, it appears to be everything that is being claimed for it by the makers; and the all-round visibility must be superb.

For competitive flying the " WLM " cannot be claimed to be an all round machine. But when lift is plentiful and strong and the limiting factors are the severity of the weather and the shortness of time it should do extremely well.

JACQUES COCHEMÉ.

CONSTRUCTIONAL DETAILS

Wing—

Cantilever shoulder-wing monoplane. All-wood structure and overall fabric covering. High strength and torsional rigidity are ensured by two spars and diagonal plywood covering from leading-edge to rear spar. The spar flanges are laminated in selected pine. At all points where fittings are attached to the wood, resinous material (Resocel, Lignocel) is used for distribution of concentrated loads.

NACA 230 wing sections with a maximum thickness of only 13 per cent of the 55.1 in. (1400 mm.)

The " WLM-1 " with flaps down.

chord at the root, and 7 per cent of 23.6 in. (600 mm.) at the tip, respectively. Slotted type camber-changing flaps and slotted ailerons. The ailerons move down simultaneously with the flaps to nearly 20 degrees. The maximum flap angle is 40 degrees.

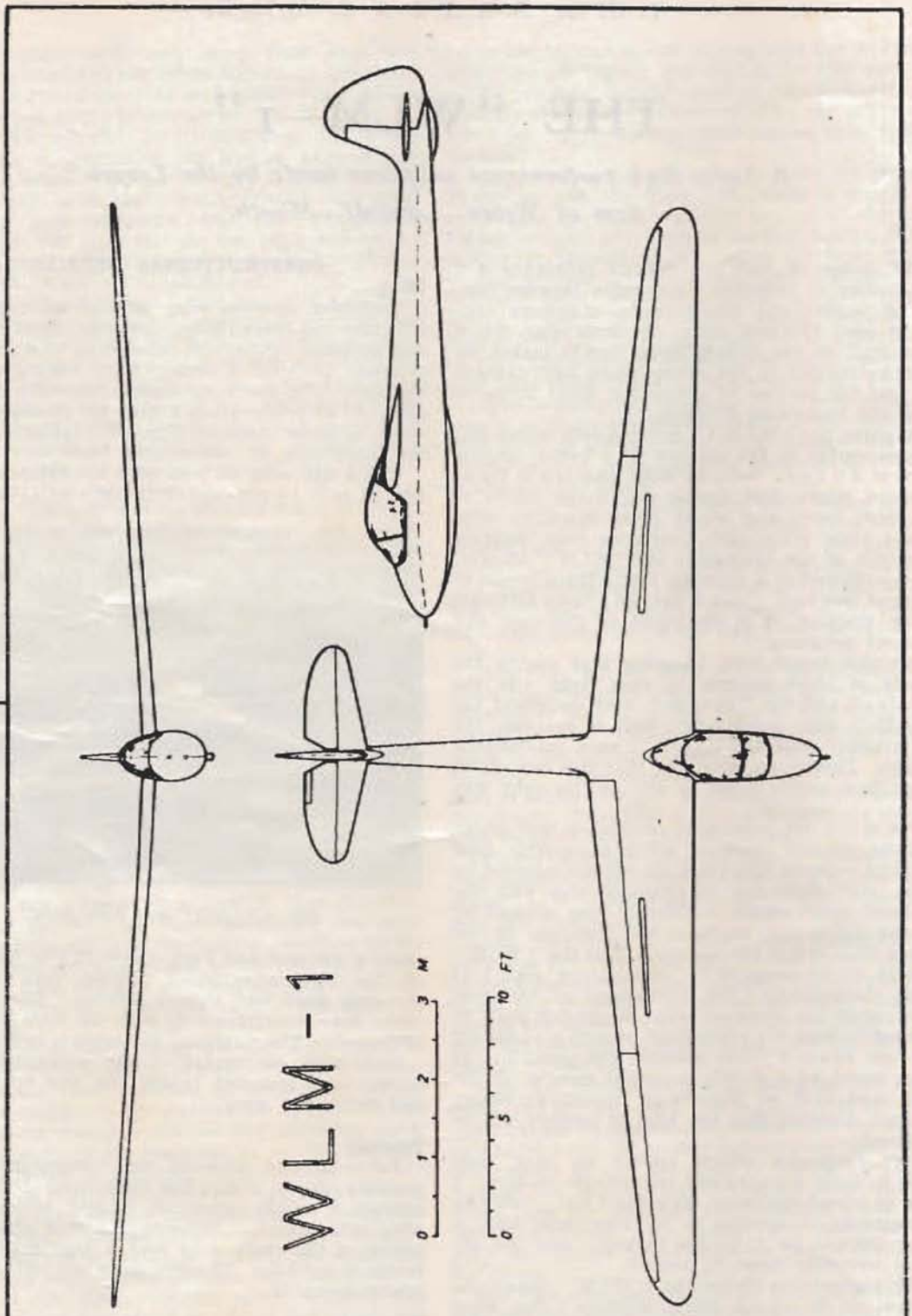
Light-alloy air brakes of the well-known DFS spoiler type mounted behind the rear spar above and below the wing.

Fuselage

Fabric-covered plywood semi-monocoque, incorporating sturdy keel. The back cover behind the cockpit is readily removable to give access to the wing attachment. Between the two attachment points of the main wing spar a high-quality steel bridge is provided. Wooden main and tail skids are rubber-mounted.

Tail Unit

Wood framework with plywood-covered fixed surfaces, overall fabric-covering. Fin built integral with fuselage. Tailplane halves can be folded up-



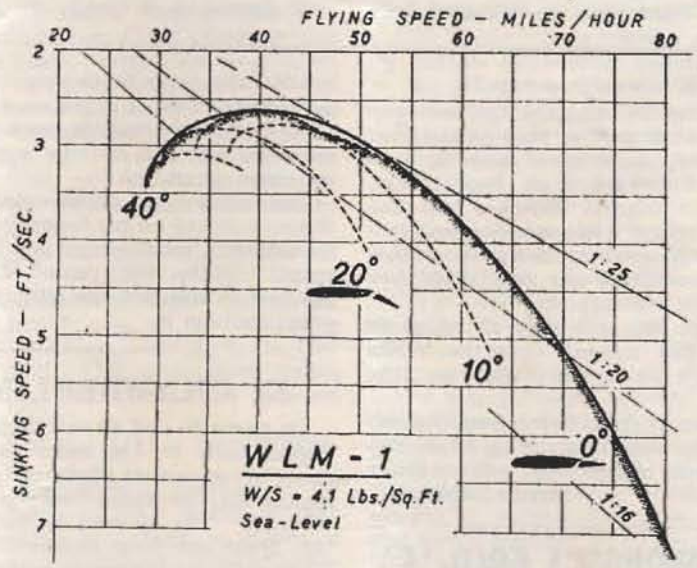
BEARB.:	WEBER-LANDOLF-MÜNCH, FLUGINGENIEURE	DAT Okt 1946

DIMENSIONS & WEIGHTS

Span	45.93	ft.	14,0	m
Length	23.00	ft.	7,0	m
Wing area	150.7	sq.ft.	14,0	m^2
Aspect ratio	14		14	
Tare weight	430	lbs.	195	kg
Disposable load	185-255	lbs.	85-115	kg
Gross weight	615-685	lbs.	280-310	kg
Wing loading	4.1-4.5	lbs./sq.ft.	20-22	kg/m^2

PERFORMANCES

at sea-level, wing loading 4.1 lbs./sq.ft. (2o kg/m^2)				Flap angle
Minimum sinking speed	2.6 ft.p.s. (0,80 m/s)	at	41 m.p.h. (66 km/h)	10°
Best gliding angle	25 : 1	at	51 m.p.h.(82 km/h)	5°
Higher speed gliding angles (L / D)	22 : 1	at	64 m.p.h.(103 km/h)	0°
	20 : 1	at	70 m.p.h.(113 km/h)	0°
	18 : 1	at	76 m.p.h.(123 km/h)	0°
Stalling speed			29 m.p.h.(47 km/h)	40°



The useful performance range shifts to greater flying speeds with decreasing flap angle, as shown in the diagram. If the pilot uses flap positions of 0, 10, 20 and 40 degrees only, he can fly the shaded performance curve.

wards beside the vertical fin. Rudder, elevator and ailerons are mass-balanced. Trim-tab on the starboard side of the elevator, operated from the cockpit by a left hand lever.

Control System

Control movements transmitted entirely by push-pull rods inside the wing (to ailerons, flaps and air brakes). Rudder and elevator operated by cables. Flaps moved by means of a wheel to the left of the seat. Rudder pedals are adjustable in flight by turning a small crank.

COCKPIT LAYOUT AND EQUIPMENT

The seat is built for a back-type parachute. Jettisonable cockpit hood, lengthened at the top to give unobstructed exit. Fuselage space behind cabin accessible for inspection and for stowing oxygen bottles and baggage.

Standard equipment includes (besides the parts already mentioned)

1 airspeed indicator
2 variometers (coarse and fine)
1 altimeter
1 inclinometer
1 el. turn and bank indicator
1 compass

Full towing and launching hook controls including a position indicator instrument for hooks and jettison uhdercarriage.

PROTOTYPE TESTS

Official flight tests and further exacting examinations were carried out on the Prototype in the period July 1947 to May 1948. They included :

Vertical diving, air brakes extended, over more than 8,000 ft. down. Maintaining an indicated limit speed of 150 m.p.h. (240 km/h.), the glider remained absolutely steady.

High-speed testing in free flight at true airspeeds up to 210 m.p.h. (340 km/h.). During high-speed flight, marked displacement of all flight controls. (These flight trials completed a thorough investigation of the glider's flutter characteristics).

Aero-towing behind military reconnaissance airplanes, at true speeds up to 180 m.p.h. (290 km/h.).

Stability tests at extreme c.g. positions, together with investigation of behaviour at the stall and in normal and inverted spins.

Full acrobatics (except flick rolls) and manoeuvring to high load factors, including pull-ups in inverted flight and outside loops.

Still Air Flying	Indicated airspeed.
Maximum admissible speed	185 m.p.h. (300 km/h.)
Aero-towing up to speeds of	170 m.p.h. (270 km/h.)
Full rudder and aileron deflection up to	135 m.p.h. (220 km/h.)
Accelerometer indications (manoeuvring load factors) (1)	
+5.0 g) admissible at all	
—1.8 g) speeds up to ..	185 m.p.h. (300 km/h.)
—2.5 g admissible at speeds up to	135 m.p.h. (220 km/h.)
—3.0 g admissible at speeds up to	100 m.p.h. (160 km/h.)
Rough Air Flying	
Avoiding vigorous pull-outs—	
Maximum admissible speed (2)	110 m.p.h. (180 km/h.)
Maximum admissible flap angles of—	
20 degrees up to speeds of	100 m.p.h. (160 km/h.)
40 degrees up to speeds of	60 m.p.h. (100 km/h.)

BISHOP SOARING—(*Continued from page 54*)

They lost altitude steadily with the spoilers open and got a glimpse of the airport as they passed over at 16,000 ft. Before they could spiral down the hole closed up. They next found a hole at Deep Springs, about 12 miles east of the airport. They had travelled 25 miles in the clouds in just a few minutes, and had crossed over the White Mountains which were sticking up into the overcast except in one area about five miles long just opposite the airport.

After diving through the hole they dived at 80 miles per hour and just scraped over the White Mountains to get back to Owens Valley and the airport.

I hope they both learned about flying from that experience and will see the error of going up on an altitude flight without proper instruments, and oxygen in both cockpits. (from 'Soaring')

PRINCE B. BIRABONGSE'S GOLD 'C'

We have no official confirmation of Prince Bira's Gold 'C' which he is understood to have gained by a distance flight of over 200 miles during his visit to the Argentine. He previously made the height qualification some three years ago, when he also just missed the distance requirement owing to returning to airfield on the Suffolk coast having been over the seashore. At that time he was not even the official possessor of an "A."

Incidentally he is reported to have broken a distance record on his Argentine flight. But it would be either a local record or the Siamese distance record. Philip Will's record of 209 miles still remains the best British distance although we know of several plans to beat it.

K. CHAMBERLIN'S FLIGHT

On pages 60 and 62 will be found reports of other flights made on the same day as K. Chamberlin made his somewhat bludgeonary flight in a Cu-nim during the Christmas Camp of the Gliding Club of Victoria. The account in last month's *Sailplane* of this flight has been discussed at length in British Gliding Circles and occasioned considerable comment. We hope to publish some of these in our next issue. One thing emerges from the description and that is the extraordinary strength of the Grunau Baby, and one which is at least ten years old too.

SHEER BOOBERY

(Last month we published an article on this subject. The same thought seems to have struck the Editor of " The Thermal "—published by the Southern Californian Soaring Association).

SAFETY RECORD

THE *STATE of MIND* of our pilots has been such that there has been no significant damage to gliders owned and operated by our members for something like two years.

To what else can one attribute *any* safety record ? In soaring, luck counts only so much—it *cannot* account for any such continuous record as we have been fortunate enough to enjoy.

This article does not intend to brag about the record as such, because superstitious folk (that's us !) guiltily believe that such bragging is sure to bring catastrophe onto our heads (heaven forbid !). Rather, this article will go over weaknesses that still can be detected in our collective *STATE of MIND* in the hope that this record will continue for ever more.

1. Check your gliders thoroughly and often : before each day's flying ; after any untoward incident (a hard landing ?). Check *every* cotter (maybe the tie down rope unfastened the safety pin on the strut ?). Check all control cables for fraying over pulleys—check to see if dust is ruining any pulley bearings. Do cracks in the paint indicate that bolts need tightening ? Is recently applied dope covering a rust spot ? Etc.
   That is enough of that. You get this idea (we hope) : Don't be *lazy* about checking your glider—and don't take its condition for granted. Develop the *STATE of MIND* that *YOU* demand *exact* knowledge of the condition of your glider. And remember that while a small spot of rust on the control stick is not dangerous, it does not encourage the uninitiated passenger who might otherwise be a convert.
2. Do not fly if you do not feel fit ! 'Nuff said ?
3. Before take-off, go over a mental emergency pattern (If the line breaks, go left into Joe's hayfield—don't make any low turns in this gusty air, etc., etc.). This preparation makes an incident out of what could have been an accident.
   Notes : *STATE of MIND* : a. Preparedness. b. Be alert !
4. On the ground, if a glider is landing, *get off the dime* and actively CLEAR A BIG PATH for the ship coming in. Sure, it means a 3 minute delay—but it can save a lot of hours of rebuilding ! We all know that any one of us can easily handle *one* tough situation. It is when an unfortunate sequence of happenings occur that trouble starts. The boy coming in might sneeze, or maybe his shoes are wet and his foot slips off the rudder pedal. If his path is clear he is OK. If, awkwardly, Len Ditherfoot is sitting on the ground expecting the other glider to pass over or to one side to land ; well, that means " back to the work bench for 500 man hours " instead of 5 minutes delay on take-off.
5. Obey the rules that are known from experience, there is no use repeating *bitter* experiences. For Example :
   Don't " show-off." You aren't a hero. *Don't tow low*—if the line breaks its *on you*. Don't pull up steeply on auto tow until you can recover from a possible line break. Always keep a landing field in *easy* reach.
   These are only a sample ! Years of experience has made our better pilots safe because they can extend this list to fill a book. Most of these axioms are so well known to them that they are reflex action. *STATE of MIND*, again.
6. Unless you feel competent of a task—*don't do it*. Remember that in football for example, the player who is *afraid* he will be hurt is the boy who *gets* hurt. *STATE of MIND*, Fellows !

Why is this safety state of mind so very noticable in the S.C.S.A. ? Well, we have flown together for years. New pilots trained in this group are controlled by the example of wise and experienced pilots who fly well and safely. We have no show-off " Hot Rocks " that " lure " new pilots into danger by outside loops every Sunday. We do have men in the group who *can* do this—but they have not real *desire* to do it—it just isn't worth it !

The better our safety record gets, the harder we have to work to insure that it will not be broken.

We shall now anticipate your next natural question : " What about the fatal crash at Lucerne Dry Lake about seven weeks ago ? " We have only a little information on it : The pilot, who later died, was the *brother* of Art Russu ; Art used to be an S.C.S.A. member. His brother apparently had recently been checked out in Art's " L/K." The ship spun in from about 300 feet. The passenger was seriously injured, will recover.

We are, perhaps, drawing a fine line when we differentiate between S.C.S.A. activities and this accident. This expedition was unknown to the S.C.S.A. and no S.C.S.A. people were there. The distinction is probably justified, however, because we like to believe that meeting together as we do, and flying together as we do, is a big reason for our S.C.S.A. safety record.

The less experienced soaring pilot's attitude must be moulded if he is to soar safely. We can do this most easily if he comes to our meetings and discusses the Art of Soaring with the Artists

GLIDING CLUB OF VICTORIA

Souvenir Christmas Camp, 1948.

ONCE again Christmas has come and gone and another Benalla Gliding Meeting with it. This camp, although in some respects not quite as successful as that of last year, in other ways far surpassed all other camps this Club has known.

An Australian altitude record was made, included in which was a " leg " for the coveted Gold "C" A Silver " C " was qualified for and many pilots won " legs " for this award.

Although handicapped by the loss of the " Merlin," two-seater and bad weather in the first week, trainees, through their own perseverance and tenacity won through to the " Utility," which is a truly commendable effort.

Some 56 hours' power flying was had by members mainly because of the terrific keenness of the Royal Victorian Aero Club, Honorary Instructor, Jack Edwards.

The actual camp itself was a tremendous success. Much praise being due to the members of the Committee who organised it—Our camp " C.O. " Keith Chamberlin, who spared no effort in making a success of it, and equally important in the eyes of some members, our Cook, Frank Dowling, who rose unflinchingly to the occasion and produced very appetising breakfasts which members for all their sarcasm and complaints, really appreciated.

Christmas Holidays.

9th January, 1949 : Arose at 6.30 a.m. Practice aero-tows at 7.15 a.m. by R. Barker and Dave Darbyshire (2 each) before breakfast. K. Chamberlin aero-towed off in Grey " Grunau " at 11.30 a.m. " Utility " was flown. Leo Dowling had 2 aero-tows with Blue " Grunau " but failed to connect. Then Reg. McConnell was aero-towed in Blue " Grunau " at 12.45 p.m. Released at 2,000 feet and reached 6,000 feet for duration of 2 hours 3 minutes. Thunder cloud formed up and about 3 p.m. Reg. McConnell was advised by radio by Radok to keep away from this cloud as it was dangerous. Radio was not properly audible and McConnell thought he was being advised that he should investigate said cloud, but on getting close to it he used his own discretion and flew away as hard as he could go, and just managed to clear 20 f.p.s. lift and avoid being sucked up into the cloud. Chamberlin however was nonchalantly circling in 10 f.p.s. right under centre of cloud. McConnell landed back on the drome and members then watched Chamberlin disappear into the cloud amidst thunderclaps and lightning and then an anxious time was had by all waiting for the pieces to come scattering down. Someone remarked " it looks like ' a brolly for Brolly.' " Fingernail biting was going on apace and the atmosphere was electric in more ways than one. After about 20 minutes however, someone yelled " He is down " and everyone said " How many pieces ? " Chamberlin had had a remarkable experience in ascending to 14,800 feet above drome and had been severely punished with hailstones, freezing temperatures and violent aerobatics in the cloud. In a terrific down gust the barograph showed a drop of 7,000 feet in 25 seconds. In spite of his unsaleable condition—one eye was completely closed and black from a knock from a hailstone and body covered with bruises he managed to pull out of a spiral dive in heavy rain at about 800 feet, and made a good landing in a small open space among trees about 4 miles from drome, near a road. U. Radok, having much concern for instruments in " Grunau " set out on back of McConnell's motorcycle at high speed, followed by the Duckworth Dodge and " Grunau " trailer. Chamberlin was picked up not far from the " Grunau " in a dazed and wandering condition by a local farmer who on seeing the machine land had phoned the aerodrome. They met the trailer crew on the way to Benalla, and Chamberlin became very ill while talking and was taken to Benalla Bush Nursing Hospital for attention, after which he walked back to the drome. Pat Bourke arrived at 2 p.m. and left for Melbourne with the double trailer. At 3.30 p.m. G. Isaac and L. Exell left for Melbourne. Packing up activities ready for early start in morning. Reg. Pollard left with Dodge and Grey " Grunau " trailer. Members listened to morning News Sessions for broadcast of record flight, news of which had been phoned to Duckworth at Footscray. To their satisfaction reports on the flight proceded statement by Mr. Menzies. N. Hyde and Jack Edwards left in Tiger Moth for Melbourne at 4.30 p.m.

Social Events.

Just Married.

Jim Kelleher, F.F.I.A., A.C.I.S., our Honorary Treasurer since 1943, was married to Miss Margaret Gambetta at St. Patrick's Cathedral, Melbourne, on 15th January, 1949. Honorary Secretary was " Best Man."

Well wishing club members presented Jim and Margaret with a tea set to mark the occasion.

Shell Picture Night a Great Success !

There was a bumper attendance at the Shell Theatrette on 14th December, 1948, when Gliding, Travel and Motor Cycling Films produced by R. Duckworth and H. Dalton were screened. In fact there was " standing room only " before the show started.

Our hearty thanks to our supporters from the Motor Cycle Clubs, the Shell Company and of course the Producers of the films.

GOAL FLIGHT—WAIKERIE TO RENMARK—43 miles.

Date	29th January.
Time of Taking off ..	14.35.
Landed	16.25.
Wind	North-north west, 10-15 m.p.h.
Sailplane ..	" Olympia."
Pilot	J. G. Wotherspoon.

One had only to visit Waikerie at any reasonable week-end to hear of the many preparations and starts for Renmark, to suggest to me that I would go there as soon as I had a reasonable chance of success. That success, or " lift " was doled out to me last Saturday in large lumps—large lumps that had the ominous suffix of " nimbus."

The wind was at the commencement north-north west, gusting, 5-15 m.p.h., but five minutes before departure a particularly large gust of 20-25 m.p.h. was observed on the aerodrome as a particularly large cumulus went over. The cloud bases appeared to be high, but were estimated about 9,000 feet.

I got off at 14.35 and soon found a thermal which was fairly smooth and took me to 4,500 feet. There it seemed to peter completely out, but a short hunt round found another that took me to 6,000 feet. The sky was covered in fracto cumulus clouds over the aerodrome which produced plenty of lift. I therefore scouted round and soon found another which turned out to be a real " corker," which took me to 12,000 feet. Arriving at this height I found that we were up in the dark concave base of a large cumulus. It was here that I tried some cloud flying, but with the development of the cloud, which was rapidly assuming cumulo-nimbus proportions, and the fact that I put on another 1,500 feet in (it seemed) seconds, I set a course due east and broke cloud at approximately 13,500 feet, in front of the roll. I decided that this height wasn't to be sneezed at, and that I should be lucky to have this often; I finally decided to make for Renmark.

We were now approximately 10 miles south east of the 'drome and had been up for more than three quarters of an hour, so I set a course 030 for a dark looking line of cloud that stretched north and south which was precipitating rain on Lake Bonney and Barmera. I arrived under the cloud at about 9,000 feet and, as I expected, found lift under it—bags of it, so much so that to stop getting pulled right into the cloud I pushed the speed up from 60, as I had been cruising to 70, 80, 90, 95 and then was still climbing at 10 ft. a second, and put on a further 2,500 feet before I lost lift in heavy rain and hail.

After flying through this for possibly two minutes I arrived on the other side in a steady 5 feet a second down still on course. As is generally so on these occasions, I had left my map behind and could only guess at where the aerodrome at Renmark should be. However, I knew that Renmark was on a large loop of the river, so I headed in the general direction. The clouds now seemed to be lowering slightly and becoming fully overcast. There was only one bright patch on the distant horizon, to which I headed, hoping that there would be some lift. In effect this light patch resolved itself into Renmark Aerodrome, where I arrived with 6,000 feet in hand. This was much more than I expected, and can only praise the idea of balancing sink with air speed as I had done after leaving the cloud, and the result was truly remarkable.

I arrived over Renmark Aerodrome at 15.50 which, allowing say only quarter of an hour for the initial climb, made an average ground speed of 50 m.p.h.—extremely good going, cross wind, and shows what the " Olympia " will do when pushed.

There was nobody about in the Aerodrome, so I just wasted the 6,000 feet in practising aerobatics, including putting on a demonstration to some tar barrels, which I thought were people looking up, but eventually, when I was low enough, decided they weren't, and landed at 14.25.

There was a telephone on the aerodrome, where I reported back to base, which I think thoroughly shook them, as they still thought I was over the aerodrome somewhere in the cloud.

TWO HOURS OVER BENALLA.

by Reg. (Trigger) McConnell.

The last day of the camp, 9th January, 1949, seemed perfect for thermal soaring as small cumulus clouds were all over the sky.

As Keith (" Brolly ") Chamberlin had been up for 2 hours and looked like staying up for some time yet, I decided to have a go in the Blue " Grunau."

I was aero-towed to 2,000 feet, where I released after a very rough tow. I contacted good lift immediately after release and climbed to 4,000 feet. The area over the town seemed very good, so I stayed there for about an hour at various heights ranging from between, 2,500 feet and 4,500 feet. The lift was fairly smooth and averaged about 10 f.p.s.

As " Brolly " seemed to be doing very well on the east side of the drome, I flew over to join him, giving the " Walkie Talkie " supplied by Uwe Radok, a try out on the way. I found it a little awkward to use in straight flight and almost impossible while circling in lift. Reception in the " Grumau " was marred by static but I think most messages would have been readable had earphones been used. Earphones and a mike strapped to the chin (R.A.A.F. style) would have made it quite possible to use the set even while circling.

I got down to 2,000 feet on the east side of the drome but once again found good lift which took me to 4,500 feet.

After this there seemed to be a lull in the thermal activity and both " Brolly " and myself were pretty low before we contacted the same thermal. " Brolly " was actually making his approach when he got it but he climbed back to meet me at 1,700 feet.

We climbed steadily at 10-15 f.p.s. with " Brolly " slightly below and often within 100 yards of me. During this climb we had a large hawk for company for between 4-5,000 feet, he seemed to be hovering just above my head and I could see him peering down at me.

The maximum height attained on this climb was 7,400 feet, my highest so far. While descending after this. I began to feel rather sore (padded seat would be a good idea) and decided to use the radio to see if anybody else would like a flight. As nobody seemed to want to and as I had been in the air only 1 hour 40 minutes, I decided to carry on.

Uwe Radok was trying to tell me something about the large storm cloud approaching from the north; but I could not get his message clearly and decided to have a look-see anyway. " Brolly " at this time was about 2 miles north of me and about at the same height.

On approaching the cloud I found smooth and strangely silent lift of 10-15 f.p.s., while flying on a straight course at 45 m.p.h. Soon the green ball went up to 20 f.p.s., and I was under the fringe of the cloud, and the temperature began to drop very rapidly.

I decided the cloud was too big for pleasure and smartly about faced and headed south west with a vague idea of trying a cross-country by flying in front of the cloud. However the cloud's influence seemed to extend a long way and the chances of getting " sucked in " seemed very strong so I decided to get away from it altogether.

I had 50 m.p.h. on the clock and was still going up very rapidly, so I tried 60 m.p.h., but was still getting lift—I tried 70 which was better but the green ball would still pop occasionally and the machine would give a distinct shudder.

It seemed a long while before I cleared the main area of lift, but even then I still got patches of very strong lift which sent the green ball racing up the tube. Airspeed at this time was 60 m.p.h. and I held it right down to 500 feet. Oh ! for good dive brakes !

Heavy rain was falling from several cumulo-nimbus clouds in the area and occasionally I flew through patches of hail. There were flashes of nasty looking lightning.

After landing I was informed that " Brolly " had flown into the cloud and knowing the tremendous power that cloud had, I began to worry a good deal as to how he would fare. The flight impressed on me the necessity of a stable sailplane equipped with dive brakes and blind flying instruments for thunderstorm flying.

Crashery.

Damage to equipment was, barring the " Merlin " two-seater very light. The main damage was the failure of the dog-clutch on No. 4 winch. This was repaired by a Benalla welder, by welding up with bronze, the dog clutch which is rarely used anyway.

The damage to the " Merlin " two-seater is very extensive. The entire fuselage from behind the rear seat to the nose being wiped off. Neither Bob McAliece or Reg. McConnell who was in the back cockpit were injured. Both of them had remarkable escapes.

No report is on hand at the moment as to the cause of the mishap, but we hope to have one for the next issue.

The Case of the Missing Grease.

Two keen members, Chas. Lambeth and Lin Beck while preparing the " Utility " for the camp experienced some difficulty in getting grease to come through the wheel bearings ! So they refilled the grease gun and pressed manfully on—and on—and on until to their surprise, amazement and amusement a thick stream of grease oozed out beside the tyre valve. On removing the wheel they found a gunfull of grease in the inner cavity of the hub. The moral of this story is that the best way to grease the " Utility " wheel is to remove the bearing cover plates and grease the bearings directly.

NEWS FROM THE CLUBS

SOARING ASSOCIATION OF CANADA

On February 12th members of the Soaring Association of Canada gathered fifty strong at the Lasalle Hotel, Kingston, Ont., for their annual general meeting. Queen's University Gliding Club played host to members from Toronto, Montreal and Ottawa.

A high-light of the meeting was the presence of Dr. R. C. Wallace, President of Queen's University who accepted the Club Trophy for the Queen's Club. This trophy is presented annually by the SAC to the club which has made the best use of its gliders during the year. Berkeley Roden, donor of the trophy made the presentation.

A new slate of officers was elected, with the following taking office for 1949. President—F/L. A. N. Lecheminant, Montreal; Vice-President—Gordon Spafford, Queen's U. Gliding Club; Secretary—Barrie Jeffery, Arnprior, Ont.; Treasurer—Kenneth McGurk, Montreal; Directors—William Frayn, Kingston, Ont.; W/C. D. M. Holman, Toronto; D. A. Shenstone, Ottawa.

Honorary life membership in the Association was unanimously voted Mr. B. S. Shenstone, now with B.E.A. in England, whose tireless efforts on behalf of the SAC are largely responsible for its successful growth.

W/C. Holman, retiring president, outlined the past year's accomplishments, citing the number of gliders now in Canada as 58 compared to 46 last year; gliding instructors' certificates earned during the year numbered 10, and gliding certificates numbered 20 " A," 22 " B," 16 " C " and 1 Silver " C " during 1948.

J. W. Ames, President of Toronto Gliding Club was re-appointed chairman of the regulations committee with, among other things the task of planning a competition in 1949 to select the annual national gliding champion.

Mr. H. T. Patterson, representative of the federal Department of Transport assured members of the support of his Department, but was unable to say just when the Department would issue revised gliding regulations. Such revisions were definitely in hand, he said, and the SAC would be called into discussion on them during the revision proceedings.

John Agnew, President of the Montreal Soaring Council reports that his group numbering some 50 members, have moved from St. John field to St. Eugene, at the opposite side of Montreal and have acquired a Tiger Moth; in their new location they have ample hangar space for their " Pratt-Read," " BG-6 " and " Primaries."

Bro. Hormisdas of the Brotherhood of Christian Instruction, who successfully founded the first High School glider club in Canada

in 1948 at St. Michael's High School, Buckingham, Quebec, by purchasing the prototype of Schweizer " SGU 1-19 " and re-assembling it, reports that the group has made down-payment on the purchase of a Schweizer " 2-22 " for two-seater training.

Tendencies in Canada are toward two-seater training rather than primary; difficulties in maintaining membership are found to be closely related to uninteresting primary ground training and short hops. With two-seaters students discover more quickly the fascinating pleasures of soaring flight, even if at first they are not operating the machine themselves. Enthusiasm is maintained and cost is little if any more to the student. In addition the appearance of open primaries does not apparently enthuse the majority of potential members. It may be added that most glider clubs in Canada operate from air fields rather than hillsites. The Air Training Plan (during recent war) left Canada with many air fields of varying sizes and equipment which are no longer of use to the government and glider clubs are acquiring rights on these across the country, usually by paying insurance and a nominal rental ($1 a year).

Douglas A. Shenstone
Soaring Association of Canada.

GLIDING AND SOARING CLUB OF SOUTH AUSTRALIA

The absence of (Adelaide) our club from the pages of SAILPLANE must not be taken as an indication of inactivity.

Indeed it can be put down to the laziness of your correspondent.

However, so many things have been happening in this part of the world recently that pangs of conscience have given way to dire threats from members until here at last are some notes on our " doin's."

Although the club was formed in the latter months of 1944 nothing approaching regular flying training was really offered until our " two-seater " (known by various names, i.e. " The Bomb," the " Old Bus," " Twoey " and even " Granau " !) — was completed and test flown.

The test flying was carried out at the Gawler air strip by assistant instructor Kevin Segeman in Dec., 1947.

Since then small " mods " have been carried out but the machine as a whole is still in its original form.

In the two-seater most members found their " air legs " and two have gained their " C's."

In the year ended Dec., 1948, this machine had completed between 450 and 500 training flights.

At a six day camp held in Dec. the total number of flights made in this machine was 112.

Most members have now reached an advanced stage of dual and during the camp (described fully below) three pupils soloed the " two-seater " for the first time and gained their " B's."

They were Messrs. DeLaine, Dukes, and Creer, these being the first solo pilots entirely trained by the club.

As has been previously reported in SAILPLANE a former member of the London G.C., John Wotherspoon joined our club shortly after arriving from England, bringing with him his " Eon Olympia."

In this machine John has recently set and broken new South Australian height, distance, and duration records.

His latest effort was made when visiting the Waikerie Gliding Club. After casting off at 800 feet from a winch launch he climbed, sometimes in, sometimes out of cloud sometimes flying blind because rain blanketed his canopy, to a maximum height of 13,500 feet. This height being only 1,800 feet below the Australian record.

Several weeks ago, also from Waikerie, he put up 3½ hours pure thermal soaring, thereby bringing the state duration to our club.

Earlier in the year our " two-seater," flown by the C.F.I. (Clive Tolhurst) and a pupil (Yours Truly), soared to a state record height for two-seaters—2,200 feet for a duration of 20 minutes.

Christmas Camp, Virginia, Dec., 1948.

The camp this year was the medium by which everyone had fun, bumped up their flying time, and had their stomachs filled with good country food three times each day.

Our second instructor Kevin Segeman could not be present at the camp as he had taken his holidays in Victoria but had a good time at the Victorian club's camp.

Because our two remaining instructors, Clive (The Squire) Tolhurst and Laurie (Mo) Middleton both work in banks we had to adjust our camp to suit their days off.

It was decided, therefore, that the first half should be under Mo's capable eyes, commencing Dec. 26 and lasting three days. There would then be a break of three days to allow the instructor to regain his normal colour and the Squire would take over for the last three days.

Arrangements had been made with a cafe in the township of Virginia regarding meals and we would arrive at breakfast time to find ourselves confronted with the biggest steaks I have ever laid knife on (apologies to British stomachs).

Amateur photographers among club members found considerable scope for air pictures because of the natural beauty of the surrounding countryside, while others in our midst found scope for their particular talents in other types of natural beauty found much nearer Mother Earth. Nuff sed !

Our instructors did a wonderful job of " tree flying " on several occasions when after being put into a spot by some well-meaning " pupe " they had to side slip through a gap in a line of trees bordering one side of the field that was only inches wider than the actual span !

The club's nacelled " Primary " was also flown at the camp, but was retired after an argument with some telephone wires (to the obvious annoyance of one telephone subscriber) but was very slightly damaged.

The last day of the camp saw the momentous event. Three first solos within five minutes of each other.

Workshop Notes.

Much workshop time has been spent the past year on the construction of a " Grunau Baby 11b," and a club-designed " Utility "; similar to a " Cadet "; with the result that both are now in advanced stages.

It is hoped the " Grunau " will be in the air about the middle of the year. The " Ute " perhaps a little sooner.

Future Hopes.

The club has recently been offered the use of another field at Virginia, considerably larger than the present one, and has been granted permission of the owner to erect a hangar on it and to cut and grade strips.

A new winch with a Ford V8 motor as its heart is under way and with its completion it is hoped for better calm-day, two-seater launches than was previously possible with our lower powered Studebaker.

With modifications to our Buick retrieving truck our future, if not rosey, is at least beginning to tinge a slight pink.

South Australia has had several attemps to organise gliding activities near Adelaide in the last three decades; all without much success.

We, however, are convinced that with the unselfishness and seemingly unconquerable enthusiasm of our members that we, at least, shall not go the way of our predecessors.

BRIAN P. CREER.

SCOTTISH GLIDING UNION.

" To the Scottish Gliding Union on 30th January, a Baby." This is a very proud announcement, for our new " Eon Baby " was delivered by Messrs. Thorburn, Lawson and Hendry after a tricky week-end of driving through fog to Dunstable and back; and judging by her performance on Sunday, 20th February, the " Baby " is doing nicely.

Flying at Balado went on as usual on the 6th February, and the St. Andrews' students turned up on Monday 7th to fly again, as there was a University holiday. There was a thin, steady drizzle on the 13th, but Mr. Manclark and Mr. Rust launched the " Olympia " for five circuits, in a fairly strong wind. As said before, the " Baby " was flown on the next Sunday. One day the soul-searing saga of her journey north will be told—the fog, the ice, the long vigils in Andrew Thorburn's Humber Snipe, while the trailer and the " Baby " stood up bravely to Arctic rigours . . . Her company of drivers, with Tom Davidson, were her pilots when she was test-flown, and they seemed to think she was worth the trouble.

THE BRISTOL GLIDING CLUB.

The exceptionally fine weather during the last few weeks has resulted in a marked increase of activity at Lulsgate. A sky full of cloud streets and a lively green ball have raised the problem of finding lift, rather than the usual problem in February of finding the runway under the snow.

With most of our mechanical equipment undergoing overhaul we have been relying entirely on one rather decrepit Beaverette. This hard working vehicle has been responsible for up to fifty launches a day besides performing its usual chores of retrieving gliders and fetching tea. On days of strong wind it has elevated the " Grunau " to 1,200 feet and could have done better had we a longer length of piano wire than our present 1,350 feet.

Our longest flight so far this year has been an eight minute circuit by C. C. Dorman in the " Grunau " with the aid of some form of evening thermal. From a 1,000 foot launch a delayed descent was made to 800 feet and height maintained for a while. The weather at the time was clear apart from some medium cloud, wind had dropped shortly before and a haze top at 1,000 feet indicated an inversion.

Our training fleet has now been increased by an " Eon " Primary fitted with wheels for operation from the runway. The stability of this machine in flight and ability to withstand heavy landings mean far quicker progress for the pupil. The novelty of flying along A.38 peering at the traffic between one's legs has also made it popular with the more experienced pilots who normally disdain anything less refined than the " Olympia."

The date of our Annual General Meeting has been fixed for 29th March. It will be held in the Grand Hotel, Bristol.

VICTORIAN MOTORLESS FLIGHT GROUP

Newsletter No. 11. February, 1949.

The Victorian Soaring Association held its second Christmas Camp at Berwick, attended by our Group and the Beaufort Gliding Club. The weather was disgraceful, hot winds and cold winds and nothing very good for soaring. Perhaps it was a blessing in nasty disguise as we were able to relax at times and relaxing was a much-needed commodity after the final blitz which resulted in the hangar being virtually completed and water laid on, including the installation of four showers.

Highlight of the camp was the test-flying of Arthur Hardinge's " Olympia." Arthur joined the Group early in December and we were able to help him get the " Olympia " to Berwick for Christmas. This beautiful and elegant sailplane aroused great interest and admiration and we lost count of the number of people who sat in the cockpit mumbling happily to themselves. Gordon MacDonald became a little haughty about being the first ab initio in Australia to carry out his half-hour's wing-balancing in an " Olympia " and even hardy veteran tupes were observed having a furtive little wing-balance now and then.

The first low hops proved that she could fly, but one could tell that by just looking at her anyway. Arthur didn't use his spoilers at first, so had rather a job getting her in, using up threequarters of the 2,500 feet diagonal runway and paralysing us all by displaying an appalling tendency to account for large numbers of sheep (£5 10s. 0d. per head) and lambs (£2. 10s. 0d.) who, after their usual trusting practice (not having heard of people going through the rollers) had pottered off to the vicinity of the winches.

I hesitate to record what now must follow, for it was fantastic, unnatural, unprecedented and most irregular. To say the least of it. On his next flight, to avoid overshooting, Arthur held off from the field, skirting two fences fifty feet apart, running at right-angles to the boundary of the runway we were using. Never having flown in an enclosed machine before, it is understandable that he misjudged things a little and didn't leave enough height to clear those two fences. Right. The " Olympia " came in heavily just in front of the remains of a haystack; instead of the usual things happening

associated with " Olympias " Landing Heavily, THIS " Olympia " heaved herself off again, plucked up flying speed, climbed to about twenty feet, allowed Arthur to swing her in towards the field, passed over the first fence, flipped her tail skid in between the two fences leapt up again and over the second fence into the aerodrome, scratching her keel on the barbed-wire and landing rather ungracefully. There was absolutely no damage to the aircraft, apart from a very slight scratch on the keel. I make no comments on this occurence. It was all very odd, and as the years roll on it will grow odder and odder until finally no-one will believe us at all. But that's how it was and we all saw it.

That was the last time Arthur frightened us, for from then on he started using the spoilers (sorry about this, I mean dive-brakes really, but we're only used to spoilers at Berwick) and flew her very finely indeed. And a good thing, too, as any more of that and there'd have been quite a few people gibbering around Berwick aerodrome, singing small meaningless ditties in high quavering voices. (One of them would have been called A. Hardinge). Although Arthur had to go back to Melbourne twice on business, we managed to winch him off for thirty-five circuits during the camp, with the wonderful co-operation and unselfishness of our Kestrel group and the Beaufort people, who hustled him off on their respective winches whenever he seemed to have been on the ground for more than ten minutes or so. Arthur and the " Olympia " (christened " Yellow Witch ") are now in New Zealand, at the invitation of the N.Z. Director of Civil Aviation, to fly at a number of Aero Club meetings and to take part in the N.Z. National Air Pageant. In passing, I must mention that one Aero Club offers a Dakota for towing the " Witch." (Let's see you talk your way out of that one, Art !) Arthur and the " Witch " carry with them our affection and pride.

Just before proceeding to the Christmas flights, it occurs to me that some of our readers may not know that Geoff Richardson, one of our best backbone-of-the-club types, designed and built the first Australian sailplane, the " Golden Eagle " (test flown September, 1937) which, as reported in July/August newsletter is now undergoing considerable and highly mouth-watering mods. This is something I'm looking forward to seeing—the first Australian sailplane and the first Australian " Olympia " circling together in silent beauty above Berwick.

Flying Diary.

211 launches were carried out during the Christmas Camp and there were 17 thermal flights of 15 minutes and more. All launches by winch.

In the Beaufort Gliding Club's two-seater, " Phoenix " — 140 launches, all by winch.

9th January, Eddie Byrne, 800 feet to 3,200 feet, 1 hour 34 minutes (two-seater thermal soaring duration record for Australia).

And now back to week-end flying:

Saturday, 15th January. 9 flights in " Coogee," including one on which your correspondent found herself in the embarrassing position of flying backwards, airspeed 55 m.p.h., variometer 10 f.p.s. green, having been winched off before a low fast-moving front. As cloud-base was only about 2,000 feet some very smart evasive tactics indeed took place, pilot having no desire to tangle with such a mean-looking thing minus parachute, etc. (Not to mention being a scaredy-cat from way back). In the " Heron," Gordon MacDonald had six ground-skids. A gymkana was in progress on the show-grounds behind us, and, as your correspondent opened her mouth to commence the usual patter, a large voice boomed incredibly, " You will proceed up the straight, jump the hurdles, pick up the umbrella, open it, close it, return, leap the hurdles again . . . ." The rest of this extraordinary instruction was lost under attempts to sooth the MacDonald. And by the way, what DO you suppose they were doing at that Gymkana ?

Sunday, 30th January. 15 flights in " Coogee."

Monday, 31st January. 18 flights in " Coogee " and " Kestrel." In " Coogee ", 500 feet to 1,700 feet, 20 minutes and 900 feet to 3,850 feet, 47 minutes, Grace Roberts. In " Kestrel," 15 minutes 700 feet to 2,000 feet, Pop Iggulden.

Sunday, 6th February. 9 straights in " Heron," 20 flights in " Coogee," Mike Bruce taking her from 800 feet to 2,600 feet for 40 minutes.

Saturday, 12th February. " Coogee " 8 flights—Mike Bruce 800 feet to 3,200 feet, 29 minutes. Grace Roberts, 900 feet to 3,600 feet 1 hour 9 minutes. (These two flights were made after 5 p.m.).

Sunday, 13th February. 14 flights in " Coogee." Les Williams, 800 feet to 3,600 feet, 28 minutes. Grace Roberts, 600 feet to 4,850 feet, 1 hour 40 minutes. 7 flights in the " Kestrel," Bill Iggulden, 700 feet to 4,500 feet, 1 hour 3 minutes, out and return, 8 miles each way. In the " Heron," 15 low straights, with Joyce and Alex Hogan, and Dave Jones, making really splendid progress.

Back to the Beaufort Gliding Club, and the " Phoenix."

Saturday, 22nd January. 15 flights, one of 11½ minutes.

Sunday, 23rd January. 21 flights. Ron Roberts and Alf Bickerton, 15 minutes, also 600 feet to 3,300 feet, 55 minutes. Ron Roberts and Len Travers, 29 minutes, 500 feet and 2,500 feet.

Sunday, 30th January. 12 flights.

Monday, 31st January. 20 flights.

Saturday, 12th February and Sunday, 13th February. 24 flights. 5½ hours time. On Saturday, Ron Roberts and Eddie Byrne equalled the *Australian 2-seater altitude record* with a flight from 700 feet to 4,440 feet, time 46 minutes.

On Sunday, three consecutive flights produced the following heights and times—

Ron Roberts and John Wallis, 650 feet to 3,300 feet, 37½ minutes.

Ron Roberts and Doug Lyon, 600 feet to 4,750 feet, 2 hours 15 minutes.

Ron Roberts and Len Travers, 600 feet to 3,660 feet, 52 minutes.

On the first flight cloud was entered several times and smooth 15/20 f.p.s. lift left voluntarily for the same old reasons—no parachutes, no blind-flying instruments.

The second flight again broke the *Australian two-seater altitude record* and duration for thermal soaring. On two occasions, the " Phoenix " came down to 800 feet and struggled back to over 4,400 feet.

On the third flight, Ron took "Phoenix" over in what is believed to be the first two-seater loop in this country, having first consulted Len Travers, who, being the Beaufort Club's Hon. Treasurer, was the best and most cautious member to consult! The "Phoenix" had previously been well tried out in stalled turns, etc., and went over very nicely, losing little altitude.

Which brings us up to date on V.S.A. flying activities. During the Christmas Camp we were visited by Kevin and Jean Sedgeman of South Australia, and Kev with his young daughter, went up in the "Phoenix." Reg McConnell and Charlie Lambeth of the Gliding Club of Victoria paid us a visit, too. Our Honorary Vice-President, Colonel Ryan, brought Mr. Percy Spender, M.H.R., and his family, down to see us, and a frequent and popular visitor was the Rev. Scott, of the Berwick Presbyterian Church. More recently we were very happy to meet Robert Parker, of the Scottish Gliding Union and hope to see him again when he returns from Queensland. During A.N.A. week-end, a party of Gliding Club of Victoria members came up and we were able to offer hearty congratulations to Keith Chamberlin, on his Australian altitude record flight, and hear a first-hand account of it. Eric Ehrenberg, well-known to the older gliding types, also visited us one afternoon. Leo Diekman and Ron Wilby, of the Southern Cross Gliding Club (N.S.W.) spent a week-end with us, hopping in and working like mad. Another visitor was Bruce Hearn, of Hearns' Hobbies, with his fiancee. Mr. Pearl, of "Pix," spent an afternoon engrossed in taking pictures of the "Olympia," to be published shortly. Mr. Elkman, of Civil Aviation, came along and had a look at the "Olympia," too. It was all very pleasant and we did enjoy seeing you, folks.

No account of the Christmas Camp and of the week-ends that have followed, would be complete without the presentation of a large, sweet-smelling bouquet to certain of our trainees. For a variety of reasons—weather, hangar building, repair jobs and so on—little training has been done until these last few week-ends, but, with that true enthusiasm which springs from a fundamental love of the game, week after week, Gordon MacDonald, Nance Iggulden, Joyce and Alex Hogan, Jack Scully, Dave Jones, Bon Vicary, have been on the job, working on the "Rhon," painting the hangar, time-keeping, retrieving, signalling, push-pulling, keeping the "Coogee" flying and looking astonishingly happy about any good flights. So from the "Coogee" crew—thanks a lot, kids.

Instructors: In December, the Committee appointed Jack Iggulden an Instructor, and four trainee instructors, namely, Mike Bruce, John Day, Viv Drough and Allan Patching. The trainee instructors have taken over (whether willingly or not is sometimes a little in doubt) a number of tiresome duties and made the work of the instructors much easier; they are shaping very well.

"Eon Olympia" in South Australia. I'm glad to report that John Wotherspoon is doing well with his English "Olympia" at Waikerie, S.A. John's wife, Hylda, writes that during A.N.A. week-end, four launches resulted in a total time of 5½ hours. On one flight, John climbed from a 900 feet winch launch to 13,500 feet, the last 1,500 feet in cloud, and carried out a goal flight to Renmark (50 miles), time 1 hour 50 minutes. I think I am right in saying that this is probably an Australian altitude record for height gained from a winch launch. It was a most creditable performance—congratulations from us all, John. Rather extraordinary conditions prevailed on this day, apparently, as John said that the cloud appeared to extend from 12,000 feet to about 30,000 feet. If only he'd had oxygen! Two other flights were of 1 hour 40 minutes and 1 hour 25 minutes' duration. Nice work, John.

Fawcett, Junior. Albert Fawcett is now the proud father of a daughter. Congratulations, Nell and Albert, and please bring Miss Fawcett along soon for general exhibition.

Ending on a Frivolous Note. When the Beaufort people, tired, but flushed with pride, were putting away the "Phoenix" last Sunday after their big day, someone said, "Hey, where's Ron?" With a fiendish grin, Doug Lyon answered, "Ah, we left him tied up to a thermal!" . . . Funniest sight lately was that of two V.M.F.G. instructors flying the "Phoenix"—in the front, Bill Iggulden, President of the V.S.A., in the back, Ron Roberts, Vice-President of the V.M.F.G. Frightful earbashing went on, and once "Phoenix" leapt up and down convulsively. They made a long low intrepid approach over the boundary fence with Bill alternately beating the side of the cockpit and throwing his arms over his face and Ron grinning wickedly in the back . . . Last flight of the day in the "Coogee" went to Viv Drough, who'd been Duty Pilot, that afternoon, suitably equipped with a whistle. Viv whistled himself off the ground, whistled himself off the winch, circled to the blast of the whistle and landed with a final loud triumphant whistle. (Whistle teach him the value of whistling, huh?) . . .

Which appears to be about all for now—

Thermally yours,
GRACE ROBERTS,
Hon. Secretary,
Victorian Motorless Flight Group.

UP COUNTRY CLUBS IN ARGENTINA.

Some notable flights have been registered this summer in some of the smaller Argentine Gliding Clubs. ESPERANZA being especially successful. Juan Tschopp reached a height of 1,300 metres, Luis Vastik made six flights of over 1,400 metres, on one occasion reaching 2,250 metres. Four of these flights lasted over 3 hours, one being of 5 hours 24 minutes duration. Wilfredo Melchiore twice reached 1,800 metres, once with a flight of 2 hours 50 minutes. Rodolfo Donnett got to 2,050 metres, with 2 hours 21 minutes, and Gerardo Garcia to 2,000 metres.

In the CORDOBA Club, Julio Moyano covered 193 kilometres in 4 hours: Alberto Venturelli, Franciso San Martin, Juan Vastik, Rogelio Bartolini, Marcelo Soler, and Reinaldo Picchio all achieved heights of over 1,200 metres—Soler four times, with a best duration of 2 hours 43 minutes and Picchio three times, best duration 2 hours 49 minutes.

In the OTTO BALLOD Club, Jorge Lopez got to 1,700 and

stayed up 4 hours 25 minutes. Fabian Pucci and Carlos Arias, 1,700 metres and 1,750 metres respectively and Hugo Gimenez 1,400 metres, each of these making flights lasting over 1 hour.

In the TRENQUE LAUQUEN Club, the instructor, Rafael Mangini, did 2,700 metres and stayed 2 hours 36 minutes. And Francisco Rossi touched 1,600 metres in a flight of 1 hour 33 minutes.

(Translated from "Mundo Aeronautico.")

SHOREDITCH TRAINING COLLEGE GLIDING CLUB

February Report.

The beginning of this month saw negotiations completed regarding the acquisition of a new airfield at Waltham Cross and the commencement of spade work to put it in order.

February 13th. Freed at last from pressing family worries, Jerry Hull, our designing genius prepared for the fray. We strapped him in the machine and there he stayed until he flew his "A" licence with nine steady flights. Spirits are higher now that the chap who made all our repairs possible has at last obtained a licence.

February 16th. A party of the usual familiar slaves operated all day moving our equipment to Waltham Cross and by nightfall had everything safely packed away and the "S.G." rigged.

Problems of a retrieving car and winch have yet to be overcome although a few unsuccessful bungy launches with the aid of a motor cycle and six stalwarts proved both extremely amusing and ironically pathetic. Wing balancing remains, we fear, the order of quite a few more days to come.

A second machine, "Dagling," this time is being repaired at college and should be ready before Easter.

Saturday, 19th. Another epic day for Shoreditch; a convoy of four motor cycles, led by the club president descended upon Dunstable, with a cargo of optimistic "B" pilots who hoped to fulfill their ambitions and reach "C" stage.

Hugh Wheatcroft welcomed us warmly on behalf of the London Gliding Club and soon had all official documents signed and in order. Terry Dawson, first representative of the college, took up action stations in the "boat." Ernie Clarke, Dave and Eddie Edwards followed suit and each achieved a satisfactory standard of flying.

We had one "ab initio" with us Jeff Butterwick and we hope to have news of his progress later.

Monday, 21st. This day brought "C" certificates to Ernie Clarke, Terry Dawson and Eddie Edwards, each with a flight of over 20 minutes.

Members of our club who had to stay home worrying about the final exam. in June would like to offer their congratulations both to Dunstable and these hardy pioneers who blazed a trail right from odd lectures in the college science room to the heart of soaring flight on Dunstable Downs, in addition to a dozen academic subjects which we all must take at college.

Let's hope the weaker amongst us who prefer our gliding served, up with breakfast, will find a new enthusiasm from these efforts.

At this juncture we feel that a tribute is due to Vernon Blunt who has, in no small way given us encouragement by publicising our struggles. "Many thanks, Mr. Blunt, from all of us."

THE YORKSHIRE GLIDING CLUB

Notes of Activities, November, 1948 to February, 1949.

Flying. Little enough has been done in the winter months; weather and distance have been against the less regular attenders. The regulars have attended as they usually do, done the odd jobs, been very patient, backed a few odds-on winners, and even done a very little soaring! There were two days in November, the 20th with an hour and twenty minutes (Harrison, Hinchliffe and Sharpe) and on the 21st when O'Grady, De Redder and Lyddard came from Newcastle, getting about an hour's flying between them. A.T.C. instructors had a practice day, in addition to the aforementioned, on the 28th. Except for a few A.T.C. test flights there was nothing in December. January did rather better than is usual in these areas, there being three limited flying days, on the 2nd, 23rd and 29th. Sharpe, Barker, Alderson, De Redder and Maufe 'were amongst the lucky ones, about 2 hours for the month altogether. On the 23rd January, P/O. Reid of 49 G.S. did his five hours duration flight. February has produced three soaring days, rather sketchy on the whole, but well worth while. There has been more soaring on the south slope (White Horse) in the last two months than we have seen for some years. South-easterly winds have on occasion been quite practicable on this slope. On the 12th February, Pick and Barker flew the "Kite II," and the R.E. Club brought back their "Cadet Mk. I," Capt. King and Lt. Kane both qualifying for "C" certificates. Time 1 hour 15 minutes for the day. On the 19th and 20th, Club and A.T.C. were active (later joined by R.E. Club), of which Maj. Braithwaite qualified for "C" certificate. 3 hours 40 minutes club flying. The 26th and 27th were non-flying days, the wind reaching gale force on both of them.

General. The cost of aircraft shows little sign of coming down or the allocation of petrol of going up. Both bad things. The recent news that ministerial authority has decided that Gliding isn't worth burying in a shroud of red tape does at least hearten one in the hope that the industry will have no further costly paper-work thrust on it . . . for the time being. This *might* mean that there will be no further advances in prices already out of the reach of most. Excellent aircraft were produced pre-war without fuss, without elaborate inspection and licensing rules, and in consequence, within the purchase—or at any rate, hire-purchase—reach of people of moderate means. The reply to the Ministry for deciding *not* to license Glider pilots and impose maintenance schedules on their aircraft, is—"thank-you-for-nothing." These urges to push around some harmless section of the population usually arise from individuals or cliques who get big ideas which include well-paid bureaucratic sinecure jobs stretching away into the future for selves, pals and sycophants. Doubtless there would be licenses to ride a bicycle or a horse, to swim, shave, or even walk, if some smart-alec could get away with it! A man in a sailplane is

little different from one on a pair of skis, a horse or a sailing boat: so, let us keep our sense of proportion. Harking back to Sutton Bank, we have made good progress with the Club-house, and the bar will open to members on a date in April. Workers skilled in making ceilings are in demand at the moment! Volunteers please get in touch with Donald Sharpe.

Aircraft Insurance now being subject to an Excess of £30, it seems unlikely that we shall run a Course this year, or begin primary training. However, if the members we have turn up regularly, if the weather is favourable, if we get just a few new members, if we don't break things, if we don't have too much trouble with internal combustion engines, and once more for luck, if the *weather* is favourable, then, we shall have a successful year. These being our first notes this year, may we wish a good season to all Clubs at home and overseas? G.A.H.

LONDON GLIDING CLUB.

February:

February 21st heralded the opening of a new era for the L.G.C., when early that morning a heavily loaded truck marked "Luton Electricity Dept." rolled up and discharged a well equipped crew who immediately started digging a trench along the line of the high-tension cables, thus commencing the first stages of their interment. As previously mentioned the extra run thereby made available should enable us to give winch launches of 800 to 1,200 feet, according to conditions. This will have the effect of making Dunstable an all-round site, as it should now be quite possible to make regular thermal soaring flights when the wind is not blowing up the hill, or is too weak to provide hill lift. Members who, in the past, had decided to commit themselves to a gliding week with their private sailplanes frequently sought some aerodrome where they could do aero-towing, and thereby insure against east winds. Such expense should no longer be necessary, as the thermal-creating properties of our chalk Downs in an east wind, occasionally demonstrated in the past from a 400 feet launch, can now be more frequently exploited. We calculate that the chances of contacting a thermal from a 1,000 feet launch are 3½ times greater than from a 500 feet launch, as this is the additional amount of time spent in the air above 300 feet. However, the chances of success when meeting a thermal at 1,000 feet are at least twice as great as when meeting the same thermal at 500 feet, assuming a constant lapse rate between those heights, so the prospects with a launch to twice the height are increased seven-fold.

Another momentous event in the flying annals of the club was the setting-up of another post-war record on Feb. 27th, when 70 hours 35 minutes flying was chalked up. In view of the fact that there are only 12 hours daylight at this time of year, there should be a good chance of the 100 hours mark being reached this summer. On this occasion flying commenced at 06.42 hours when Ruffle Jnr. was launched for a 5 hours attempt, and by 07.35 hours, there were already four machines flying, and this despite the fact that a dance and party held in the club house the previous evening had gone on into the early hours. The wind, which started out by being W/10 frequently veered to NNW/25 during squalls of sleet, and ended by becoming WNW/15. During an early, and particularly severe sleet squall, three of the early morning 5 hours aspirants were forced down, those without goggles or wind screens having had a most unpleasant time. Laurie, in the comfort of the "Gull," was the only one to survive a Silver "C" duration.

The last week of February, besides being noteworthy for 170 hours flying, also saw two outstanding cross-country flights by "Steve," in Blue "Olympia." The first of these, on the 22nd, ended at Foxton, 31 miles away, during which he never exceeded 1,600 feet altitude! The second, three days later, took him 76½ miles to Frinton, under entirely different conditions. The 22nd was a day of high winds, and extreme turbulence made it very difficult to stay with the lift which, although strong, was very hard to define, and "Steve" was unable to reach cloud-base. By contrast the 25th was a day of light winds, and the flight was not unlike a typical summer cross-country, but conditions deteriorated near the coast, and the last few miles were a struggle. On the same day our Chairman took an aero-tow from Elstree and soared 50 miles to Birch, also in an "Olympia." Marmol had also made a short cross-country on Feb. 20th, a day of strong wind, when he arrived at Luton Airport via Harpendon, which he had reached when circling from the hill. We should be more than surprised if all this activity had no connection with the 40 gns. prize money offered by the Kemsley Trust for the longest winter cross-country.

Certificate winners this month were Georgeson, who took his "A" on the 13th, and both "B" and "C" on the 21st, Edwards doing likewise on this latter date. Other "C" winners this month included Ash, Allen and Gilewicz on the 12th and Dawson, Clarke, Phelphs and Alexander on the 21st, Dawson, Clarke and Edwards are temporary members from the Shoreditch Training College G.C. and Alexander from the Cambridge Club.

We are pleased to relate that all this activity was accomplished without any frantic telephone calls to the insurance people, the only damage being a torn skid rubber on "Tutor No. 4," which was flying again within an hour, thanks to our efficient service department.

Another welcome installation is the field telephone service provided by "Robby" Robinson, which enables the winch driver to "talk back." Previously he could only talk down the winch cable when they condescended to plug-in at the other end. It will also provide easy communication between launching point and club house.

Summary of flying for February:

No. of launches, 481.
No. of hours flown, 246.
Certificates taken: 1—"A," 2—"B," 9—"C."
Silver "C" duration: 1.
Cross-country flights, 3 for 115½ miles.

The Annual General Meeting will be held at Dunstable on 26th March. It is to be noted with regret that, of the five retiring General Committee Members, Laurence Wright, who has been

such a tower of strength to the gliding community, does not offer himself for re-election.

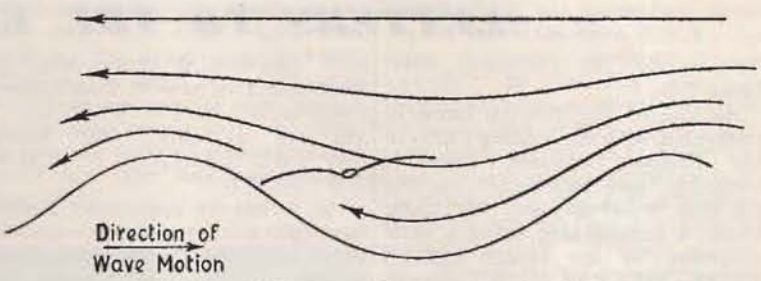
It is great to hear the news that on February 21st, the authorities are going to start burying the Power Wires for the results of this are certain to improve the efficiency of the site.

Letter to the Editor

DEAR SIR,

I was recently able to observe the mysterious albatross in flight, and hoped eagerly to discover some way in which we glider pilots could emulate this bird, the traditional exponent of dynamic soaring.

The flight, as I observed it, consisted of a dive to a level below the crests of the waves, a period of varying duration with one wing-tip skimming the slope of a wave, and a zoom to perhaps thirty feet, after which the performance was repeated. On calmer days the birds preferred the wake of the ship, and occasionally found it necessary to flap while in the high position when they left the vicinity of the wake.



POSITION OF ALBATROSS IN TROUGH OF WAVE, WITH POSSIBLE AIRFLOW

Is this dynamic soaring? Why is it necessary for the bird to approach as closely as possible to the side of the wave-trough, and to hold this position for several seconds. Perhaps, as the water moves in waves, the air immediately above conforms to this movement. This would produce, in effect, a slope current which depends on the height of the wave and the wind-speed over it.

If the wave is large enough, no actual wind is necessary, the speed of movement of the wave producing enough lift.

The bird, then, picks a suitable wave and dives into a position in its upcurrent. It stays in this current as long as possible, flying level, following the wave, and gaining speed. When the end of the lift is reached, our friend zooms as high as its speed will allow, above the zone of up and down currents, and looks around for the next slope. If waves are small and infrequent, it flaps while awaiting its opportunity. This does not exclude the possibility of dynamic soaring during the zoom.

Is the albatross, then, a wave- or slope-soarer, and not the dynamic bird we have so envied?

Yours faithfully,
J. WILSON.
27, Beacon Hill,
London, N.7.

LETTERS TO THE EDITOR

22 February, 1949.

DEAR SIR,

As one of the officers formerly connected with the gliding Clubs in the British Occupied Zone of Germany, and responsible for the training syllabus used by those Clubs, I cannot help being a little surprised by the article entitled " THE OBVERSE SIDE " appearing in the January issue of the SAILPLANE. The article discloses such startling breaches of the flying regulations under which all the Clubs operate, as to cast some doubt upon its accuracy. In particular, I note that the author states that he was permitted to do his first low hop after only two ground slides in an " SG 38," and a flight of unspecified length and nature in a " Kranich." He makes no mention of the other preliminary instruction, such as familiarisation with the controls, study of local flying regulations, and so on.

As you are doubtless aware, the Gliding Clubs in the British Zone of Germany operate in accordance with a fairly thorough syllabus of instruction, which is published in manual form, for all pupils and instructors to study. It is one of the first responsibilities of a pupil to make himself familiar with the phase of the syllabus upon which he is engaged. Further, Instructors are tested and categorised in accordance with standards similar to those originally set up by the B.G.A., and instructional flying is not permitted except under the supervision of a properly qualified instructor.

However, Autolycus may not have realised that the majority of Gliding Club Instructors devote their spare time, and frequently leave, to this task, and that the amount of flying they themselves get is limited according to the demands upon their time by pupils. It therefore behoves every pupil to show his appreciation of the Instructors' generosity, and to make their task as simple as possible, not only by studying the training syllabus, and Club and flying regulations carefully, and thoroughly, before beginning flying instruction, but also by the realisation that Gliding is a community effort, and a Club can only function if every member, from oldest to newest, asks himself continually, NOT " What can I get out of this " but rather *" WHAT CAN I CONTRIBUTE."*

As Autolycus apparently prefers to remain anonymous, it is naturally difficult to give all his accusations proper examination, though his remarks are sufficient to identify the Club. In fairness, therefore to the then Chief Instructor of that Club, and his staff, as well as the instructors in the other Clubs of BAFO, I should like to say that my intimate knowledge of their work, in large part voluntary, makes it quite clear that the picture presented by Autolycus is both unfair, and distorted. I believe this view will be supported by the very many officers, soldiers, airmen, and not least members of the ATC who have enjoyed the hospitality, and benefitted from instruction in the BAFO Gliding Clubs.

Yours faithfully,
G. J. C. PAUL,
Group Capt., Royal Air Force.
The Air War College,
Maxwell Field,
Montgomery,
Alabama, U.S.A.

DEAR SIR,

The " Brunt Gliding Trophy," for Inter-Varsity Competition, is being presented in early March by the donor PROFESSOR DAVID BRUNT, M.A., Sc.D., F.R.S., who, as we all know, has done so much for the advancement of gliding meteorology.

The following are the *main* rules governing its award (but *not* a complete list of regulations) :

1. The trophy is to be awarded annually to the University Gliding Club, a member of which carries out a soaring flight involving the greatest gain of altitude.

2. The flight, which must be solo, may be made in any glider, whether club or privately owned. The flight must be witnessed and recorded in accordance with the regulations for International Certificates.

3. The Trophy is to be awarded annually on October 1st for flights made during the preceding twelve months.

4. Only members of a British University in regular attendance at recognised courses of instruction are eligible. This excludes research students.

At the moment, it would seem that Imperial College (London) and Cambridge University are the only Universities or University Colleges which have Gliding Clubs, so we hope to see more in the near-future.

For the year ending October, 1948, the trophy has been won for the Cambridge University G.C., by JOHN H. EDWARDS, who climbed 7,900 feet in an " Olympia," while

on his "Silver C" cross-country flight.

Yours faithfully,
MICHAEL I. GEE.
Chairman, Publicity Sub-Committee.
Pembroke College,
Cambridge.

DEAR SIR,

Enclosed are two photos both taken from my home. One shows a mighty powerful cumulus as I think you will agree. I have developed into one of those queer genus of the human race that cycles to and from work with eyes up in the blue watching and studying cloud formations. This particular cu. began to form while I was halfway between work and home one lunch hour and I was pedalling for all I was worth in order to make my camera see it too. I am afraid the excitement to get the shot resulted in a blurred photograph but it will give you an idea of the conditions and I think it augurs well for the success of the sport when it is established in this country. It was taken in the spring at approx. 12.15 p.m. The second photograph is

something I have never witnessed before nor have I ever seen any explanation of a similar phenomenon. Perhaps you could explain it. Here are the facts. The photo was taken at 12.35 p.m. on a typical spring day with a slight breeze from the sea. That is to the west or right hand side of the photo. The cloud as it surely was, although for a while I thought it to be a vapour trail, which is very unusual in spring here, as the 12.30 airliner had just passed over although considerably to the east of this cloud. The cloud is almost lying in a north-south plane with the north end perhaps 50-100 feet higher than the south end. As you can see, there were very few other clouds in the sky and this cloud later was bent by the wind and dispersed about 15 minutes later. It must have been an unusual phenomenon as the local newspaper, remarked on it that evening although they could not offer any explanation. Can you?

In conclusion, I would commend the speech of the chairman of the Yorkshire Gliding Club published in the September issue. We in New Zealand have had a labour government since 1935 and although I will not go into its policy other than as it concerns gliding, the speech should be taken seriously by British Gliding enthusiasts. We have to conform to all sorts of regulations, directions, notices to airmen, etc. which were put through parliament goodness knows when, but obviously without discussion with those who are concerned.

I founded the Wanganui Gliding Club early in 1946 and at the first meeting, an enthusiastic bunch resolved to construct a glider and become airborne in the shortest possible time. We then discovered that the strong arm of Air Dept., said "Sit down!" in very strong terms and a copy of the Air-worthiness Requirements were sold to us at the amazingly low (?) price of £1. 1s. 0d.! It became clear to us then, that it was hopeless for us unless we could import machines from U.S.A., the only country issuing "type records." In June 1947, the N.Z. Gliding Assn. was formed at the invitation of Air Dept. and although they have not relaxed their "red tape" one thousandth of an inch, the position is now a deal brighter and if we only had about £1,000 the position would be rosy indeed. Mr. Slingsby is to be commended in going to the trouble of conforming to N.Z's. requirements and already the Air Dept. have accepted the design of the "T.21.b." My club is waiting unt the "Tutor" is approved and then you may expect reports of our experiences in cumulus as illustrated.

As the chairman of the Y.G.C. hints in his speech, the responsible representatives of the clubs need to let the controlling authority know that they are not willing to be sat on and reason will prevail. As an instance of this, I attended a conference between representatives of the N.Z.G.A. and Air Dept. in Wellington last August, when draft requirements for the new Airworthiness Regulations were presented to us for comment. Actually, they are sound, but our difficulty is in getting the manufacturing countries to also conform to them. However, Mr. Slingsby has shown the lead which should be quite good for business. In the meantime we are still allowed to gaze into the sky and dream and also to read all the books and publications on the subject, but this marking time sure gets boring.

Yours fraternally,
OWEN A. HANDLEY.
38, Kawatiri Ave.,
Wanganui,
New Zealand.

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