DECEMBER, 1947

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Sailplane and Glider

The First Journal devoted to Soaring and Gliding

Sailplane and Glider

and ULTRA LIGHT AIRCRAFT

THE FIRST JOURNAL DEVOTED TO SOARING AND GLIDING

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CONTENTS

Self - Help

WE should not be surprised if in spite of the eloquence and impressive recommendations of the Whitney straight report to the Ministry of Civil Aviation on private flying, we were to learn that the Services do not consider that club pilots are of much use to the Services when it comes to war-time flying. Nor should we be surprised to learn that the argument that a flourishing light aircraft industry is essential to the health of flying in this country, is not accepted by the Ministry of Supply, or the Board of Trade, who can both point to the fact that the great need for this country is exports and that markets abroad that have been taking our aircraft are closed against us almost daily.

This would not however dispose of the argument that air-mindedness is necessary to ourselves as a nation whether it is acquired in powered aircraft or sailplanes and this truth will always remain whatever may be the needs of the Services of the export trade.

Stripped to its essentials the situation in regard to gliding and soaring is that they continue by favour only. Private flying has no favour at all and does not exist except for business purposes. Petrol has been continued to Clubs as to 90 per cent of the pre-war allowance, for launching and retrieving, but none to get there. So hire cars and taxis (which are expensive) and coaches are the order of the day.

Once on the spot the enthusiast is kept there by lack of transport away from it. The communal aspect of Gliding Club life is therefore accented. It may be that the petrol deprivation may cease next Spring—or it may be the year afterwards.

Perhaps the effect on existing clubs may not be so lethal as is expected. It's hard to imagine that gliding may become any more expensive and presumably those who can afford it now will be able to continue to afford it.

The prospect of a Subsidy must have receded from the most sanguine devotee's heart, and with it the prospect of much cheaper gliding.

It is only those who expect to have things 'laid on' for them who will find gliding too much trouble. The real enthusiast will still continue.

Any clubs that are founded under the present circumstances will be hardy plants indeed, but for that reason they may well succeed.

The pioneers who start them will indeed have the right spirit—that of self help. That this is not dead is shown by the growing membership of the Ultra Light Aircraft Association, with about half as many members as is possessed by the Clubs affiliated to the B.G.A. and this with no club houses or machines.

There is the Kemsley Fund to help would-be club founders now, and in spite of everything else, we can imagine Government interest-free loans towards the development of new types of gliders, ultra-light aircraft and engines, if it appears that they fulfil our air export need. It is an odd thing that Italy and France, two countries, which on the face of it are worse off than we are, have shown such enterprise in the development of new types of sailplanes, ultra light aircraft and engines. But it is clear that only the simplest and most economical sailplanes and aircraft can ever hope to achieve large export sales in a world of political unrest and continually constricting markets.

So perhaps the Whitney Straight report's recommendation of 6d. a week clubs may become a *fait accompli* after all, and out of necessity. Several clubs charge very little more than this even now.

But to be really healthy and flourishing the movement really needs a lot more self-help groups—and for these help will be forthcoming from outside.

OVER THE ALPS—AND BACK ON SUCCESSIVE DAYS

(Sigbert Maurer beats two Swiss records within 24 hours)

By W. JUCKER

Introduction

Spring 1947 has begun a new epoch in Swiss soaring. One fine performance after another is being announced, and new records set up. The name of Sigbert Maurer among the record breakers is no great surprise to those who know him. Anyone acquainted with "Sigi's" tenacious yet elastic planning could scarcely doubt its eventual success. But it is already evident that both these record flights are part of a larger plan. We can only hope that luck continues kind to him, in order not only that he may reap the harvest of his preparations, but also that Swiss sailflying, or rather Alpine sailflying in general, may rise to new heights. For it is hardly necessary to mention in this journal the predominant contribution that Switzerland has made to the technique of Alpine sailflying. That Sigbert Maurer with his goal flights from the Midlands to the Alps and back again has played a leading part in this contribution is equally clear. How these two flights took place shall be the subject of the article that follows.

Record flights are not accidents, but the results of careful preparation. Everything, not forgetting the weather, must be in its optimum state of readiness, and all at the same time, or no record flight will be achieved. That is to say, all the favourable conditions required must fall into line, together with a small ration of Luck—but Luck alone will never produce a record flight.

Distance flight Dällikon-Samedan, 26 May, 1947

Let us now listen to what Sigbert Maurer himself has to say about his flight:

"Under a cloudless sky I betook myself to the airfield at Dällikon, as often before, to see what was up. As soon as I reached the field I found great activity. A whole dozen sailplanes, ranging from the tiny "Elfe," through the "S-18" and "Moswey III," up to the "Weihe" with its imposing 19 metres of span, were waiting to take off. With my friend Bepp Hegetschweiler I discussed the plan of campaign. The weather situation was not particularly outstanding, but nevertheless I said to myself: (For better or for worse, we'll have a shot at Samedan.) Therefore we had tug-pilot and official observer Glutz inscribe once again Samedan-return on the barogramm. It was now a little after 11 o'clock. I was first to be towed off behind the old AC-4 into a light S.W. wind in the Baden direction. Judging by the cloudless sky there was not much cooking. We flew through a few slight bumps and then for a moment between Wettingen and Baden experienced 2 metres/sec. lift. Making a quick decision I unplugged at 1,100 feet, began to circle, but very soon found that the situation was hopeless. So I flew toward Otelfingen, where I was already down to about 650 feet and approaching the projecting knob of the hillside I found a slight bump about thirty yards above the fir trees and began to "crab." Flying the machine extremely carefully, I managed to climb slowly. At this moment my friend Bepp took off from the airfield below. I reached 5,000 feet above sea-level, but Bepp was unlucky and had to land again. After waiting half an hour, I set off in the direction of my home at Wallisellen, above which I saw a small cloud. Having arrived there at 3,000 feet, I was able to climb according to programme at about 2 metres/sec. up to 6,500 feet in fifteen minutes. By now I had ascertained that the thermals were coming up from the woods. Therefore I flew toward the next large wood, which was between Dübendorf and Effretikon. Down on the airport I observed much activity. A "DC-3" that had just taken off flew by below me, glistening silver against the dark woodland. At 7,200 feet I reached the base of a small cloud. Looking round for the horizon I noticed that beautiful clouds were now growing out of the blue sky. What pleased me less however was a bank of alto-cumulus rising against the Alps to 15,000 or 20,000 feet. This discovery damped my ardour. Nevertheless I flew on toward Pfäffikon and the Bachtel, above which I had already climbed to 8,000 feet. I was keen to find out what my friends from the "Zürich Oberland" group would be up to on Alp Scheidegg. Apparently they had already flown away, for there were no machines to be seen.

Pulling my "Binaca-Moswey" up, I rose in a massive thermal at more than 6 metres/sec. At 6,000 feet, I left Alp Scheldegg and set the nose of the sailplane toward the Alpstein. The sky had in the meantime filled up to about six-tenths of bulbous cumulus, and I had adopted fully the cloud-navigating technique, that is to say I flew independent of the ground, setting course according to the clouds only. On the Toggenburg side of the Säntis grey rain-falls were descending from a thundery cloud. At this stage I made the mistake of omitting to "fill up" with the greatest amount of altitude before setting off through the rain across the Rhein valley toward the Drei Schwestern. On this occasion I contented myself with 4,000 feet. And I hereby confirm, what I have already often experienced, that one should never push off at less than the mountain-summit height, for it is considerably more difficult to find up-currents down below on the slopes. Thus this time I was quite unable, despite a long search, to find a useable thermal. Flying along the slope toward Sargans I continued to search in vain. Above the Fläscherberg near Sargans I managed to climb 600 feet, but lost 300 of this crossing the lee side. My experience told me that only by quite exceptional luck could I now be saved; for at 1,300 feet above the ground the down-draught would surely swamp any thermals. Flying with a following wind, I decided to land in a well-known good field

near Landquart. I had given up all hope of Samedan. Arriving over the field at 300 feet, I could not restrain myself from taking one nibble at the foot of the steep cliffs leading up to the Prättigau. Flying just above the tree-tops I observed that my variometer was reading zero. Making a gentle curve I managed to remain at the same height. Never letting the landing field out of my eyes, I swung to and fro for ten minutes slowly gaining height metre by metre, much to the disappointment of the boys who were already running up the road. After gaining 300 feet I was able to fly closer to the trees and thereby climb faster. But here I very nearly suffered death by hanging, by means of one of three high-tension cables which are stretched from 4,500 feet direct into the valley, and are almost impossible to see against the background of the woods. After exactly an hour, which seemed like eternity to me, I had wriggled myself up to 7,000 feet again and could venture into the Prätigau. Underneath a cloud which had built up approximately over Grüsch I found after three minutes search the long-desired powerful thermal, which took me at 5 metres/sec. up to 8,500 feet. At last I had recovered the height necessary for flying above the summits. In the meantime, 4 p.m. had come and gone, and the sky was almost completely overcast. Flying underneath an immense cloud with a black base, I reached Klosters at 10,500 feet, where to my surprise I saw two eagles also circling beneath the cloud. Meanwhile in my thin clothes I began to freeze, for it had become quite cold (only +1° C.), and I was not able to smoke either, for in spite of earnest searching through all my pockets I was unable to find any matches. Pushing on beneath a cloud bank I crossed over to Davos. Above the Dischma valley there was another small rain front, but I was able to get past it without loosing height. Over Piz Vadret I circled up to cloud-base again at 11,000 feet. The source of this up-current was somewhat of a mystery to me, for the whole area was under deep snow, in which were still clearly visible the brown marks of the Sahara dust carried there by a foehn storm on 29th March. With my present height it would have been possible to reach Samedan in a plain glide; but in order to gain as much height as possible (marks for the competition) I set course for a cloud which towered above Piz Quater Vals. At 12,000 feet, alas, I reached its base and had to push the worthy "Binaca-Moswey" down with extended air-brakes to avoid being sucked in. As there seemed no hope of going higher without blind-flying, I decided to escape the cold as quickly as possible, so stuck the nose down toward my goal at Samedan. After a nibble at Piz Languard I began, shortly after 6 p.m., to use up my height with aerobatics above the airfield. During the final shoot-up of the field I recognized to my joy, my friend Ruckstuhl and Airfield-manager Risch standing together beside the hangar. At 18.06 hours, after an exhausting flight of seven hours, I spot-landed the "Moswey" in front of the hangar. I believe my friends' pleasure at the flight just accomplished was no less than my own at finding them there."

So much for Sigbert Maurer's story of his experiences on the first part of the record flight. Shortly afterwards the sailflying fraternity heard the news on the radio. As soon as "Sigi" had restored himself to normal temperature in front of the electric fire calculation began of the possible number of competition marks obtainable by a return flight to Dällikon. The tantalizing answer 10,000 was a powerful stimulus to an attempt the following day. Meanwhile the sky cleared overnight, and next morning at 8 o'clock (!) little clouds began to form, so that Sigi was in no two minds about attempting to make his return journey in soaring flight.

The return flight Samedan-Dällikon, 27th May, 1947

How Sigbert Maurer turned this plan into reality, and thereby obtained the second Swiss record, he describes as follows:

"At 8 o'clock I was down at the airfield again. The cloud formation became better and better, but still the Maloja-wind refused to start. After waiting until 11 o'clock I decided, in spite of the north wind that had in the meantime sprung up, to make a launch. In order not to loose even more time getting the electric winch going, my friend Karl Ruckstuhl and I decided to try a car-tow. So at 11.43 he pulled me off behind his BMW with 1,300 feet of cable. On account of the cross-wind I reached only 400 feet. Flying along the slope I lost another 100 feet until beneath the white house on the right-hand side of the valley I found a gentle slope-wind. With half, and then a whole metre/sec., I nevertheless connected, and half an hour later was able to cross from Muottas Muraigl to Piz Rosatsch at 9,000 feet. After short search I encountered a feudal up-current which in 8 minutes took me up 4,000 feet to cloud base at 12,000 feet. It was exactly 12.30 when I left Crasta Mora for Piz Kesch and began the return flight proper. This time it was "down hill" and easier. As there was was nothing doing at Piz Kesch I flew on toward Davos. At 9,500 feet, exactly above the Strela Pass, I "filled up with 1,000 feet." The sky was again, as yesterday, nine-tenths overcast. I would gladly have flown back the way I had come, were it not for a black front stretching westward from Klosters toward Liechtenstein, which boded ill. Therefore I decided to cross Langwies and follow the Hochwang near Chur. Visibility was abnormally bad, and it was there that I first discovered that the alps of Glarus were also covered by a thunder storm. From the Hochwang, which I crossed at 10,000 feet, I continued over the Rhein valley. But the normally well-disposed Calanda provided up-currents neither on the Chur nor on the other side. Flying in the Sargans direction I encountered a strong down-current and was forced to consider the situation presented by an altitude of only 6,000 feet above sea-level. What now? Thunder storm left, thunderstorm and rain right: there remained open only the Wallensee lake. (Whatever happens I have got to get higher, I said to myself.) As I could find absolutely nothing beside the Weissberg I crossed to the Gonzen, where I had noticed some small, rapidly ascending shreds of cloud. Circling right against the rocks, I found a remarkably gusty, but very powerful, up-current. In tight spirals, like an eagle above this drop of nearly 5,000 feet, I climbed quickly to 9,000 feet. Looking right toward Toggenburg I saw some really powerful

thundery rain going down. I reckoned that, barring down-currents, I could at any rate reach Ziegelbrücke from this height. When I crossed the Alvier in the direction of the Churfirsten a brief down-current of 8 to 10 metres/sec. was succeeded by an equally powerful up-current. Hopping from one peak to another, without loosing height, I reached the Speer, above which hung a huge cumulus which lifted me to 10,000 feet. Flying beside, and sometimes through, the clouds I pressed on north-westward toward my goal. Since I am flying above cloud-base I cannot yet see what sort of weather there is in the lowlands. Smoking another cigarette, and in happy anticipation at last of being able to reach my goal, I continue comfortably toward the Bachtel. There I have at last sunk so low that I can see below the clouds (base 7,500 feet) that a thunderstorm lies ahead. While surveying the country beneath I notice how slowly I am progressing against the headwind. Black, bulbous clouds loom in front. Suddenly I notice that quite smoothly I am climbing at 3 metres/sec. Thus I am able to continue straight flight while climbing up to cloud-base. Lightning flashing down toward the ground in the Tösstal provides a most imposing scene the like of which I have never before witnessed. At the same moment hailstones begin to rattle against my cockpit cover and wings, and warn me to change course a bit and head for Lake Zürich. As I am still at 7,500 feet, I can afford to put on speed, and at 50 or 60 m.p.h. make more headway. I cross Zürich at 4,600 feet above sea-level and give vent to my joy with a few loops. Back in brilliant sunshine, I glide smoothly down to my original departure point of Dällikon. A few circuits, and then my sailplane finally settles gently on to the deserted airfield."

With these words Sigbert Maurer concludes the story of his remarkable flying experiences, which have brought him two Swiss records and also the height qualification for the Gold Badge. As we hinted at the beginning, this successful pilot is making far-reaching (in the truest sense of the word) plans, and we can have no doubt that these too will be crowned with success.

W. JUCKER

(With acknowledgement to Swiss Aero Revue.)

A VISIT TO SWEDEN

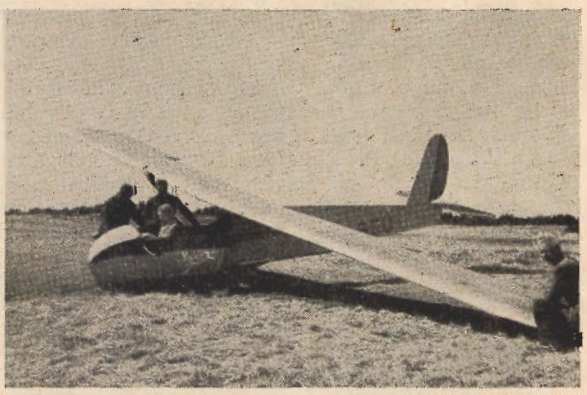
By A. MIRSKY

(Continued from the November Issue.)

Discipline.—The writer was impressed by the easy and effective discipline prevailing on the airfield. Pupils and visitors must naturally do all the work themselves. The day's work is quite strenuous and according to time table—from opening the hangar doors at 8 a.m. and transporting each glider over a distance of 500 or 600 yards to the launching place until they are put away in the evening. Throughout the day there is plenty of work for each participant, and it is done with the least fuss and giving of instructions. Shirking and dodging are probably rare phenomena at any gliding club or school; yet, the complete absence of it at Alleberg, and the remarkably persistent willingness to help each other is a feature deserving positive acknowledgement, and a tribute to the training organization in general. Also, the flying habits of pupils point quite clearly to a high standard of training in sound airmanship, and a healthy respect for the rules in force.

Safety First.—The school is extremely safety-minded; perhaps a little too much so. The precautions taken for landings *e.g.* would probably induce a smile on any face that had looked at an R.A.F. elementary training school. As a result training is not quite as intensive as at our R.A.F. clubs in Germany. If the writer were permitted to throw a spot of criticism into a large heap of praise, it is that in his opinion the site could produce about 50 per cent. more launches, without appreciably increasing the risk of accidents. It must be emphasized, however, that the accident rate at Alleberg has been remarkably low, and so have been the breakages due to careless handling of aircraft. Mr. Norrvi and his instructors deserve the highest credit for this; with such a mixture of pilots of different levels of experience it is really remarkable to find equipment so well preserved. It is certainly an unusual and wonderful thing to see an active gliding site at the end of the season at which practically all gear is in an excellent state of serviceability.

The "F1" and the "SGU Schweizer."—Perhaps just a word on the Aerobatic machine of Swedish design. In all five were built of this type, of which three are still alive, and one at Alleberg. Most Swedish pilots seem to curse it; it is true that the "F1" vibrates unpleasantly below 42 m.p.h. IAS



Schweizer (U.S.A.) "S.G.V."

(although the air speed indicator was under suspicion of reading high)—and that the aileron control is uncommonly heavy, but nevertheless it *has* some good points especially at relatively high speed. One can fly tight circles with remarkable comfort, and in tow it is quite the easiest type the writer has flown, to keep steady. Its sink performance at its best speed is little better than that of the " Grunau 11b," but its penetration makes it a quite reasonable cross-country machine. The diving brakes appeared a good deal more effective than the DFS brakes as fitted to the " Olympia."

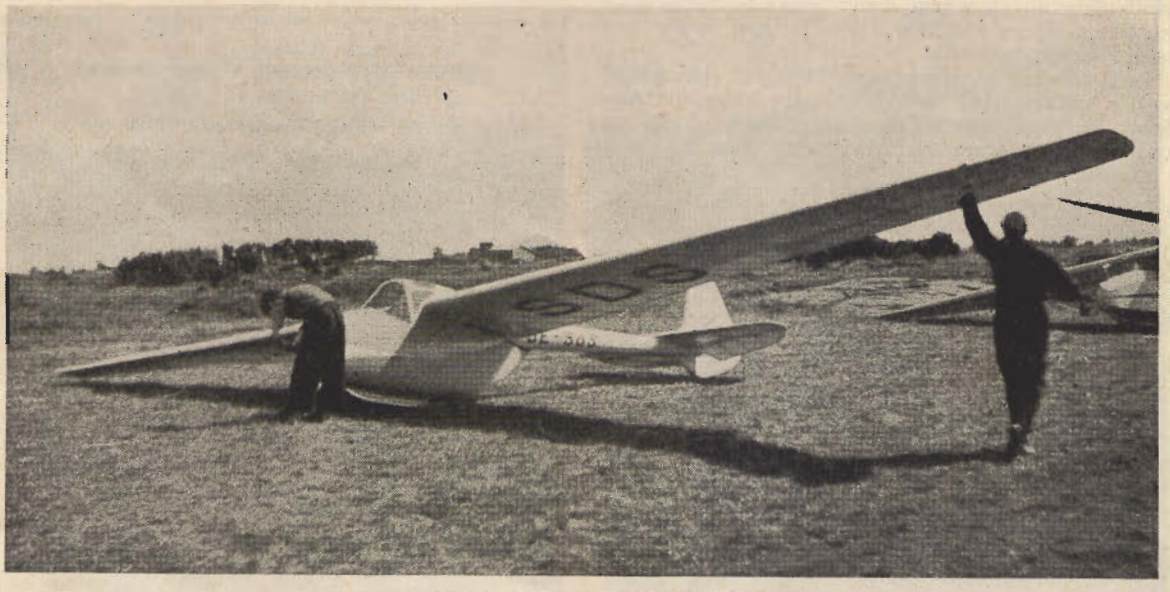
The American " SGU Schweizer " two-seater metal constructed trainer is used quite a lot at Alleberg for dual instruction. To fly it is a doubtful pleasure, although it does almost behave like an aeroplane; in many respects it smells a little too much of " S.G.38 "—the value of which the writer has begun to doubt lately. Heavy and insensitive controls, no bad habits, and that stoic patience and tolerance towards gross mishandling, are properties which may harbour as many, if not more, dangers than assets for the beginner. The case against the " S.G.38 " has perhaps not yet been fully proved, but it will be worth following up the experiments in *ab initio* training which commence by introducing the novice to the " Kranich." Such methods are being tried in Switzerland *e.g.*, and may well prove superior to S.G. primary training—and in the long run probably cheaper.

To conclude, below are a few data given to the writer by Mr. Norrvi. Mr. Norrvi, an ex-journalist, has several functions in the K.S.A.K. beside that of being camp commander at Alleberg. After relinquishing the post of editor of the Swedish journal *Flyg*, he became combined manager of the propaganda department and public relations officer of the K.S.A.K. Furthermore, he acts on the organization's behalf in an advisory capacity to all Swedish flying clubs, of which there are nearly 70. Yet another of his functions is that of liasion officer between the motor flying, gliding, and model making departments of the K.S.A.K.

The 70 or so flying clubs in Sweden have a total membership of approximately 3,000, and as many again supporting members, while the model making clubs, of which there are as many as about 400, have a total membership of nearly 10,000.

The Cost of Gliding.—Converted into shillings and pence from Kroner.

Catapult launch	..	1/5.
Winch launch	..	3/4.
Aero tow	..	1/5 per minute of flying time of towing plane. Average tow 4 to 6 minutes.
Flying charges :		
" S.G.38 "	..	–/3.3d. per minute.
" Grunau "	..	–/4.7d. per minute for the first hour; after that –/1.5d. per minute.
" Olympia "	..	–/4.7d. per minute for the first two hours, after that –/1.5d. per minute.
" F1 " ..	..	Ditto.
" Weihe " ..	..	Ditto.
" Kranich "	..	–/5.7d. per minute for the first two hours. After that –/1.5d. per minute.
" Schweizer "	..	Ditto.
Link trainer	..	4/2 for 15 minutes, including instruction.
Retrieving charges per mile.		(*e.g.* cross-countries), –/4d.



Swedish "F-1" Acrobatic Sailplane.

continued on page 10

SOARING IN FRANCE

By
GUY BORGÉ

The National Soaring Centre at Challes les Eaux (Savoie)

THE Challes les Eaux airfield is 3 miles from Chambéry. Before the war, the famous mountain-ace Thoret had here created the " Whirlwinds School " in which Army pilots learnt to soar motorless planes weighing 2,500 lbs. and to fly into severe down-draughts.

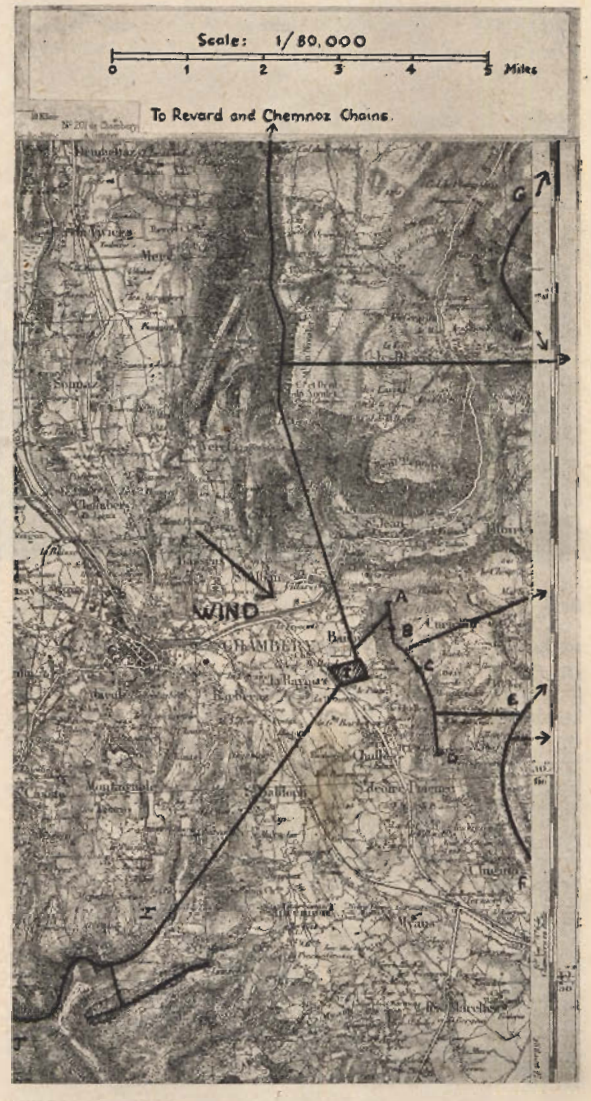
In 1942, the Chambéry Aero-Club tried the airfield with a glider : an " Avia 152 " given by the Air-Sports Service. In this nacelled primary, durations and altitudes were recorded with amazing per-

Challes airfield.

(left) The slope. (right) The Chambery-Grenoble highway. Montgellaz Chain in background.

formances, and in 1945 the Service founded the Challes National Centre.

It is curiously situated, the slope along the field not lying across the common winds. But wonderful thermals arise from it, increased by the hollow of the valley, and they often supply a good local wind ; meterologists call this effect " thermodynamic." Wind launches therefore call for special action. After casting off at 850 feet, the pilot must fly in very short beats along the narrow rocky part of the slope (AB on the map), where he finds a good but periodical lift and reaches 1,150 feet. To permit another sailplane to be launched, he then goes to the wider part of the slope (BC), where he climbs to 1,150 feet. He is now high enough to proceed to the third section of the slope (map : CD) ; 2 or



3 beats, and he reads on his altimeter 2,300 feet. He may then circle in thermal, rise (after 10 minutes, or less, from the start he is at 4,000 feet above the

1,000 feet high airfield), and choose one of several directions. He can fly by thermal to the Montgellaz slope (4,000 feet; EF on the map), make a few beats, pick another thermal for crossing the Montgellaz lee and proceed to the Galoppaz chain (5,500 feet). After having sailed along it, he coasts the Margeriaz chain (6,100 feet; a part is seen on the map at GH). He arrives at the Revard and Nivolet slopes (5,000 feet) then comes back to the airfield if he does not want to go to the Annecy along the Semnoz chain (5,700 feet).

He can also decide to fly to the Pellaz circus (5,200 feet; IJ on the map), and the Mont Granier slopes (6,400 feet), more to South. The choice of rides is infinite, and are a change from the usual beats along the same ridge in other sites; the weather changes also increase variety, and provide excellent training for the alpine flight.

The country has not yet been prospected, because it is difficult to combine study with teaching, but I am conficent that the instructors will find in the future some new, and still more interesting trips.

The Flight itself demands strong sailplanes and robust stomachs, so great is the turbulence: I have seen several pilots unable to get their duration because of air-sickness.

Bad days are infrequent. When the wind is North, AB sometimes has no lift, but with aerotows, one can find it at CD. On fine mornings, after the cessation of the night mountain-breeze, good thermals at 11 a.m. on part 1, and from this moment the flights are almost limitless, because of the powerful and smooth evening-thermal in the valley: its average lift ratio is between 2 and 5 feet/second, and one must open spoilers for coming down at night. Climbs to 9,500 feet above the airfield have been recorded in standing waves, and I was surprised to find one after the passage of a front, on the 19th July. At Challes, during a month's stay, I soared more than 50 hours, got my duration with 7 hours 30 minutes, and my altitude with a 6,000 feet gain in a "Castel C.301."

The Centre has thirty sailplanes to-day: 7 two-seaters (3 "Kranichs," 3 "C.800s," 1 "Castel 25"), 19 one-seaters (1 nacelled primary "Avia 152," 2 "Castel C.301s," 4 "Emouchets," 5 "Grünaus," 2 "Nord 1300s," 1 "Castel C.310," 2 "Nord 2000s Olympia," 1 "Minimoa" and 1 "Weihe.") It also possesses 3 "Fieselers Storch," 1 "Morane 315" for aero-towing, 1 "Heinkel 72 Kadet" for aerobatics, 1 link-trainer for blind flying training.

The maximum number of sailplanes flown at the same time has been 19. The best soaring record was 90 hours a day.

With the Centre Chief, M. Lahaye, instructors number 6, all Silver "C" pilots: M. Branciard, the C.F.I.; Mrs. Jacqueline Sarlat; MM. Chabal, Delparte, Billaz and Barbier. Each new pupil follows courses of meteorology, technical flying, and must pass an examination on air-regulations before his first solo at Challes. He is first checked in a "C.800," and a note is made of his performance. He then circuits the nacelled primary "Avia 152." If he satisfies the instructor, he takes the "Castel C.301" for 1 hour along the slope. After this, he soars an "Emouchet": first 2 hours, then the Silver "C" duration. He may afterwards fly a "Grünau," and instructors ask for 20 hours in it at Challes before soaring the "Castel C.310 P."

After the twenty hours, pupils fly in a two-seater, a "Kranich" or the "Castel 25," learning aerobatics, steep banks, blind flying, aero-towing.

Only the Silver "C" pilots fly a "Nord 2000 Olympia." Distance flights are difficult owing to the mountains and the small number of landing fields.

A young pupil with her instructress Madame Sarlat, in a "C.800."

Many pilots, however, have reached Annemasse (Swiss Border), Régnier, Thorens, La Mure, La Roche sur Foron, Valence and Le Fayet Mont Blanc.

Instruction is strict, and pilots are punished for the non-observance of the air regulations, by being temporarily suspended from flying for one or more days. Unauthorized aerobatics and flights inside clouds, night-landings, or landings after the emergency signal light (before storms), carry similar penalties.

Continued on page 14

ANOTHER STANDING WAVE AT CAMPHILL

By

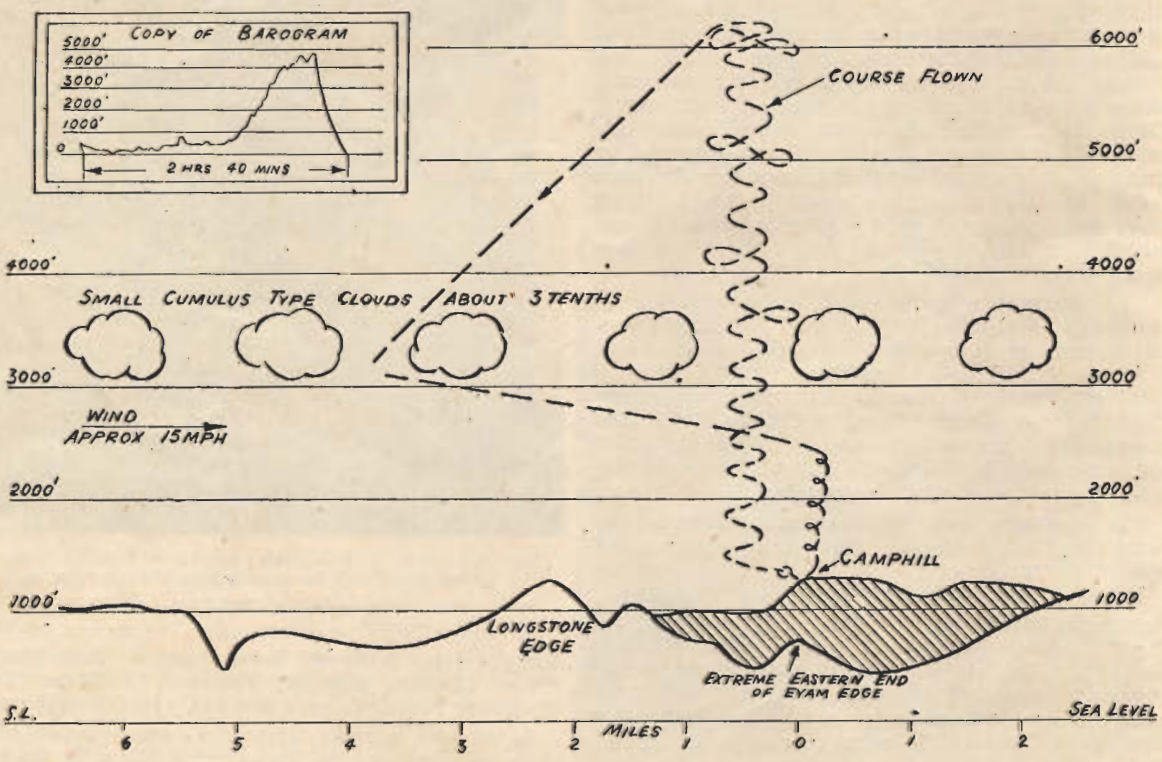
G. O. SMITH

ON the morning of October 12th, 1947, the low cloud coming over Camphill was from the South West, although the surface wind seemed to be a little South of this. The strength was about 15 m.p.h., not quite enough for a good hill-soaring day, especially as the wind was at about 50° to the hill; but with promise of some thermals in the afternoon if we were lucky. Subsequent study of the mid-day tephigram from Larkhill showed a terrific inversion of 8°, between 3,000 and 4,000 feet, above sea level, but at the time I did not know this.

I took off in our " Olympia," " Kinder Scout," at 1.20 p.m., by which time the cloud had dispersed to about one tenth. At first it was really difficult to stay up at all, and I spent quite an uncomfortable hour on a short beat over Camphill, sometimes as low as 250 feet. However, the sun was fairly warm, and slight thermal activity began to develop, which raised my average height to say 600 feet by about 2.30 p.m.

I still had no thought of any real excitement, other than the possible increase of thermal activity, until one of the other machines, which kept launching, failed to return to my level after releasing, and kept on flying away from the hill, apparently maintaining his height. Having no false modesty about finding my own lift, I was after him like a shot, and sure enough encountered lift about a mile in front of the hill. At first I thought it was ordinary thermal, but a few circles took me out of it, and I found I had to return to the same spot over the ground to keep in the lift. By the old expedient of " following the green ball," I managed to work this lift up, through the fairly thin layer of clouds, now about three tenths, eventually reaching 4,900 feet above take-off

FLIGHT FROM EYAM EDGE BY G.O.SMITH IN "OLYMPIA". 1320 TO 1600 HRS
SUN: OCT 12TH 1947



SECTION RUNNING UP-WIND (SW) THROUGH THE EXTREME EASTERN END OF EYAM EDGE, 3½ MILES EAST OF CAMPHILL, THIS BEING THE LINE THROUGH THE CENTRE OF THE AREA OF LIFT

height. Unfortunately, my companion did not realise the full significance of the situation, and became involved with the clouds at approximately 2,500 feet above take-off, subsequently returning to Camphill.

Altogether I was in this very abnormal lift for just over an hour, during which time I was able to define its limits fairly accurately. The area in which the " Olympia " would gain height was approximately a rectangle, 2½ miles long and ½ mile wide, lying, of course, across the wind and, therefore, not quite parallel to our hill. The centre of this area was about 3½ miles East of Camphill, so that I think we were lucky to get into it at all : we must have just caught the fringe of it at the right moment, as a number of other experienced pilots were flying on the hill, both earlier and later, without any sign of unusual lift.

One very noticeable feature of the lift was its incredible smoothness. One could look out along the wing, carefully move the ailerons ½ inch, and watch the result over the next 60 seconds. The maximum lift encountered was in the neighbourhood of 5 feet/sec., and on leaving the area of lift there was no sudden drop, as when flying out of a thermal, but a gradual change from lift to no-lift to gentle sink, thus confirming the impression of a wave. The visibility below the cloud layer, as seen from above, was not good,—I had difficulty sometimes in distinguishing Camphill from 4 miles away,—but above the clouds, one could see for 50 miles or more. A surprising feature was that there was *not* any visible indication at all of the area of lift. There was definately no lenticular, and the layer of cloud at 3,000 feet was quite flat and level ; I noticed particularly as I came level with the cloud tops.

I cannot help being struck by the general similarity between this flight and those made on April 7th, 1946 (reported in the June " SAILPLANE " 1946), although the detailed conditions and actual localities were quite different. It makes one wonder whether these miniature standing waves are more common than we suspect.

F.A.I. CONFERENCE, 1947

AMONG the important elections at the recent Conference of the Federation Aeronautique Internationale, held at Geneva, were : Mr. P. A. Wills, President of the Gliding Commission ; Squadron Leader Spence, Secretary of the Gliding Commission.

(*Squadron Leader Spence recently resigned the Secretaryship of the British Gliding Association.*)

HAMM AND BACK

by

RON CLAUDI

CONDITIONS looked very good at Oerlinghausen on the morning of Sunday, 10th August. Small puffs of cotton-wool were beginning to appear all over the sky by 09.30, and within an hour there was a 3/10 cover of small and rather flat cumulus cloudlets. As my demobilisation was due any day, I determined to attempt my Golden " C " distance if conditions warranted it.

On checking up with Met. my soaring spirits were somewhat dampened. A large High was still building to the North, covering almost the whole of Northern Europe, with no other energetic pressure system within sight. (Or in the words of the Met. man : " A b—— great High extending from the Sahara to the North Pole ") The forecast for the day was as follows :—Wind E. to N.E. 5 to 10 m.p.h. (surface and upper) ; lapse rates : Dry Adiabatic to 5,000 feet, Wet Adiabatic from 5,000 to 10,000 feet, cloud 3/10 to 5/10 cumulus, cloud base 5,000 feet with little chance of vertical development beyond 7,000 feet.

However, remembering previous unfortunate experiences with Met. forecasts, I decided to " have a go " anyway, and I made preparations to set off some time after noon. By 12.30 my spirits were on the wane as the cumulus had refused to build, and none of those who had flown in the morning had succeeded in reaching cloud-base. I then decided on a change of plan and declared an out-and-return to Hamm, with the mental reservation that I would try and carry on to Belgium if I reached Hamm early and conditions were still good. I then warned 5th R.T.R., my old Regiment, at Newcastle Barracks, Hamm, had a quick lunch and by 13.15 I was strapped in my old love—" Weihe H.6 "—ready for take-off. I was winched off at 13.18 to 280 metres and struck my first thermal of ½/m./sec. at 170 m., which later built up to 1½ m./s., eventually petering out at 800 m., leaving me another 400 m. or so to cloud-base. (N.B.—All heights and rates of climb are quoted in metric units). I spent a further valuable half-hour scratching round for lift under several rather feeble clouds, before finally reaching cloud-base at 1,200 m. over the Autobahn near Brackwede. The lift fell off to zero, right under the cloud, and I carried on circling in the hope that it was my own bad flying and not the thermal that was at fault. However, I looked up a few minutes later just in time to see the last few wisps of cloud dissolving, and I was forced ahead for the next cloud some distance to the S.W. I went through exactly the same performance again ; I found lift of 1 m./sec. dropping to zero at cloud-base, and five minutes later the cloud was again in the last stages of decay.

I had realised by now that there was little chance of making any great height and consequently no chance of a Golden " C " distance in the light wind, so I concentrated on getting to Hamm. The flight now became a process of hopping from one side to

the other, gaining two of three miles between each and two or three hundred metres under each. In this manner I passed over Gutersloh, Rheda, and Oelde without much trouble and making fairly good time, oscillating most of the time between 700 and 1,100 metres.

At Neubeckum conditions changed and the sky in front was dead clear. I ventured forward with some trepidation, expecting that lift would be considerably worse, but surprisingly enough I found that lift was a good deal more plentiful and generally slightly stronger than under the cumulus. I passed over Ahlen at 1,000 metres and went straight down the railway line to Hamm.

I reached Newcastle Barracks, Hamm, at 15.10 with about 700 metres in hand, and after a couple of circles I fired two green Verey lights with about 30 seconds interval bwteeen them. As it was Sunday afternoon, not a soul stirred below, but I could not risk waiting as I was then down to 600, so I headed N.E. again towards Ahlen.

I struck a weak patch of lift at 450 metres, but lost it five minutes later after gaining 50 metres. As I headed back in a N.E. direction I struck lift in the same place and again lost it. I turned upwind again in a somewhat exasperated frame of mind and found it for the third time still in the same place. Lift was much stronger this time and I climbed to 900 metres without drifting back more than a mile. I headed towards Ahlen at 80 k.p.h., and on passing over the town at 600 metres I struck a steady 2 m./sec. up, coming from a large factory. The sky was still clear above, but the cumulus in front was now looking much better, with crisp rounded tops at about 2,000 metres. I followed the railway line from Ahlen, picking up a bit of lift on the way, and reached Neubeckum with cumulus above me half-an-hour later.

I had now been airborne for about three hours, and with 25 to 30 miles to go, a light 5—10 m.p.h. head wind, and what looked like better conditions in front, I began to feel optimistic (and incidentally, got careless). I now tried to increase ground speed by ignoring lift below ½ m./sec. and increasing cruising speed between thermals to 90 k.p.h. This did not work, and after a quarter of an hour I went back to the old game of scraping the barrel for lift of any sort and cruising at 75—80 k.p.h. The clouds were still playing the same old tricks as before and once again I did not succeed in losing sight of the ground below, although I lost horizontal vision several times.

I reached the Autobahn S.E. of Gutersloh at 17.30, having been airborne for slightly over four hours. With less than 15 miles to go, 800 metres in hand, and the sandy patch of Oerlinghausen nestling at the foot of the hills, clearly in sight, I began to think it a piece of cake. However, I was soon to be disillusioned—within a quarter of an hour all the cumulus dispersed with the exception of one or two insipid-looking specimens to the East. I had no alternative but to discard the direct line home, and head for these clouds in the hope of getting the extra few hundred metres to get me to Oerlinghausen.

The next hour and a-half was the hardest struggle I have ever had. I reduced speed right down to 60 k.p.h. and went along with my eyes glued to the variometer—every time the needle so much as flickered towards the zero mark I tried a turn, mainly without success. However, some gentle patches of very smooth lift were found under the remaining cumuli, and I managed to crawl slowly towards the hills, neither gaining or losing very much. Eventually, I made my last climb to 700 metres under the last patch of cumulus in the sky, and with Oerlinghausen still about eight miles away and little prospect of any more lift, I set a straight course at 70 k.p.h., with the vario showing a little less than 1 m. sink. The needle never flickered on the way home, and as I got nearer the suspense mounted. I lacked the courage to go straight in over half a mile of trees, so I skirted the trees on the south side and came round the edge of the wood. I was then down to 50 metres and I had to decide whether to land in the field at the back or to carry on through the alleyway between the two woods. (I had once seen, in horror, a " Kranich " come in through that alleyway with about six feet to spare on either side, so I had considerable misgivings about taking a " Weihe " in.)

However, the decision was forced on me by the thought that an out-and-return flight must land back at the parent airfield, although in normal circumstances I would never have considered risking the machine, much less my own neck ! I did a flat skidding turn in, and took the plunge with my heart in my mouth, came through fortunately without mishap, crossed the road at three feet and landed 100 yards from the hangar, under the astonished gaze of members busily engaged in packing the gliders away for the night. The time was 19.18, exactly six hours after take-off.

A VISIT TO SWEDEN

(*Continued from page 5*)

For cross-country flights over 300 Km. retrieving is done free of charge.

Accommodation.—Bed, 1/4.5 per day. Three meals a day, 6/10.

Readers may perhaps feel that an article on the attractions of gliding abroad may be little better than an irritant, at a time, when the call for austerity and pleasure restrictions sounds more loudly in our ears than it has ever done before. But maybe it is not altogether vain to think of the possibility of reciprocal visits of glider pilots between Britain and Sweden—arranged through the good services of the B.G.A. and its counterpart in Sweden. The response from our Swedish friends, whose travelling plans have also been pushed into the shadow of foreign currency shortages, would probably be quite favourable. May we look hopefully to Londonderry House to start the battle ? One thing is quite certain ; it is that any glider pilot who has had the opportunity of spending his holidays in that delightful country, would do his utmost to support any scheme that might enable him to repeat his visit.

ULTRA LIGHT AIRCRAFT ASSOCIATION

THE Ultra Light Aircraft Association celebrated its first birthday on October 26th. On that same date in 1946 a small group of enthusiasts sat round a table in London and agreed unanimously to launch the Association. When that decision was made things looked hopeless for the amateur constructor and for those who could not afford to fly at existing aero clubs. Now the outlook is very much brighter. Permits to Fly have once again been made available for ultra lights which held such permits before the war and we expect to be able to report on the requirements for the new ultra light category C. of A. before very long.

In October, 1946, no ultra light aircraft were flying. Now, apart from the pre-war types which have become operational again, two new post-war machines have come forward. The little Tipsy "Junior," built in Belgium, has already flown successfully while the Slingsby S.28 (Motor-Tutor) is expected to do so any day now. There are hopes, too, that the famous Chilton monoplane will go into production again and become available in kit form, as will the Slingsby Motor-Tutor.

Early in the life of the Association contact was established with the Ministry of Civil Aviation, the Air Registration Board and the Royal Aero Club and the friendly and co-operative spirit with which our approaches have been received and negotiations conducted to date, bodes well for the future of the movement.

After getting off to a bad start, Group forming activities on the part of our members are now gathering momentum. Seven Groups are in existence and there are prospects of a further sixteen being formed before long. Unfortunately there still seems to be a tendency amongst many individuals interested in flying to expect everything to be done for them. This is probably a hang-over from the pre-war days of subsidised flying when every "A" licence holder was regarded as a potential war-time pilot—and therefore encouraged by the Government of the day. But we believe that spare-time sport flying should be treated as a sport and not looked on as a thinly veiled training scheme for R.A.F. Reservists. We believe, too, that people who really wish to fly for pleasure, and not as a thrill-making relaxation, before, between and after drinks at the bar, are prepared to do a bit of work to get their pleasure, just as do the dinghy sailors, the amateur theatrical groups, the radio amateurs and the exponents of innumerable other sports and hobbies with which people fill their spare time. All we want is freedom to enjoy our own particular sport of flying with a minimum of interference and without undue restriction and to have the co-operation of Government departments when it comes to allocation of available facilities such as disused R.A.F. airfields, surplus huts and hangars and so on. Happily more and more people are coming round to our way of thinking and we expect the popularity of the Group idea to catch on. Whether or no subsidies are forthcoming for the conventional flying clubs, we are confident that ultra light aircraft Groups will become the true centres of pleasure flying in this country in the future.

DESIGN

Auxiliary Powered Sailplanes

During the past few weeks we have had several discussions on the requirements of auxiliary powered sailplanes and have received differing opinions as to their popularity, amongst U.L.A. enthusiasts. Such an aircraft is basically a high performance sailplane with a small engine installed which either retracts when not in use or is fitted with a feathering propellor. Power is only required for taking off and for climb to height for soaring during which the engine is shut down and retracted or the propellor feathered. Power may, however, also be used to enable the aircraft to fly back to base or attain its desired landing ground should the thermals prove too elusive—thus avoiding the necessity of forced landing, dismantling of the aircraft and the subsequent irritating wait for a trailer to arrive to retrieve the pieces.

We included auxiliary powered sailplanes as an ultra light aircraft class because, although basically sailplanes, the installation of a power unit makes them subject to the same C. of A. or Permit to Fly regulations as other U.L.A. types. Consequently, the Association is in a position to assist sailplane enthusiasts who consider the use of an auxiliary motor would give them increased opportunities for enjoying the delightful sport of soaring without being dependent upon others for launching and retrieval.

Other means by which a sailplane can reach soaring height are by using hill-slope up currents, winch launching, aeroplane towing or rocket propulsion. Hill slope soaring restricts operation to suitable sites and wind conditions; winch launching requires the provision of special equipment and a team to operate it and rarely allows the pilot to remain up long enough to find a thermal. Aeroplane towing is expensive and makes the glider pilot dependent upon the provision of a suitable towing aircraft. Rocket propulsion is also expensive—we understand that a suitable battery of cordite rockets sufficient to launch a glider to a height adequate for soaring would cost about £3 a time. Moreover, to reduce drag for soaring, the rocket container must be dropped by parachute after use, or retracted into the aircraft, thus adding to the complication.

In our opinion the installation of a little single cylinder two-stroke motor-cycle engine, developing about 10 b.h.p. is the best solution to the problem.

Members may remember the ingenious Carden-Baynes auxiliary powered sailplane of 1935 which was powered by a 250 c.c. Carden-Villiers engine developing only 7 b.h.p. and installed in an inverted position behind the centre section as a pusher. The aircraft took off successfully and climbed at an initial rate of 250 feet/minute to a ceiling of 5,000 feet. This is believed to have been the lowest powered aircraft ever produced which was capable of taking off and sustaining flight in still air whilst carrying a human being. When wishing to soar, the pilot could stop the motor, adjust the propellor to a vertical position by means of the ratchet starter device and then wind the whole power unit downwards into the fuselage. The sailplane thus became clean aero-dynamically and capable of advanced soaring flight, attaining a minimum gliding angle of 23:1 (whereas without retracting the motor the gliding angle was only 13:1.) Its only disadvantage as a sailplane over non-powered sailplanes was an increase in weight of about 50 lbs., which increased its speed for a given gliding angle by about 5%. An alternative and possibly simpler installation would be as for the German Horten Mk. IIId. In this case the engine was totally enclosed in the centre section and drove a retractable pusher propellor by means of a multiple belt drive.

One of our members, Mr. D. H. G. Ince of Glasgow, has put forward the most interesting suggestion that a suitable " power egg " should be developed which could be " buttoned on " to sailplanes as required, by means of four standardised mountings to be fitted above the centre section on the wing attachment points. The mounting arms would be adjustable and connected to the power egg by a system of knuckle joints so that they could be arranged to pick up with the mounting points of different types of sailplanes. The power egg itself would be self contained and consist of a pusher engine at the rear and fuel tank in front (or below.) Simple instruments would be mounted *in situ* and viewed from the cockpit by means of a mirror. Engine control would be connected to a cockpit lever by a Bowden cable.

Mr. Ince claims that his idea would provide the ultra light enthusiast with a powered aircraft which would be extremely cheap to fly and which could be used without the engine when desired as a high performance sailplane. It would also provide sailplane enthusiasts with a means of retrieving their aircraft without the need for dismantling them for transport in a trailer. A power egg would simply be brought out and fitted and the take-off for flight back to base would be assisted by bungy launch or auto-tow if the surroundings necessitated it. Mr. Ince concludes by suggesting that pools of standardised power eggs could be held throughout the country at flying and gliding clubs for hire as required by U.L.A. and sailplane enthusiasts.

Slingsby Motor-Tutor

We understand that flight trials of the prototype Slingsby Motor-Tutor have been postponed in order to incorporate some technical alterations required by A.R.B. Trials are expected to commence in a week or two.

CYLINDER LAY-OUT

The advantages and disadvantages of the various types of cylinder layouts are given below and we would be glad to receive opinions as to their suitability for ultra light aircraft.

In-Line Engines

These offer the cleanest fuselage lines and least drag of all the layouts. They have the simplest induction systems.

They are, however, long engines, especially when their auxiliaries are mounted behind and this leads to installation difficulties in small aircraft. They need careful baffling to ensure adequate cooling of the rear cylinders. They tend to suffer from torsional vibration of the crankshaft and even though this may be damped to some extent by the use of rubber mountings, a stiff crankshaft and several main bearings are necessary which involves increased weight.

In-Line (Inverted) Engines

These have advantages and disadvantages as above but give a considerably improved view for the pilot and a higher thrust line, which is of importance in small tractor aircraft to allow adequate ground clearance for the propellor. Unfortunately, they tend towards excessive cylinder lubrication, and oiled plugs, especially when the cylinders become worn. They are also more vulnerable to damage in the event of a belly landing or on nosing over of the aircraft.

Horizontally Opposed (or Flat) Engines

These are shorter than the in-line types, hence requiring less material and being cheaper to make and also lighter in weight. The short crankshaft is stiffer and operation is smoother than with in-line types. Cooling is simpler, thus reducing the amount of baffling required. Being more compact, their installation in small aircraft is easier. They also offer an excellent forward view for the pilot.

On the other hand, their lateral dimensions may be rather large for single seat aircraft although their width can be reduced by means of short stroke designs. They cause more drag than in-line types and unless separate carburettors are used for each cylinder bank, long induction pipes will be necessary, leading to difficulties in starting from cold and the need for pre-heating of the charge.

Radial Engines

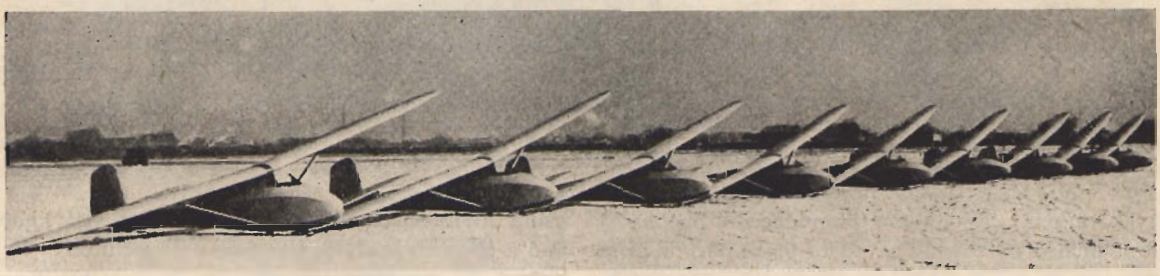
These have smooth torque and excellent cooling characteristics and being short engines, they are easy to instal in small aircraft.

Radials, however, give increased drag and spoil the cleanness of the fuselage lines. They restrict the pilot's view to some extent and their crankshaft and big end designs are very complicated and costly to manufacture. They also suffer from difficulty in obtaining an even distribution of the induction charge and their lower cylinders tend towards excessive lubrication when worn, with consequent oiling of the plugs. They require provision of inlet and exhaust collector rings and their cowling is more complicated to manufacture.

MODERN BOHEMIANS

By H. MANLEY

SINCE the liberation of Czechoslovakia all the aircraft companies have been nationalised and, further, incorporated with the motor works in an effort to assist the latter industry. The two airlines have also been merged to a state monopoly and all the pre-war sailing and flying clubs are incorporated into the Aero Club of the Czech Republic.



Zlin 24—" Krajaneks."

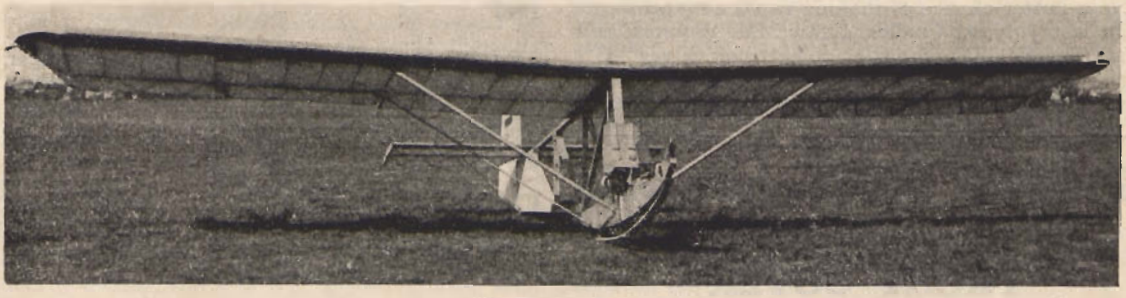
The sailplanes and gliders most widely used are the three types made by Zlin which is part of the Motor Car Works National Corporation, Otrokovice.

The Zlin 23, " Honza," is a semi-cantilever wooden glider built for elementary training, equivalent to our Slingsby " Kadet." It is simply designed and robust so that although not pretty to the artistic eye it will withstand the hard treatment of students and is easy for maintenance.

The leading edge is plywood covered, the fuselage of open braced construction with an ash skid, and the tailplanes are fabric covered. Span 32 feet 9 ins., length 21 feet, height 5 feet and wing area 157 square feet. The loaded weight is 400 lbs and the useful load 175 lbs giving a gliding ratio of 1.10 at 31 m.p.h. with a minimum sinking speed of 3.9 feet per second. Stalling occurs at 26 m.p.h. and the usual towing speed is 55 m.p.h.

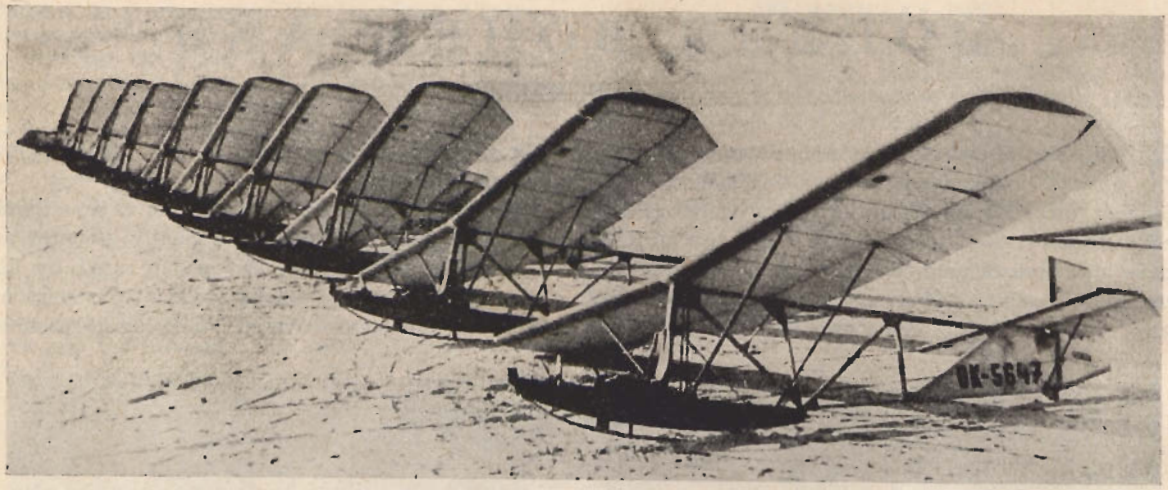
" Krajanek " is the name of the Zlin 24 an elegant single seat, high wing glider, originally designed as an advanced trainer but now widely used by all gliding clubs. It is of wholly wooden construction, fabric and plywood covered. The usual cockpit instruments are an airspeed and rate of climb indicator, an altimeter and also optional compass and turn and bank indicators (electric).

The span is 40 feet, length 20 feet 6 inches, height 5 feet and wing area 145 square feet. Gross weight is 495 lbs. with 200 lbs. of disposable load, in which case it has a gliding ratio of 1.18 at a sinking speed of 2.62 feet per second. " Krajanek " dives at 125 m.p.h., stalls at 28 m.p.h. and can be towed off at 75 m.p.h.



Zlin 23 " Honza."

The Zlin 25, " Sohaj " is a beautiful high wing machine, a delight for high performance flying. It is only 4 feet high with a span of 49 feet, length 23 feet 6 inches, and an area of 150 square feet. The gross weight of 575 lbs. includes 210 lbs. of useful load, resulting in a gliding ratio of 1.27 at 47 m.p.h. and a minimum sinking speed of 2.13 feet per second



Zlin 23—" Honzas " in line abreast.

at 37.5 m.p.h. " Sohaj's " (pronounced " Shohay ") are launched by towing at up to 95 m.p.h. or from cables at 55 m.p.h. They dive at up to 135 m.p.h. and stall at just over 30 m.p.h.

This well finished glider has a ventilated cabin which is even fitted with curtains. As well as the usual flight instruments, there are optional lights and a pilot's seat shaped to take a parachute.

And, to complete the picture, there is the long, hilly and mountainous Czech countryside with its hot summer thermals and forests enough to build a " Sohaj " for everyone.

SOARING IN FRANCE (*continued from page 7*)

But there is a great friendship between the pupils and their instructors, who form a true family. The latter often neglect their own performances because they are too busy teaching. I have seen some instructors fly at 6 a.m. so that their pupils might have a better chance of making rapid advancement.

In last July, at Challes, I saw MM. Worster, and Walk (Surrey G.C.) who tried to get their Silver " C " legs. I hope that next year English visitors will be more numerous, so that they may meet their friends and enjoy the meterorological wealth which Challes has to offer.

ON September 30th, the National Centre at Challes-les-Eaux, celebrated the 5,000th hour flown here by a sailplane since the opening in March, 1947.

WITH coming of Winter, thermals become rare. But, as usual, stationery waves returned at St. Auban during the middle of September. Rousselet climbed to 16,600 feet above the airfield on the 30th.

RESULTS of the " Young Wings " Cup, presented by the journal " Aviation Française " to the young amateur pilot obtaining the best distance in 1947 are as follows :—

1st.	Didion junior (Haute Moselle Aero-Club)	162 miles
2nd.	Pierre (Paris Centre Club)	160 miles
3rd.	Beltrands (Paris Centre Club)	140 miles
4th.	Chaneaux Marie Louise (Jean Maridor Club)	87.5 miles
5th.	Fauche (Sadi LeCointe Club)	84 miles
6th.	Salvadori (Soissons Club)	71.5 miles
7th.	Ovary (Ovest Club)	69 miles

NEW FINNISH SINGLE-SEAT TRAINER

PIK-5 "CUMULUS"

ONE of the main requirements for a sailplane is light weight, which usually—as with the "PIK-5"—is achieved by a simple and light structure. In the "PIK-5" lightness has been achieved by the use of Finnish timber. This is famous for its excellent strength values as compared with the Central-European materials usually used in European sailplane construction. The strength values of the Finnish spruce and birch plywood are about 20 per cent. higher than those of the corresponding Central-European materials, and thus a reduction in weight of 20 per cent. is gained—*without reducing the strength of the aircraft.*

THE "PIK-5" is designed primarily for amateur construction, and for that reason the structure is as simple as possible compatible with its performance, handling and strength requirements. This factor is also the main reason for cheapness, another basic feature of this aircraft. Whereas the wing is of a more conventional structure, but without washout, the simplicity of the fuselage is marked. The wooden structure consists of two main longitudinal booms interconnected by a simple built-up wooden structure. On these booms the wings, tail surfaces and nacelle are fitted; these booms may be supplied —in case of a kit delivery—in various stages of prefabrication, either ready or as material only, according to the wishes of the purchaser.

THE quickly removable fuselage shell permits the "PIK-5" to be used in all phases of gliding and soaring training. Without the shell, instruments and cockpit hood it may well be operated even as a primary trainer. From the primary phase it may at a short notice be converted into a utility type by attaching the fuselage shell but with the minimum of instruments and without the transparent hood. Already in this form, despite minor drag caused by the absence of the cockpit cover, the performance of the "PIK-5" is usually good. Finally, by adding the hood, blind-flying instruments, etc., the "PIK-5" is easily, and very quickly, converted into a high-performance trainer.

ALTHOUGH intended mainly for training, the "PIK-5" has an excellent performance. This exceeds by far the average performance of this class, resulting in a correspondingly higher training efficiency. As shown in the speed charts, the minimum sinking speed is 0.82 m/sec. (2.5 ft. sec.) at 54 km/h. (33.7 m.p.h.), and the gliding angle 1:18.5 at 57 km/h. (35.5 m.p.h.). This compares very favourably with other corresponding types. Furthermore, the stalling speed is as low as 40 km/h. (25 m.p.h.), and this figure, associated with very effective controls, gives a high degree of safety. The normal efficient speed range is between 48 and 70 km/h. (30-43.5 m.p.h.), allowing even cross-country flying usually not easily performed with training sailplanes.

CONSTRUCTION

Wing.—Strut-braced high-wing monoplane. Each wing built separately and attached to the upper fuselage boom by two bolts. Wings are of wooden structure, comprising of single box spar with spruce flanges and plywood webs, and girder-type spruce ribs with plywood stiffeners. Diagonally attached auxiliary spar behind main spar in wing root to accommodate rear wing-fuselage fixing point. Forward of the spar the covering is of diagonally applied plywood, forming the torsion box; the remainder of the wing is fabric-covered. Single metal bracing struts. Slotted ailerons of wooden construction consisting of a spar, plywood torsion nose and spruce-plywood ribs. No diagonal members are used. The covering is of fabric. The aileron movements are differentiated in a ratio of 1 to 3. Mechanically operated, forwards-upwards-opening dive brakes.

Fuselage.—Wooden construction. Main structure consists of two longitudinal booms, held in position by three diagonal members. All these components are of the same layout; spruce flanges of various thickness, and plywood webs. The nose portion of the lower boom is pointed upwards to accommodate the upper cable release and foot pedals. The front fuselage is covered by a removable shell, consisting of light spruce formers and stringers with plywood stiffeners; plywood covering in the front and lower portions, fabric covering in the rear.

The fuselage is braced by three pairs of diagonally running low-drag bracing wires.

Tail Unit.—The strut-braced tailplane is entirely of wood with spruce-plywood ribs and diagonally applied plywood covering. The fabric-covered elevator is of similar layout, but the ribs are attached diagonally. The fin is built integral with the rear portion of the upper fuselage boom, being plywood-covered. The lower portion extends to a ventral fin carrying the tail skid. The aerodynamically balanced rudder is of similar construction to the elevator. The control surfaces are operated by normal stick and pedal controls, movements of which are carried by push rods and cables.

Landing Gear.—Ski undercarriage. The birch ski is sprung by air in a rubber cushion. A tail skid is fitted.

Accommodation and Equipment.—The cockpit may be used either open or closed; in the latter case a jettisonable plexiglass hood with sliding windows is installed. The instruments are grouped in a panel between the pilot's legs, normal instruments being an Air Speed Indicator, Altimeter, Rate of Climb Indicator, Turn and Bank Indicator and Compass. Two cable releases are provided; one in the upper portion of the nose for aero-tow, and the other just in front of the ski for winch- or auto-tow launches.

HANDLING QUALITIES

The notes given below are based upon the experience gained by extensive test-flying with the prototype. The standard "PIK-5" will not differ from the prototype in this respect.

Take-off.—*Winch launch.* The lower cable release is used. The aircraft climbs very steeply; the stick

may be pulled full back. There is little or no tendency to pitch. Normal climbing speed is between 60 and 70 km/h. (37-43 m.p.h.); at this speed the " PIK-5 " handles very nicely. With a 1.200 m. (1,310 yard) cable, in a 3 to 4 m. sec. (10-13 ft. sec.) wind, altitudes of 450 to 500 m. (1,475—1,650 ft.) may be attained.

Auto-tow launches are also performed with the lower release in use. Take-off procedure is similar to that of a winch launch. With a 1,050 m. (1,150 yard) cable, in a 5 m./sec. (16 ft. sec.) wind, altitudes of up to 800 m. (2,620 ft.) have been gained.

Aero-tows are performed with the upper cable release in use. Stability throughout the speed range of 70 to 120 km/h. (43-74 m.p.h.) is good. At normal speed—80 to 90 km/h. (50-55 m.p.h.)—the aircraft may be flown hands off the controls for considerable periods. When aero-towed the " PIK-5 " handles very similarly to the " Olympia " sailplane.

Flying.

Efficiency of controls at various speeds, notably throughout the speed range of 48 to 90 km/h. (30-56 m.p.h.) is excellent, the ailerons being particularly responsive, though not over sensitive rudder efficiency slightly decreases, but the ailerons remain fully effective even during the stall.

Continuous effect of controls is normal. When rudder only is applied, bank increases very slowly, the aircraft continuing for a long period its outwards slipping turn which finally steepens into a spiral.

Medium turns are performed in the usual way. Once in a turn the aircraft maintains it very smoothly and nicely. In a continuous turn neither rudder nor opposite-aileron need be used, and the aircraft may be flown hands off. Due to the responsive ailerons the aircraft both starts to turn and levels out very easily.

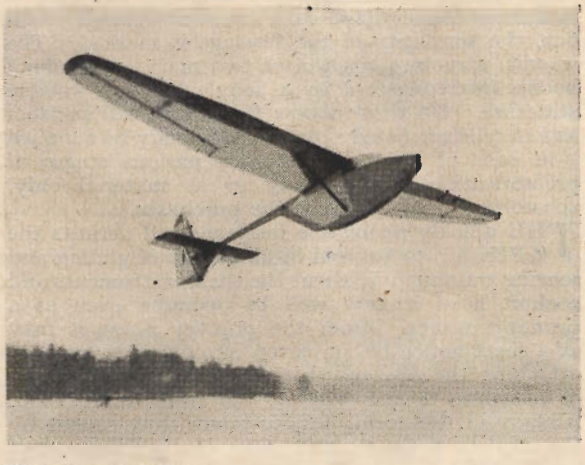
Steep turns are made in the usual manner. Best air speed for a continuous steep turn is between 60 and 70 km/h. (37-43 m.p.h.), correct bank being approximately 60 to 80 degrees; during the turn the stick may be held almost fully back and lower rudder applied. A 360 degrees' turn may be completed in 6 to 8 seconds.

Aerobatics.

Stall turns are most conveniently started at 80 to 120 km/h. (50-75 m.p.h.). The aircraft performs this manoeuvre very smoothly. As usual with sailplanes, rudder must be applied comparatively early.

Loops are carried out quite normally. Good starting speed is between 110 and 120 km/h. (65-75 m.p.h.). If the aircraft is looped continuously, the back pressure on the stick may be slightly eased when the aircraft is in the inverted position, in order to achieve a smooth figure. There is no vibration in any part of the aircraft.

Spins may be performed as aerobatic. The aircraft starts to spin if full opposite controls are applied at 40 km/h. (25 m.p.h.), *i.e.* stalling speed. It must be kept in the spin, and comes out of it either by centralizing all the controls, or the ailerons alone, or using opposite rudder alone. The attitude is comparatively steep, the aircraft being about 45 degrees to the vertical. The speed is about 60 to 70 km/h. (37-43 m.p.h.) I.A.S. The aircraft levels out in a quarter of a turn. It will not spin from an incorrect turn.



Two views of the PIK-5 " Cumulus."

Stall and Approach.

The stall's from straight and level flight occurs at 40 km/h. (25 m.p.h.) I.A.S. very gently and directly forwards, loss of altitude being approximately 5 to 15 m. (16-50 ft.) depending upon the degree of stall. There is no tendency whatever to drop a wing and lateral control is fully effective throughout the stall. As usual with sailplanes, rudder movement during the stall causes a change of direction. If the aircraft is stalled in a turn, the nose wheels into the direction of the turn. Stall from a steep climb is normal.

Approach is very simple, the dive brakes, acting as lift spoilers, giving a high degree of control. The aircraft may also easily be side-slipped. The nose should be kept high enough to permit good rudder control. Air speed in a side-slip is about 45 km/h. (28 m.p.h.).

DIMENSIONS, WEIGHTS AND PERFORMANCES

Load factor	10.4	
Dimensions.		
Span	12.4 m.	37.9 ft.
Length	6.4 m.	22.0 ft.
Height tail down ..	1.9 m.	5.8 ft.
Aspect ratio	10.5	
Gross wing area ..	14.7 m²	160.0 sq. ft.
Tailplane & elevator area	2.1 m²	22.8 sq. ft.
Fin and rudder area ..	1.22 m²	13.2 sq. ft.
Weights.		
Empty weight	120 kg.	264 lb.
Disposable load	90 kg.	196 lb.
Maximum permissible all-up weight	210 kg.	460 lb.
Wing loading	14.3 kg/m	2.88 lb./sq. ft.
Permissible speeds.		
Winch launch	90 km/h.	56 m.p.h.
Aero tow	120 km/h.	75 m.p.h.
Maximum permissible diving speed	192 km/h.	120 m.p.h.

Performances with 80 kg. (176 lb.) load.

Best gliding angle at 57 km/h. (35.5 m.p.h.) :		
Without hood ..	1:17	
With hood	1:18.5	
Minimum sinking speed at 54 km/h. (33.7 m.p.h.) gliding angle, 1:16 :		
Without hood ..	0.9 m/sec.	2.74 ft. sec.
With hood	0.82 m/sec.	2.50 ft. sec.
Normal efficient speed range	48-70 km/h.	29-43 m.p.h.
Stalling speed	40 km/h.	25 m.p.h.

CORRECTION.

In the last paragraph on page 2 of the November issue the word "carsy" should have read "carry."

GLIDING IN TURKEY.

IN Turkey, gliding began in 1935 with the organisation of the Gliding School at Ankara by Turk Hava Kurumu (Turkish Air League).

First the instructors' staff was formed. The activities of this school gave very good results, and by April 1936 branches were organised at the five states centres and flights were started under the surveillance of the candidates, who were successful in the instructor's course at the school.

The branch activities proved very satisfactory, and the advanced Gliding School was opened in July 1936 at Inönü. To handle the growing number of amateurs, the number of branches, at the states centre, was increased and the gliding speeded up.

While gliding, in Turkey, was first restricted to the students of the colleges and high schools, in 1939 the organisation was extended to the Air Army. The students of the Army were trained, conforming to a special programme which took into consideration the fact that they were to go to the aviation school immediately after the course. In 1946 this organisation again continued its activities only for the civilians.

At the states centre the students of college and high school, who have physical aptitude to fly, are trained theoretically and practically, during vacation, on the THK-4 primary gliders. This is performed by launching the glider by rubber cord. And only "A" and "B" brevets are given. Successful students, are invited the following year, in the summer vacation, to the Advanced Gliding School at Inonu, to receive training.

At the Inönü aerodrome, students are trained on the THK-7 advanced gliders, which are launched by a field towing motor. After that they fly in. the static and thermic air currents and are examined for "C" brevet. To get the "C" brevet it is essential to make at least five parachute jumps.

According to this programme a student may have "A", "B", and "C" brevets, within 30 to 40 flying days.

Students who qualify for "C" brevets, are invited the following year, during the summer vacations, to take their brevet.

The students who get "D" brevets, go, the next year, to the power-driven aeroplane touring school, and there they get the brevet and execute special flights on the aircraft. Those who obtain "D" brevet and show exceptional ability, carry out, according to their abilities, competitive and acrobatic flights, while their colleagues continue on the training flights.

Primary training ("A" and "B" brevets) is carried out on the THK-4 gliders; towing and gliding on the THK-7 advanced gliders; for gliding and acrobatic flights THK-9 double-control gliders are used.

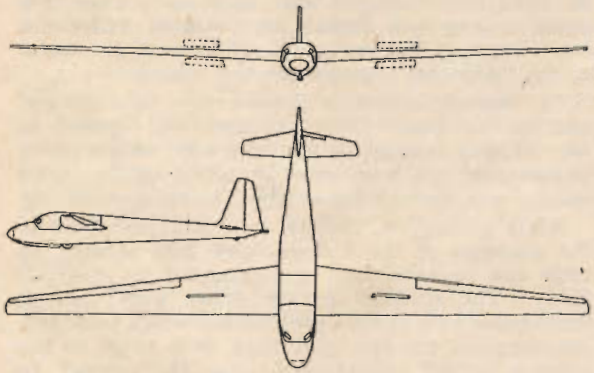
Single acrobatic and competitive flights are performed with the THK-3 acrobatic gliders.

All these gliders are manufactured at the aircraft factory of Turk Hava Kurumu.

The brevets are given under the international rules.

TWO-SEATER DESIGN COMPETITION

G. A. DRAWING OF HUGH KENDALL'S WINNING ENTRY



Principal Details :

Span	60.07′
Length of fuselage	26.95′
Cord at wing-tip	1.66′
Aerodynamic Mean Cord	4.48′
Maximum Cord	5′
Retractable lifting handles	
Dihedral	5°
Tail Elevator Span	12′
Height of rudder	65″

First International Engadine (1947)

(30 July—9 August, 1947)

By

THEDDY HEIMGARTNER

THE first International Engadine Flying Week was from all points of view an outstanding success. Without the slightest accident pilots from flat countries, unaccustomed to mountain flying, took part in the difficult circular tours above the Grisons Alps. Competitors arrived from Poland, Czechoslovakia, Great Britain, France, Sweden and Egypt, and the elite of Swiss alpine-soaring specialists were ready to engage their foreign colleagues in this noble tournament.

On the first day of familiarization flying, Max Schachenmann (Switzerland) beat the Swiss altitude record by climbing to 20,200 feet above sea-level, and thereby to 14,400 feet above his point of release, in the new " WLM " sailplane.

Meanwhile, on 1 August the first altitude competition was won by Sigbert Maurer in a " Moswey III," as also was the out-and-return flight to Zernez (Piz Baselgia) on 2 August.

The short circular tour of 3 August was won by Max Schachenmann in the " WLM." This pilot was the winner also in the next two events, the altitude competition of 5 August and the " Tour de St. Moritz " on 6 August.

The most difficult event of all, the " Tour de la Bernina," was won by the renowned Matterhorn-encircler Alwin Kuhn (Berne) in his " Moswey III," after which he figured three times in the third place and once in the second ; and, in accordance with tradition, he was third also in the final classification. In the culminating out-and-return flight to Davos (Weissfluhjoch) the winner was again Sigbert Maurer, and he was also top in the final classification.

Leader among the foreign pilots was Jürgen Cevers (Sweden), followed by Branciard (France). The fine Polish sailplane " SEP," designed by the engineers L. Nowakowski and J. Niespal (Bielsko), was first in the high-speed race on the Muottas-Muragl with Adam Zientek at the controls. The " bombing " competition was won by the French Gold " C " lady pilot, Marcelle Choisnet. The three British pilots, Brooks, Kendall and Wall, took turns to fly the " S-18," whose somewhat inferior penetration did not give it much chance against the " Moswey " and the ultra fast " WLM." Quite unexpectedly good was the performance of Stefan Plesko from Bratislava (Czechoslovakia), whose arduous journey, ending with a nocturnal crossing of the Julier Pass, prevented him reaching Samedan until half-way through the week. He then distinguished himself by being the only foreigner to accomplish the goal-flight to Davos, and was high on the list every day. If he had been present from the beginning he might have finished very near the top.

The happy co-operation between pilots from the East and the West was delightful, and all of them are looking forward to revisiting the Engadine next year with their own latest sailplane types.

BOOK REVIEW

GLIDING AND POWER FLYING by STRINGBAG—with drawings by STANLEY SPROULE.

Oxford University Press 6s. 0d.

IN this little book of one hundred and forty four pages, the author has managed to compress all the necessary information required by anyone of average intelligence who wishes to learn how to fly a Sailplane, and from there move on to become a Power Pilot. The author, who is well-known under another name, and probably the most readable writer on Gliding at present practising the art, manages all the while to retain that absorbingly interesting personal touch which is a mark of the true teacher and imparter of knowledge. The drawings, too, are simple and clear, and well illustrate the text. If you want to give a Christmas present to a small boy of 10 or 12 years, which will probably never leave its owner's pocket, give him this book, which incidentally contains the full instructions on how to make, out of a sheet of notepaper, the finest model glider in the world, a claim which the writer has proved by experience. If the small boy is fifty or so it will be all the same.

It is a pity that more ambitious writers about gliding have not the skill of this author. "Stringbag" has done it again.

V.B.

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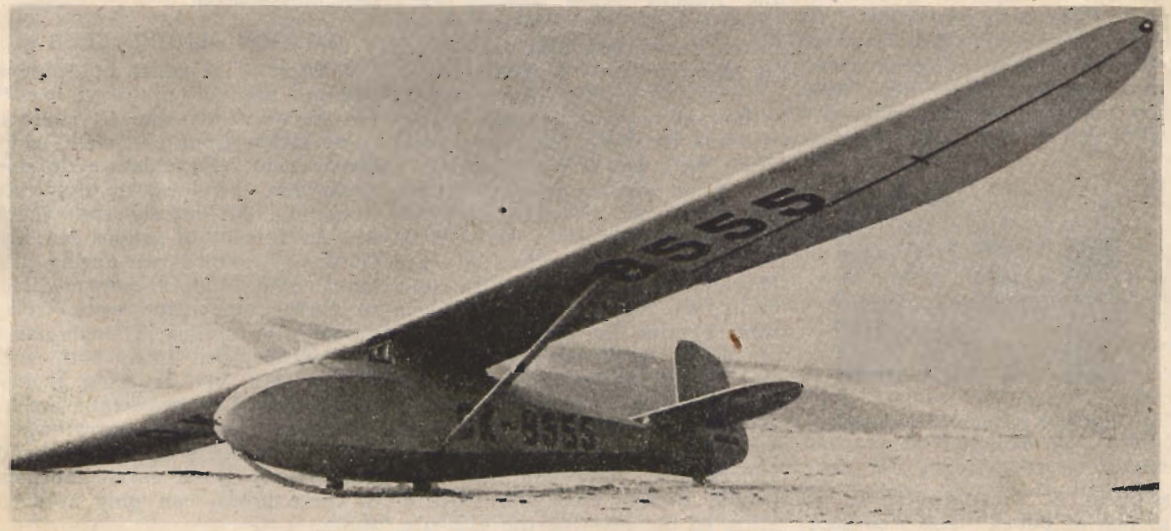
25 HOURS IN A KRAJANEK

NEW DURATION RECORD CREATED

LADISLAV MARMOL, aged 27, former R.A.F. Czech Squadron pilot has beaten the British national duration record, set up in 1938 by the late Lieut. Anthony Young, R.N., by more than ten hours. He is thus the first to qualify for one of the newly recognised U.K. Local Records instituted by the B.G.A.

Launched in his "Krajanek" over Dunstable Downs at 13.25 on November 20 he soared throughout the night, landing at 14.40 on the following day.—A total of 25 hours 5 minutes.

His time constitutes a new National Record for Czechoslovakia.



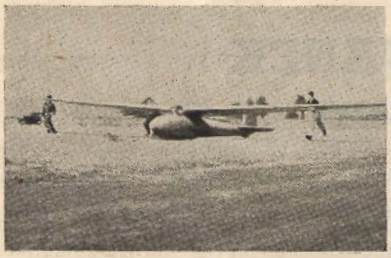
THE ZLIN 24 "KRAJANEK."

NEWS FROM THE CLUBS

BRISTOL GLIDING CLUB

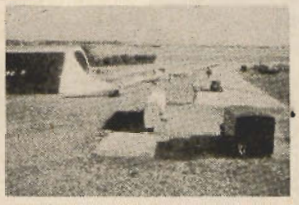
An uneventful month, brightened by some very high launches into the freshening breath of early winter. Nobody expects much green ball around the aerodrome at this time of the year, which makes its occasional appearance all the more pleasant.

The hangar is now fairly littered with Cadets of all colours. The Club "Olympia" has been de-rigged for the winter and stowed for its better preservation in one of our nissens, where wistful figures may sometimes be seen polishing it before the Ground Engineer routs



The "Olympia" takes off.

them out on to the dark wet aerodrome to reel in a thousand yards of telephone cable, or to hacksaw through a couple of feet of inch plate. The early scrubbing of flying relieves the labour shortage considerably, and the effect is already quite marked. The new winch now has a comfortable wind-proof cab which on cold days, encourages



Lulsgate Bottom. One corner of the Club's site.

a queue of winch-drivers as well as one of pilots. The "Grunau" has a new and rakish windscreen, shortly to be interchangeable with a canopy, the aim being not so much to enhance comfort or performance, as to accustom pilots to flying under a hood in a machine they know before they advance to the "Olympia."

The briefing notes mentioned last month have appeared as a most voluminous and comprehensive series of manuscripts, considerable effort and thought obviously having been put in by the individuals responsible for each section. When finally correlated and issued, we should have a glider pilot's manual second to none.

Membership is growing rapidly, being well over the hundred mark, the disappearance of "basic" having the reverse effect to that at first expected. The more *ab initios* the better is the present policy, especially during the stable winter days.

SCOTTISH GLIDING UNION

Sunday, October 19th, saw the unloading of a small trailer at Balado and the assembly of a sailplane which has been on the stocks since 1940—Donald Campbell's H.17. She made her trial hops, to the delight of onlooking S.G.U. members, and we're looking forward to seeing her again. It was a good day of smooth air, and the Dagling types daggled very prettily until dusk, when we all retired for refreshment, to discuss, by the dim light of candles stuck in bottle-necks, the dim question of how we're going to reach Bishop Hill and Balado in the near future. Well, we'll get there somehow.

A much brighter prospect opened before us when Thorburn read out an encouraging letter from Basil Meads, with reference to the Kemsley Trust grant. In our mind's eye, the bare boards of our table became the chromium finish of future furniture (some day !), and the melancholy grind of the truck towing home the "Cadet" became, in imagination, the purr of Beaverettes with a squadron of gliders (well, three more, anyhow) behind them. With the confirmation of the lease of the Hill-site, our House Committee rolled up its sleeves and is now waiting for the word "Go."—There will be no bad-weather weekends wasted by the S.G.U.

We have been pressing on with the "Dagling" and first "Cadet" hops whenever the weather is fit, and "B" Certificate holders have been getting some experience of rougher weather. Squalls of wind and rain drove us to painting our truck one Sunday, and we ignored everything in our zeal to finish the job, although by the time the truck's bonnet and our overcoats were a lush cream, the wind had dropped slightly.

On week-days we are all employed in raising funds for the free membership and training of five A.T.C. cadets—last year's cadets, one or two of whom hope to raise their own subscriptions for this year, are also doing their utmost to help their successors. The funds are to be raised by a Free Gift scheme, one of the gifts, for which tickets are being sold, being a half-case of whisky, kindly provided by Thorburn, no doubt from his own secret still. (Prospective members of the S.G.U. from His Majesty's Excise will be regarded with suspicion from now on.)

We wish all glider-pilots at home and abroad a Very Happy New Year, with success in all fields, especially soaring.

LONDON GLIDING CLUB

October. The month of October put up a full score of "wash outs" for the weekends, due to lack of co-operation from the west wind Department. By this we do not mean that there was no flying at weekends, but merely that there was an absence of serious soaring. Of the 42 hours flown during this month no less than 31 were credited to three consecutive week days, namely, Wednesday, Thursday and Friday, October 15th, 16th and 17th. This sort of thing makes it rather hard on respectable week-enders, as only the "barrow boys" and followers of other doubtful occupations (such as the authors of these notes) can play at such times.

However, good use was made of those three days, notably by Hanks,

who qualified for his Silver " C " duration on the 17th without incident, although another member had run aground trying for the same test on the previous day. This was not altogether surprising in view of the fact that, while quite an experienced pilot in other branches of soaring, he had no previous experience of slope lift, and Dunstable offers little margin for errors. Hill top strandings of this nature always give rise to symptoms of blood-pressure amongst the Club Elders, who show concern at the prospect of carnage amongst picnic parties, to say nothing of the disasters which might occur amongst the other kind of party, frequently found on Dunstable Downs at such times. Seriously, though, we ask all pilots new to hill-soaring at Dunstable not to risk the Club's reputation with the public who, although generally good natured, have been known to take reprisals. Their favourite method of retaliation is to launch empty cars down the hill side upon us, sending our members fleeing for their lives, and leaving our abandoned aircraft, at the foot of the hill, to the mercy of these juggernauts. It is perhaps, a sad sign of the times that the only attack launched this month was made with a mouldy old motor cycle combination.

Wednesday, October the 15th, saw the first hill soaring trials of the " Krajanek " at Dunstable. It was flown by Neumark in stable conditions, and in company with No. 2 and No. 4 " Tutors," and the " Gull." Its sinking speed appears to be of the same order as the " Tutors," although its speed range is undoubtedly superior and its controllability appears to leave little to be desired. Resembling a " G.B." in outward appearance (although the span is but 40 feet) it has many detail differences, including an elevator trimmer which enables it to be flown hands-off at any speed. It has extensive air brakes of D.F.S. pattern but is not fitted with a landing wheel. From what we have seen of it so far, it would appear to be an ideal intermediate sailplane for club use, in fact, the long awaited " G.B." replacement, which is what we believe its manufacturers intended. Meanwhile, the club has placed an order with Hawkridge Aircraft for the latest type of " G.B." and delivery is promised before Christmas.

We omitted to mention that the " Krajanek " arrived by air on Sunday, October 12th, having been towed from Southend. Before landing we were treated to a display of brilliant aerobatics, which suitably underlined the qualities of both pilot and machine. It is the first time we have seen a slow roll and a half bunt with a sailplane, and we were suitably impressed. The inverted flying was not new to us ; we have seen the old " Rhonadler " in this attitude many years ago. Upon landing the " Krajanek's " pilot, one Marmol by name, immediately joined the club and then loaned his machine to a number of our pilots to fly.

While this was going on our " T21 " two-seater was being circuited continously by pupils under the watchful eye of our Hon. C.F.I. Cyril Ruffle, acting P.1 for most of the day. He also took the opportunity of passing out Eric Read and Wheatcroft as qualified " T.21 " pilots.

Whilst we regard October as a " poor " month for flying, this season has shown a remarkable improvement over 1946, in fact, so far as flying activity is concerned, it is clear we are now almost back to pre-1939 standards. It came as a pleasant surprise when, on making some enquiries recently, we found that quite a number of members, who attended fairly regularly at weekends, had each put in over 30 hours in club aircraft so far this year. Before the war we estimated that the average member who attended regularly at weekends only, could expect to do about 25 hours a year on club machines (i.e. an average of ½ hour for every week end of the year.) For those who consider that the end of October brings the " season " to a close, we wish to point out that the only months in which cross countries from Dunstable have never been recorded, are December, January and February. Moreover, it is not always slope soaring, alone, that may be enjoyed throughout these months, as we can recall at least one day in mid-January when we have seen best part of the club fleet suspended between 1,500 and 2,200 feet in one vast and enduring thermal brought by a S.E. wind.

As explained in last month's notes, all the club premises have at last been de-requisitioned by the M.O.W. but we are afraid it will be some little while before they are fully restored to their 1939 condition. Meanwhile, we have very comfortable quarters in the original (1932) wooden club house and the bunk house is fully occupied at weekends. Moreover we can provide suitable quarters for those who care to bring camp beds or their own bedding.

Summary of Flying for October : Number of Launches, 229 ; Hours flown, 42 ; Certificates taken, 1 " A ", 2 " B " ; Silver " C " tests, 1 Duration.

From Nov. 1-13, 104 *hours were flown* ; 50 *hours of this time during last week, including* 5 *Silver* " *C's* " *duration.*

140 WING GLIDING CLUB

This may be the last News Letter written under the heading " 140 Wing Gliding Club " ; for it is with the deepest regret that we have to announce the closing down of the Wing in the very near future. Of the squadrons that have formed this famous Wing for the past 18 months or so, two (Nos. 4 and 107) are moving elsewhere, whilst 21 is regrettably being disbanded.

Members of this Club will immediately ask " how does this affect us ?"

Well, although the exact position is not clear yet, it appears quite certain that the club will continue functioning as at present, under the control of whatever Unit moves into Gutersloh. There may be a slight adjustment of glider and equipment strength as it is only fair that with many of our present members about to move to a locality from which they will have access to the present 139 Wing Club, some of our " stock " should go down to this Club in order to cater for the increased membership which they can expect. However, the proportion of 140 Wing members, even if we lose *all* of them which is not at all likely, to our total membership is less than 25 per cent, so that only a small adjustment will be necessary. In any case, the transfer of large numbers of gliders, particularly sailplanes, to the 139 Wing Club would not be in the interests of Gliding in the British Zone generally. Neither

Wahn nor the proposed site for their future gliding activities offers any soaring facilities in winter due to the complete absence of a ridge or a hill, and. the highly improbability of there being any thermals or standing waves developing until next Spring. It is therefore extremely important that full soaring facilities be retained at Oerlinghausen, which is after all one of the best all-round sites in Germany. Pilots from Wahn should be encouraged to come here as often as time permits.

Whatever the actual effects the Wing's closing may have on the Club, present members who are remaining in the district can rest assured that every effort will be made to ensure the continuing of full gliding facilities, and that as far as possible, conditions of membership, subscriptions and gliding fees, etc., will remain as at present.

Members should note that until further notice, the Club's name will continue to be " 140 Wing Gliding Club."

A letter from W/Cdr. Faulkner reveals that he has been demobbed and has got a job as Principal of the Technical College at Swindon. However, he feels very homesick for Oerlinghausen and we cannot but shed a tear with him as we read that it was Wednesday afternoon—a half-day off for sport—when we wrote, but nowhere to go for gliding !

As we recorded previously, the " Wing Co." got his Silver " C " on one of his last flights at Scharfoldendorf. He refers to it very modestly in his letter—how he got to Celle with 1,800 metres to spare and having made little or no effort, and how he just doodled about, eventually landing at Celle Airfield. He warns up, however, of the folly of not taking the height of one's starting point into consideration, saying that had he got another 200 metres on launch, he would not have had this flight credited to his Silver " C ", in spite of having covered 75 kilometres, because of the difference in height between take-off and landing sites.

This week's farewell is to L/Cpl. Johnny Peel. One of the oldest members of the Club, Peel came to Oerlinghausen with a bunch of chaps from the 22nd Armoured Brigade Club. Since then he has been one of our most enthusiastic and regular pongoes, even though it has meant travelling 40 miles here and 40 miles back for each visit. On one of his last visits he was so wrapped up with his gliding thoughts that he left all his week-end kit, including two valuable log books in the German car in which he obtained a lift along the Autobahn.

Peel has undoubtedly got this gliding business pretty well buttoned up and has flown all types of Sailplanes and gliders in the Club, except the " Horten IV " and " Rheinland." He is also a qualified winch operator and a U/T Instructor. It is to our intense sorrow and his, that he leaves us—and leaves us still requiring his duration flight for his Silver " C." Never mind, Johnny, borrow lots of money from somewhere and Sutton Bank will fix you up !

A " Farewell to 140 Wing " Dinner and Dance was held at the Club on November 1. All ranks from the Wing, including of course, Club Members were invited as guests of the Club and about 20 were able to accept the invitation, making a total present, including other members, of about 55. It was a pity that this party clashed with one held on the Wing by 21 Squadron as otherwise, many more officers would have been able to come to Oerlinghausen. However, we were particularly pleased to welcome the Station Commander, Group Captain Faville, who, in spite of the lateness of the hour was able to dash out here for a few minutes.

We have just learned that 135 Wing will be taking over the responsibility of this Club when 140 Wing closes down.

VICTORIA GLIDING CLUB

Preparations for the camp at Benalla are well under way. From the report furnished by Lin Beck, the site seems very promising for a successful trip.

The 'drome is used by the R.A.A.F. as an aircraft storage unit, and arrangements are under way to secure hangar space for club machines and equipment.

F/Lt. Harker, O.C. of the unit, will be on the station during the Club's stay there, and has already proved his willingness to help in every way possible.

The equipment to be transported to Benalla, consists of two " Grunau," " Merlin " and " Utility," and two winches, besides spare skids and other necessary sundries (including Club members). This will tax facilities to the utmost, unless some members with cars help out. Before the trip can be commenced however, there is a tremendous amount of work to be done to ensure that everything will be in first class order.

Members of the Blue " Grunau " Syndicate are fully occupied recovering their machine and finishing the trailer to house it—incidentally with the help of those turning up regularly. Club members, particularly those interested in the camp, are requested to turn out and assist in preparing the club machines and winches for the trip.

Recently the Chief Instructor, Chief Technical Advisor, Head Mechanic, and Mr. R. Duckworth, were standing at Winch No. 3, idly dabbing oil here and there with an oil can. One of the party noticed that an ingenious cup affair, designed to deliver oil to one of the main bearings holding the drum axle, was full. It had been full for some months ! It was never empty ! The party decided to have the bearing inspected.

It was discovered that while the cup had a neat delivery pipe fitted through the outer housing of the bearing, no hole had been drilled in the bush, to allow the oil to flow down and mingle with the moving parts.

This was remedied forthwith, and subsequently, the C.I., C.T.A., and H.M., and Mr. R. Duckworth, happily noted that the oil level in the ingenious cup affair had dropped.

Letters to hand from Lionel Pitt provide the first news we have had from him since he left for England. He is at Bristol, and has joined the Bristol Gliding Club as a flying member. Already he is doing circuits on the " Kadet," and remarks that he has to obtain his " C," and 4½ hours' solo thereafter, at which time he will be eligible to fly the " Olympia."

Lionel's address is :—

16 Meadowsweet Avenue,
Filton, Glos., U.K.

DERBY AND LANCS GLIDING CLUB

October

4th. Weather conditions were unsuitable for anything else except training. Frank Darbyshire, on

leave from the Middle East, made a welcome appearance. Eric Baker, Jack Lello, Kathleen Bodell, Derek Roper and David Whitworth flew the "Cadet." The "Tutor" was flown by Margaret Swale, Leslie Benson, Brian McGraw. The "G.B." by Roger Dickson, Mike Sharp and Phil Leech.

5th. The first circuits disclosed scenes of unusual beauty. The sun shone in a sky of deepest blue which lightened all round the horizon to a dull silver; Camphill stood out of a sea of mist which filled the valleys. Here and there a hill top appeared through the fog. A circuit in the "Cadet" in the perfectly smooth air was quite an experience and worth almost as much as it cost. Bill Stansfield, Geoff Russell and Frank Darbyshire had a circuit each to keep their hands in before attempting "C" flights. Kathleen Bodell, Barbara Richards, George Blomfield, Derek Roper and Jack Lello settled down to some serious training.

The "Tutor" school had a winch on the south slope and did high circuits and spot landings all day long. The effect of landing on the starting point solved much of the retrieving problem and the standard attained was remarkably high. The competition was won by George Thompson and Jim Lawless.

11th. More training and circuits.

12th. Midwood in the "G.B." and Richardson in the "Tutor" failed to stay up but an "Olympia" found good lift at the east end of the south slope but it was spoiled by cloud forming on the edge which blocked any further exploration to the east. Gerry Smith was launched about 1.20 and for over an hour was unable to get above the height of his launch. Eric Taylor was launched at 2.46 and at the east end of his first beat climbed rapidly, followed by Gerry. Eric turned back along the slope but Gerry turned out and making his way out into the valley towards Calver crossroads, quickly reached the top of the lift at 4,900 feet. He explored the area of lift thoroughly and landed after 2 hours 40 minutes. Terence Horsley had just over an hour in his "Olympia," Robertson and Taylor had 1 hour 5 minutes and 52 minutes respectively, also in "Olympias," Cyril Kaye had 26 minutes.

25th. The "Cadet" was taken out in a strong east wind for some practice circuits. Some of the seven pilots who flew may have considered the "Cadet" a bit beneath them but had to admit later that it had been an interesting and instructive afternoon.

26th. It was obviously Mam Tor or nothing. Two private "Olympias" and the Club "G.B." were de-rigged and taken over to Castleton. Gerry Smith was first off in the red "Olympia" and reached 1,800 feet in a matter of minutes. Eric Taylor was next off in the "G.B." to see if it was suitable for pilots who had not had any previous experience of this site. Both machines remained in the air for an hour and the lift was explored fairly thoroughly all round the bowl. After lunch the conditions improved considerably for a short period, Robertson's "Olympia" joined the party and the three machines were launched in quick succession Altogether seven pilots flew the two "Olympias" and the "Grunau" and the maximum height attained was just under 3,200 feet which was about 300 feet above cloud base.

Sum total of activities for October was 191 launches, 21 hours' flying, 1 "A" Certificate.

ROYAL AERO CLUB GLIDING CERTIFICATES

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

GLIDING CERTIFICATES: "A" .. 143 (7143—7286)
"B" .. 56
"C" .. 28

SILVER BADGES: 4

No.	*Name*	*A.T.C. School or Gliding Club*	*Date taken*
		"B" CERTIFICATES	
1638	Thomas Anderson	26 G.S.	17. 8.47
3452	Joseph Kubanek	Surrey G.C.	29. 9.47
3813	J. E. Tindall	68 G.S.	28. 9.47
3942	Peter Guiver	Somerset G.C.	10.10.47
4242	A. O. Bowden	135 Wing G.C.	14. 9.47
5090	E. W. Coe	146 G.S.	21. 9.47
5134	C. G. Hill	168 G.S.	5.10.47
5342	E. W. Morris	89 G.S.	28. 9.47
5723	Paul Herring	Bristol G.C.	10. 8.47
6402	Derrick George Goddard	89 G.S.	28. 9.47
6481	Frederick J. Foord	Southdown G.C.	12.10.47
6644	Colin Henry Taylor	141 G.S.	5.10.47
6730	H. D. Y. Primrose	48 G.S.	28. 9.47
6818	D. P. L. Scallow	Surrey G.C.	17. 9.47
6870	S. Bailey	68 G.S.	26. 9.47
6916	Francis G. Irving	Surrey G.C.	10. 9.47
6942	Geoffrey Wilson	108 G.S.	28. 8.47
7143	M. W. Sylvester	145 G.S.	6. 9.47
7146	Justin Herbert Miller	R.N. Gliding Unit	23. 8.47
7150	R. D. J. Barnes	Bristol G.C.	31. 8.47
7160	Michael Stanley Kenton	84 Gp. G.S.	31. 7.47
7164	Herbert Bradley Warburton	R.A.F. Lubeck	23. 7.47
7168	Zardosht Simnad	London G.C.	20. 9.47
7171	Robert Syme Denholm Armour	R.N. G.U.	13. 9.47
7173	Gilbert George Devereux Burton	102 G.S.	16. 9.47
7175	Harold Frederick Bond	R.N. Gliding Unit	13. 9.47
7176	Arundell Ray Leakley	R.M.A.S. G.C.	29. 8.47
7177	Hugh Stuart Stucley Trotter	Surrey G.C.	11. 9.47
7179	Leslie Colin Weidman	85 Wing G.C.	27. 7.47
7180	Gerard Syril Barber	4th Armoured Brigade	13. 7.47
7190	Geoffrey Shaw	135 Wing G.C.	2. 7.47
7194	Leslie Armstrong Miller	N. Wales Cross-Country S.C.	6. 9.47
7196	George Albert Camfield Potts	83 G.S.	29. 7.47
7198	Edward Relph Campbell	123 Wing G.C.	19. 7.47
7199	Robert Alfred Wallace	B.A.F.O. G.C.	30. 8.47
7203	Harold Frank Parkin	106 G.S.	28. 4.46
7205	James English	Bristol G.C.	28. 9.47
7209	John Free	Cambridge University G.C.	31. 5.47
7218	Alan Francis Charles Walker	Somerset G.C.	26. 9.47
7223	John Hamilton Adams	84 Gp. G.C.	12. 7.47
7228	George Michael Scarrott	Ditto	31. 8.47
7230	John Dunderdale	139 Wing G.C.	7. 9.47
7232	David William Hyde	Royal Navy Gliding Unit	31. 8.47
7233	John Richard Coxon	Surrey G.C.	29. 9.47
7237	Ferdinand Micel	12 Gp. G.C.	25. 6.47
7238	James Finlayson Nash	Scottish G.U.	7. 9.47
7241	Simon de Robinet Raleigh	Royal Navy Gliding Unit	14. 9.47
7247	Richard Pinder Sell	London G.C.	31. 8.47
7249	Robert Ingram Brown	84 Gp. G.C.	22. 8.47
7250	Stanley Colley	29 G.S.	14. 9.47
7256	Thomas George Dryland	84 Gp. G.C.	20. 9.47

GLIDING CERTIFICATES—*continued*

No.	*Name*	*A.T.C. School or Gliding Club*	*Date taken*
7260	Marian Debieki	141 G.S.	5.10.47
7270	Keith Norman Bartlett	135 Wing G.C.	18. 8.47
7271	Charles Albert Starr	B.A.F.O. G.C.	22. 6.47
7275	John Maurice Houlder	London G.C.	27. 9.47
7279	Malcolm Robert Head	Cambridge University G.C.	1. 6.46
	" C " CERTIFICATES		
2676	Harold Leonard Lamb	Condor G.C.	14. 6.47
4012	John Henry Holder	140 Wing G.C.	2.10.47
4236	Peter Bryan Hogarth	68 G.S.	21. 9.47
6564	William Randall Ford-Hutchinson	12 Gp. G.C.	1.10.46
6673	Tom Astwick	12 Gp. G.C.	27. 9.47
6759	A. S. Clark	London G.C.	28. 9.47
6841	A. H. de Buriatte	84 Gp. G.C.	21. 9.47
6841	Frank Jolliffe	12 Gp. G.C.	1.10.47
6842	William Lamb	Ditto	1.10.47
6965	David Heudry	Scottish Gliding Unit	21. 9.47
7146	Justin Herbert Miller	Royal Navy Gliding Unit	24. 8.47
7160	Michael Stanley Kenton	84 Gp. G.S.	29. 8.47
7164	Herbert Bradley Warburton	R.A.F. Lubeck	10. 8.47
7168	Zardosht Simnad	London G.C.	21. 9.47
7169	Leslie Colin Weidman	85 Wing G.C.	10. 8.47
7180	Gerard Cyril Barber	4th Armoured Brigade	16. 8.47
7194	Leslie Armstrong Miller	N. Wales Cross-Country S.C.	7. 9.47
7198	Edward Relph Campbell	123 Wing G.C.	30. 8.47
7203	Harold Frank Parkin	106 G.S.	18. 6.47
7209	John Free	Cambridge University G.C.	25. 9.47
7232	David William Hyde	Royal Navy Gliding Unit	31. 8.47
7237	Ferdinand Micel	12 Gp. G.C.	1.10.47
7249	Robert Ingram Brown	84 Gp. G.C.	28. 9.47
7270	Keith Norman Bartlett	135 Wing G.C.	6. 9.47
7271	John Maurice Houlder	London G.C.	28. 9.47
7279	Malcolm Robert Head	Cambridge University G.C.	19. 6.46
	SILVER BADGES		
116	W. J. Geenty	(4676)	
117	C. E. McAndrew	(6004)	
118	G. H. Waugh	(5584)	
119	M. R. Head	(7279)	

CLUB ANNOUNCEMENTS

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