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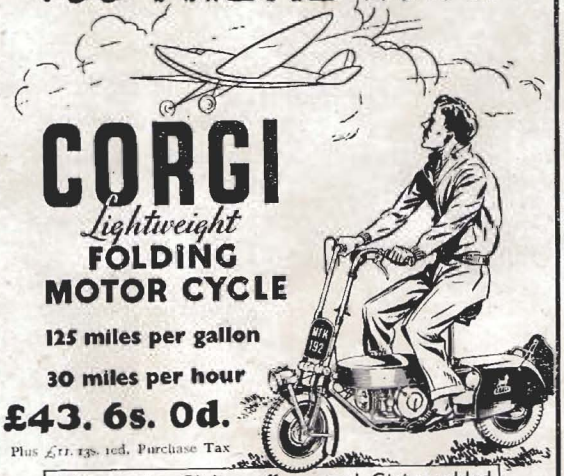
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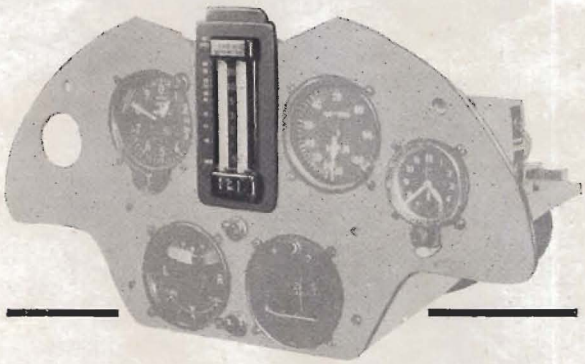
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THE FIRST JOURNAL DEVOTED TO SOARING AND GLIDING

AUGUST 1949 ★ Vol XVII No 8

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COVER PHOTO:
Group Capt. W. B. Murray and Herr Kronefeld watching contestants at Gutersloh. Photo: Wolf Hirth.

ICARUS, WHO FELL

Sometimes remember
That the deep sky, these wings
The foamwhite cloud that's ready to be taken
The wind—all these were bought
With hurt, with toil, with dying, and consider
That multitude, the nameless and the known,
Whose given bodies made this victory;
The fingers
Deft as your fingers or as clumsy
That fashioned this conquest.

Remembering these, look now
Upon the hollow countries of the air
The blue strange kingdoms
The ransomed empire.

W. P. IGGULDEN.

NOTES

THE British Gliding Association announced on July 15th "with much pleasure" that it has "been greatly honoured by Lord Kemsley's acceptance of the Presidency of the Association, which office became vacant on the death of Lord Londonderry."

J. Grantham (St. Catharines) and B. E. Bell (Christs) of the Cambridge University Gliding Club have (subject to homologation) created a new British two-seater height record with a flight in cumulus of 10,000 above release. The world record is 22,500 feet, held by the French. The new British Record flight was made in the Club's "Kranich." The B.B.C. compression of the Editor's comment from two scripts and two records was almost unrecognisable, voice as well as matter.

Our cover photo shows Group Capt. W. B. Murray at Gutersloh, who is among the contestants at Camphill. Not everyone knows that along with Lt.-Cdr. J. S. Sproule, R.N., in the "Falcon," he is the joint holder of the British two-seater endurance record, which has remained at 22 hours 13 minutes since 1938, and once held the solo out and return record of 68 miles from Leicester to Birmingham and back. Sproule was largely the originator of the R.N. Gliding Association.

AN R.A.F. SOARING CLUB

Proposals have been made for the formation of a Soaring Club in England, open to all ranks of the R.A.F. In order to gauge the support likely for such a Club, it is requested that those interested will contact either Group Capt. C. Paul or Flight. Lieut. Jock Forbes during the National Meeting at Camphill.

This issue of *Sailplane* contains a full report of the American Gliding Contests at Elmira in July. Next month we shall have as full an account as time will allow of the National Contests. In the October issue we shall have a full account of the Swedish National Contests at Orebro (where the International Contests are to take place next year), which the Editor visited during July, in which the World Champion A. Pelle Persson was beaten to third place by a mechanic and a clerk. Eight Gold "C"s were taken in the first two days.

We now have sufficient paper for our needs but it would help us not to over-print if you would order in advance any extra copies you may require. If your newsagent says he cannot obtain sufficient copies send your order direct to our Publishers, the Rolls House Publishing Co. Ltd., Breams Buildings, Fetter Lane, E.C.4. Better still send a subscription and ensure a bigger and better *Sailplane* for next year.

ERIC NESSLER'S NEW RECORDS

Eric Nessler in the "C.M.7" created a new French two-seater goal record by 174 miles from Beynes to Poitiers on June 20th.

And on June 25th in the same "C.M.7" Eric Nessler broke the French distance record by travelling from Beynes to Angoulême. Distance of 248 miles by pure thermals only; maximum height of 6,550 feet.

THE AMERICAN 16th NATIONAL SOARING CONTEST

By Our Special Correspondent.



AT a time when there was apparently a doubt about the possibility of holding the sixteenth of the series of U.S. National Contests, Wolf Hirth wrote to the Soaring Society of America, saying, "You know that we here in Germany had twenty competitions from 1920 to 1939, not missing one year. The only country in the world which has had a national contest all possible years since 1930 is the U.S.A. You MUST continue. . . . If you don't have enough money for the contest, make a little do. How we would like to show you with how little money soaring, and even a competition, can be done." At a time when we are experiencing acutely the hardship which seems to pursue gliding and soaring the world over, Wolf Hirth's words are a challenge to us also. It is therefore doubly interesting to have the opportunity of witnessing the 1949 Soaring Competitions at Elmira.

Elmira

Elmira announces with pride that it is the "GLIDING CAPITAL OF AMERICA," and the National Soaring Contest is sponsored by the Local Chamber of Commerce, and organised by the Elmira Area Soaring Corporation, on behalf of the Soaring Society of America. The actual site at Harris Hill is 1,750 feet above sea-level, on a ridge a few miles to the north of the Town. There are two hangars, a very pleasant Clubhouse and lawn, and a level strip on top of the hill large enough for use by visiting and touring aircraft, as well as sailplanes. The main ridge faces north, and rises steeply from the floor of the Chemung Valley, where the Elmira County Airport is situated some thousand feet below. It is here that the Schweizer Bros. factory is located.

In addition to soaring, Harris Hill is a well-known beauty spot. There is a youth camp on the Hill, and picnic grounds, well equipped with barbecue pits, and patronised each evening by large numbers of families from Elmira. Mark Twain wrote many of his books, and is buried here; Tom Sawyer and Huckleberry Finn seem to have deserted their native Mississippi, and settled permanently in Elmira. One can understand their liking for such a friendly and attractive place.

The Competitions and Rules

There were three classes of contest, which were as follows :

CLASS 1 : **Distance** in a straight line, or distance to a pilot-designated goal.

CLASS 2 : **Distance** with return to the point of departure. This may be either to a goal or goals designated by the Contest Board, with return to point of departure, or one or more circuits around a large or small triangular course set up by the Contest Board.

CLASS 3 : **Speed.** This may be combined with Class 2 events, or be a speed dash to a goal designated by the Contest Board.

In Class 1, one point is awarded for each straight airline mile of distance covered, up to 100 miles; thereafter, up to 200 miles, 1½ points, and any distance in excess of 200 miles gains 2 points per mile. A successful goal flight in Class 1 gains an addition of 25 per cent. to the points earned as described above. No points are given for distances of less than 25 miles.

In Class 2, points are awarded in the same manner, the additional 25 per cent. being gained by completion of the course.

In Class 3, points are awarded only to competitors who complete the course, and marking the length of the course in miles, divided by 30, and multiplied by the speed of the competitor.

There are one or two interesting points in the rules. For example, the Contest Board decides the class of contest to be run that day, and points may be scored only in that class. The final score of each pilot shall be the total earned in Class 2 and 3 set-task events, plus the points earned in his one best flight in Class 1. Club scoring is on similar lines, but a little more complicated, the main features being that each club may designate only one sailplane and one pilot on any particular day, and that, and a pilot may not represent a club on more than three days out of the whole contest. This seems a particularly good rule, for pilots are many, and sailplanes few, and this rule definitely encourages the small group, possessing perhaps only one machine.

Finally, all launches, without exception, are to be by aero-tow. This is a point of particular interest to the writer, and will be discussed subsequently in the article.

From the points awarded as described above, there were decided :—

(i) The National Soaring Champion.
(ii) The Feminine National Soaring Champion.
(iii) The Championship National Soaring Club.
(iv) The New York State Soaring Champion.

Only U.S.Citizens are eligible for these titles.

There were also various subsidiary prizes, one of the most immediate interest being $100 for the first pilot to reach the Buffalo Municipal Airport, a distance of approximately 110 miles.

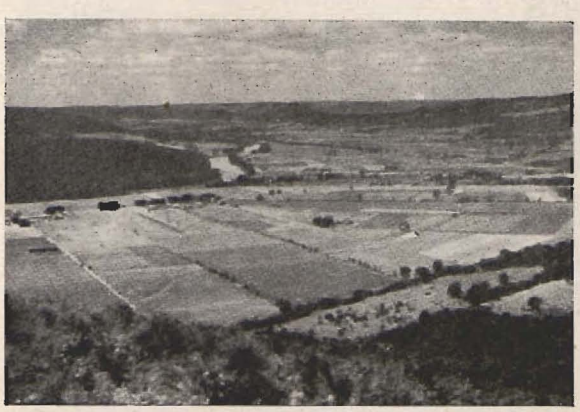
Entrants and Personalities

The competing sailplanes seem to divide themselves into four main categories (this categorisation is purely for descriptive purposes, and nothing to do with the competition). At the head of the list come the two of greatest span : a " Minimoa," owned and flown by Bill Coverdale of Chattanooga, Tennessee and a " Schweizer 1-21 " (one-twenty-one) owned and flown by R. J. Comey, the Secretary of the S.S.A. The " Minimoa " was one bought from Wolf Hirth, and imported into U.S.A. before the war; it was first owned by Philip Brown, of Derby (U.K.), later by Shelley Charles, of Atlanta, Georgia, the present owner of an " Olympia," and who sold it to Coverdale. It is in good condition, and should give a good account of itself. Its pilot, Bill Coverdale, flew with the U.S.A.F. during the war, and is a Silver " C."

The " Schweizer 1-21 " is an all-metal type beautifully constructed, and the fore-runner of the " 1-23," described below. With it, its pilot, Dick Comey (Gold " C ") won the 1947 National Championship, and it was obviously one of the most efficient machines at the meet.

In the second category came a group of sailplanes amongst whom the competition was likely to be intense, and which can certainly equal the performance of the two larger types, and in their own conditions, may beat them. This group consists of the four " 1-23's," flown by E. J. Reeves, Scribner, and Frutchy and Severson. A British " Olympia " flown by Shelley Charles, and the Polish " Orlik " flown by Paul MacReady. This class approximates to the 15-metre " Olympic " class, whose development was in progress when the war began. The " 1-23 " is only just over 13 metres span, and in dimensions and proportions is reminiscent of the " Rhonsperber," but claims a considerably higher performance. It will obviously be at its best in a climate (like Texas) having boisterous thermals, and where high-speed performance is more valuable than minimum sink at lower speed. The " 1-21," and types of greater span may prove more suitable in this more northerly atmosphere, which resembles European conditions. The " Olympia " is familiar to most readers.

The " 1-23 " flown by E. J. Reeves, is brand new, and painted primrose-yellow. It has arm rests and ash-tray, and three variometers, a Cobb-Slater, a Swiss type, reading in metres per second, and resembling a miniaturised German pattern, and a Kollsman. E. J. Reeves is from Dallas, Texas, and President of the Soaring Society of America. He holds his Silver " C " and Gold " C " distance, and in his own words has been near enough to Gold " C " height to stand up in the cockpit and touch it. Scribner is a Pan-American master-pilot, who also specialises in engine-less aerobatics. His " 1-23 " includes special provision for this. Like Shelley Charles, one of Eastern Airlines senior pilots, he should be at his best in instrument conditions. Shelley Charles held the American Altitude record for a time at 19,483 feet, a figure which remained until the " Standing Waves " in Owers Valley provided his competitors with the chance to improve on it. He has been flying since World War 1, is a great soaring enthusiast, and there is no doubt that the Olympia, with its Union Jack painted on the fin, has a top-grade pilot.



Birdseye view of Big Flats from Harris Hill.

The " Orlik " (" Eagle ") is certainly one of the prettiest machines in the contest. It formed a part of the Polish exhibit at the World Fair in New York in 1939, and has been in U.S.A. ever since. Its pilot, Paul MacReady, flew it to win the National Championship in 1948. He holds the International Goal and Out and Return Flight Record, its cockpit is probably the most completely equipped of all, being well instrumented, and with radio and oxygen. His crew consist of his father, and three young gentlemen with beards. They have an air of competency about them that suggests long experience as a well-drilled team.

The third category of entrants consist of a number of " Laister-Kauffman " two-seaters (some flown single-seat). These are nearly all Army surplus, but are air-efficient sailplanes, with characteristics, as nearly as can be judged at the moment, somewhere between a " Grunau II " and an " Mu 13 " heavily loaded. The fuselage is welded metal tube, and the wing straight sided and tapered. Joe Ortner, last year's Argentine National Champion, is flying a " Schweizer T.G.1 " borrowed for the occasion. He has modified it by fitting instruments calibrated in metres, thereby raising the interesting point that many soaring pilots, most meteorologists, and practically all scientists work in the C.G.S. system. The writer believes that a good case could be made for International agreement amongst gliding and soaring folk for use of metric units. Sailplanes require special instruments in any event, and the supply of instruments so calibrated would probably represent the least of the objections to such a plan. Joe Ortner plans to visit England for our own National contests where he will be flying an " Olympia."

The fourth category consists of all those machines not included above. A full list, together with pilots is given herewith.

No description of the contests would be complete without mention of Paul Schweizer, the Contest Manager, his brother, Mr. Wolcott of the Elmira Area Soaring Corporation, Captain Barnaby, U.S.N. a pioneer of gliding in the U.S.A., and all their aides and henchmen who helped organise the meeting. The smoothness with which the meeting got under way spoke volumes for their efficiency, and must represent many weeks and months of hard work in

preparations. Personal observation suggests that Mr. Wolcott, at any rate, may be in possession of the secret of how to dispense with sleep.

First Day, July 2nd

Although the official opening was not until three in the afternoon, competition flying began earlier. The day began, disappointingly with an overcast sky, which did not move off till about midday. When it did, fearing a hazy, but cloudless sky, there was still insufficient heat for any thermals to break through the marked inversion at 8-9,000 feet. Later in the day a few small cumulus developed at this level, but there was still no upward development, and cloud quickly dissipated on mixing with the very dry air above. Below this, thermals were apparently small by usual standard here, and difficult to locate.

In these conditions (remarkably like several days of the 1948 B.A.F.O. Contests) the " Minimoa " and " 1-23 " should have shown up well, and experience of circling in dry thermals were at a premium. First launches began shortly after midday, by aero-tow, limited to 2,000 feet above the site (3,750 feet A.S.L.) and were completed in rather more than an hour.

The competition for the day was set by the Contest Board as Class 1—i.e. distance flights. The results were as follows :

Name	*Aircraft*	*Distance*	*Kms.*	*Points*
		miles		
MacReady	Orlik	140	226	160
Coverdale	Minimoa	95	152	119
			(Goal Flt.)	
Smith		98	156	98
Comey	Schweizer 1-21	93	149	93
Trager	Laister-Kauffman	85	136	85
Compton	Laister-Kauffman	81	130	81
Charles	Olympia	75	120	75
MacHenry		73	117	73
Scribner	Schweizer 1-23	55	88	55
Burr		48	77	48
Reeves		48	77	48
Chestman		32	51	32
Ortner	Schweizer TG-1	29	46.5	29

None others scored points.



Navy " Bearcats " in formation over Harris Hill.

In the afternoon, the official opening took place, which began with some nice formation flying by 32 "Grumman F8F's" ("Bearcat") U.S. Navy Fighters, one of whose formations spelt out "NSC"—National Soaring Contests which provided an effective curtain raiser to the speech by Admiral Price, U.S.N., Vice-Chief of Naval Operations. In his speech, the Admiral, himself a pilot, recalled that many great advances in aeronautical engineering, had first been tried out in gliders, and quoted several, most topical perhaps, rocket propulsion. Subsequently, the gathering, which included a thousand or so paying spectators, were treated to a fine exhibition of aerobatics, by the "Blue Angels," a Navy team flying four "Grumman F8F's." Their show (repeated on Sunday and Monday) was worthy of Hendon in its pre-war days. Their rolls in diamond and echelon formation were particularly good in close station keeping and smoothness in execution.

Second Day, July 3rd

On this day, the Contest Board declared a Class 2 Contest in the form of a set task. The task was an out and return flight with turning point at Cortland (77 kms.) 48 miles N.E. from the site at Elmira. The weather was similar to the previous day, with the same inversion, but although the sun shone earlier, and as strongly as before (ground temperature over 90° F.) the thermals were apparently thinner and sparser. Launching began at 12.30, and continued for about one and a half hours, but although 17 pilots scored points, none completed the task. Best attempt was by E. J. Reeves, President of the S.S.A., flying his new primrose-coloured "Schweizer 1-23." He rounded the turning point and covered 25 of the 48 miles on the return journey, thereby scoring 73 points, the best of the day. Positions at the end of the day were as follows :—Maximum points for completion of the task would have been 120.

Name	*Aircraft*	*Points for day (2nd)*	*Total to Date*
MacReady	Orlik	48	208
Coverdale	Minimoa	49	168
Smith		49	147
Compton	Laister-Kauffman	55	136
Comey	1-21	32	125
Reeves	1-23	73 (Best score for 2nd Jul.)	121
MacHenry		40	113
Charles	Olympia	34	109
Scribner	1-23	32	87
Trager	Laister-Kauffman	—	85
Ortner	Schweizer TG1	26	55
Burr		—	48
Frutchey	1-23	47	47
Christman		—	32
Tietzel		22	22
Sweet		32	32
Johnson		27	27

It will be observed that four more pilots have begun to score ; three failed to score for these points, and that both Reeves and Compton have come up several places.

Third Day, 4th July

This day broke brighter and clearer than any of the others. But by 10.30 hours (local time) altocumulus, and fragments of cumulo-castellatus in the north and north-west indicated changes in the upper air. Examination of the charts showed the inversion lid at 8-9,000 feet (A.S.L.) to be almost gone, and with colder air spreading from the north and east, potential instability up to great heights. As the ground temperature increased and passed "boiling point" the growth of cumulus was amazingly rapid. By 11.30 the sky was 5/10 filled with Golden "C"-looking cumulus. By 12.00 hours, the site was enveloped in a heavy thunderstorm and blinding rain.

Meanwhile, the Set Task for the day had been decided as Class 3, a speed flight to "Tri-City" Airport. This is 41½ miles (66.5 kms.) east of Elmira. Combined with a Class 2 Goal Flight to the same place ; thus a successful arrival at the Goal would score marks both for a goal flight *and* marks for speed.

Launching began at 11.45. By 12.00 hours five aircraft were airborne, two of which landed shortly afterwards in the Valley. The remaining three, all "Laister-Kauffmans," flown by Compton, Trager and Bickle, made what appeared to be the leading edge of a line of thunderstorms to the Goal. None reached great heights, and all reported flying for long periods at a time as though going along a ridge. Although not shown as a cold front on any chart (a plotted cold front being many miles to the N.E.) the storms certainly introduced a mass of cold air at low level. The airport at the goal recorded a drop in air temperature at ground level from 93° F. before the storm to 71° F. after it passed. A quick rise followed, however, and Elmira soon reached 93° F. again, sufficient to trigger off another outburst of storms.

Other than these three, no flights of note were made, and the position at the end of the day was as follows :—

Name	*Aircraft*	*Points for Day*	*Total Points*
Compton	Laister-Kauffman	97	233
MacReady	Orlik	—	208
Trager	Laister-Kauffman	100	185
Coverdale	Minimoa	—	168
Smith	Lawrence	—	—
Comey	1-21	—	—
Reeves	1-23	—	—
MacHenry	Laister-Kauffman	—	—
Charles	Olympia	—	109
Bickle	Laister-Kauffman	—	108

Remainder as before.

Bickle's speed from take-off to crossing the centre of the airfield was 40.5 m.p.h. (65 km.p.h.).

It is not in any way derogatory to the performance of the three scoring pilots, who put up a very good show, to say that had the launching arrangements

permitted a greater number of sailplanes to be launched at the right moment there would have been more good flights on this day. A number of good pilots and aircraft were airborne too late to find anything but subsiding air, and there was nothing they could do about it. This is probably one of the most vital aspects of sailplane contests, and the skill of a pilot in judging when to make his start is something which should be of benefit to him in competition with others. The hardest part of a successful flight is often the first fifteen minutes, and is where skill counts for most. To deny pilots the choice of moment to start is to curtail the use of his skill, and so limit competition. This certainly happened to-day. How to avoid such a difficulty is more difficult, and will be discussed later in this article.

Fourth Day, 5th July

In spite of yesterday's promise of better conditions, there was an inversion at about 8,000 ft. (A.S.L.) again which limited upward development; and with much of the surrounding ground at 2,000 feet, and damp from yesterday's downpour, conditions were poor up to about midday. By midday, however, the town of Elmira had a well-developed and regular system of fifteen minute thermals, each capped by a nice-looking and friendly cumulus. Other thermal sources were also noticeable, and one wondered if the local pilots would be seen circling tightly over their favourite local source. The Contest Board decided upon a Class 1 (i.e. distance) contest, with pilots permitted to name their own goal if they desired.

In the prevailing conditions, the day was probably the best test of piloting skill and sailplane performance so far in the contests, and it was disappointing therefore to observe the comparatively few pilots who showed real skill in finding, and remaining in, active thermals. Several were observed circling half in and half out of what were obviously small but fairly vigorous thermals, having difficulty in centreing themselves; one persistent (but nameless) pilot was watched, who continually widened his circle each time he struck lift, and so promptly flew out of it again. On the other hand a few pilots showed great skill. Each was towed to 2,000 feet in turn over the site, lucky ones were released under an active cloud; unlucky ones found the cloud dissipating, and nothing but sink. The skilful ones quickly found something better, and gave striking confirmation to the conclusion reached yesterday, that ability to get started is one of the greatest tests of soaring skill (except of course where thermals are profuse and abundant) and that a pilot who possesses this skill should benefit accordingly in competition.

The best flight of the day proved to be one of 205 miles (328 kms.) by MacReady to the Atlantic Coast, south of New York, after 6½ hours in the air. This bettered his flight of 140 miles on the first day, and so gave him 260 points to count in his distance (Class 1) flight instead of 160 for the 140 miles. (It will be remembered that each pilot may only count his Best Class 1 flight for points. This restored MacReady to the leading position in the contests with 208 points. It is worth noting that, to improve the performance of the Orlik in the prevailing light airs, he removed both oxygen and radio equipment.

Next best was Coverdale in the "Minimoa," who covered 132 miles, startling the Contest Headquarters by ringing up from the Holy Saviour Cemetery at Bethlehem, where he landed, an address which might have led the unsuspecting to imagine that not only had he established a new world's record, but a cosmic record as well. One wonders whether the F.A.I. would accept claims for records bearing Saint Peter's signature on the barograph chart. Next best was Comey in the "Schweizer 1-21" with 91 miles to Yaleville Airport, but as this did not better his previous Class 1 score, it gave him no extra points; then Ortner with 41 miles—a very creditable effort in his medium performance "TG1" in such weather, and Sweet with 27 miles. No others scored. The situation at the end of the day was, therefore:

	Total Points		*Total Points*		*Total Points*
MacReady	308	Reeves	121	Ortner	67
Compton	233	MacHenry	113	Sweet	57
Coverdale	197	Charles	109	Christman	32
Trager	150	Bickle	108	Tietgel	32
Smith	150	Scribner	87	Johnson	26
Comey	125				

Fifth Day, 6th July

There was no competition flying this day, the sky being overcast 10 tenths all day, and no thermal activity. Through the kindness of E. J. Reeves, President of the S.S.A., the writer was afforded the opportunity to fly his new "Schweizer 1-23" and found it a most delightful machine, startlingly reminiscent of the "Rhonsperber. (The machine will be described in next month's *Sailplane*.)

Handling qualities are excellent. It stalls gently at 34 m.p.h. (indicated) with warning at about 36 m.p.h. by slight buffeting. On stalling, the nose drops gently, and speed is quickly regained without appreciable loss of height. Aileron control is effective beyond the stall. Best sailing speed seems to be in the neighbourhood of 40 m.p.h., though lower speeds are possible. To the writer, the rudder seems a little too small and "soft," and it is suggested that a small increase in height and chord might improve manoeuvrability; this lack of rudder power is felt when it is desired to turn as quickly as possible, such as when locating very small thermals. For all normal flying it is certainly quite adequate. It is, apart from this one criticism, a most attractive sailplane, and a delight to fly, and the writer wishes to express his appreciation to Mr. E. J. Reeves, the owner, for permitting him to fly it.

Sixth Day, 7th July

The weather on this day was a great improvement. The cooler air from the north which was potentially unstable up to about 6,000 feet (A.S.L.), and after the higher overcast had dispersed, a hot sun heated the ground up fast enough to give a fair profusion of active thermals up to 6,000 feet. At this height an inversion with dryer air above it limited upward growth, and although the sky between Elmira and Lake Ontario was fairly dotted with schafwolken, there were none which grew to large size. Total coverage amounted to 3/10's at most, so that, with

a fair easterly wind, heating was continuous and thermal development uninterrupted.

In these conditions, the Contest Board chose a Class 2 flight for the day's Contest, in the form of a Goal Flight to Buffalo—distant 110 miles. Added interest was given by the $100 prize awaiting the first pilot to land there from Elmira. This proved to be Dick Comey flying the " Schweizer 1-21." His average speed was 28.3 m.p.h. (46 km.p.h.). Dick Comey is the efficient and hard-working Secretary of the S.S.A., and it was a real pleasure to all members of the S.S.A. (including the writer) to see him " in the money." Second, arrived Paul MacReady in the " Orlik," and eight minutes after Comey, having averaged 27.5 m.p.h. (44 km.p.h.) and third Coverdale in the " Minimoa." His average was 18.8 m.p.h. (31.5 km.p.h.). These pilots all added 144 points to their scores. Other flights which scored for distance covered only were Ortner and Burr, 85 miles each, Bickle 83½ miles, McHenry 80 miles and Charles 72 miles. Compton had the disappointment of getting within four miles of his goal before having to land; he covered 106 miles. There were various other flights of shorter duration.

Positions at the end of the day were therefore as follows :—

Name	*Aircraft*	*Total Points*
1. MacReady	Orlik	452
2. Compton ..	Laister-Kauffman	342
3. Coverdale ..	Minimoa	341
4. Comey ..	Schweizer 1-21	269
5. Smith ..	Lawrence	249
6. Reeves ..	Schweizer 1-23	214
7. McHenry ..		209
8. Bickle ..		192
9. Trager ..	who had to return home on this day	185
10. Charles ..	Olympia	182
11. Ortner ..	Schweizer TG2	152
12. Burr ..		138
13. Johnson ..		127
14. Sweet ..		121
15. Scribner ..		119
16. Miller ..		53
17. Frutchey ..		44
18. Darling ..		42
20. Klitgord ..		37
21. Christman ..		32
22. Tietzel ..		32

Seventh Day, 8th July

This day was very similar to 7th July in weather conditions. Thermals were a little more active, perhaps, but this was countered by a rather more marked inversion as the " high " developed, and subsidence increased. The Board declared for a Class 1 Contest (i.e. pilots do what they choose).

Longest flight of the day turned out to be by MacReady in the " Orlik," with 185 miles to a point near Ogdensbury (N.Y.). As this did not better his previous distance flight of 205 miles, it gives him no additional points. Next was Dick Comey, who with a flight of 168 miles to Greenbush Airport, near Albany, goes into second place in the contest with a total of 378 points. Coverdale in the " Minimoa " went 149 miles to Duanesburg, giving him third place with 367 points. Compton did 88 miles, and now occupies fourth place with 349 points. Compton, incidentally, like Shelley Charles and Scribner, is an airline pilot and flies for Eastern Air Lines. His wife does his retrieving for him, and both are very active members of the S.S.A. Fifth place with 331 points is retained by Smith in the " Lawrence," with a Goal Flight to Fort Paus, N.Y. The " Lawrence " sailplane is a " one-off " job with a very pretty wing, shaped almost like a small " Kranich." The fuselage is welded steel tube, stringer and fabric covered, and the whole beautifully finished in bright blue. The effect is spoilt by a distinctly " Avro 504 "-pattern tail unit. Of particular interest is the very neat and workmanlike instrument panel, consisting of a sheet of perspex, to which instruments are attached in the normal manner. Smith was the National Champion in 1933. Sixth place is occupied by E. J. Reeves, who did 96 miles to Oswego (in Lake Toronto) in his " 1-23." Ortner rises to seventh place with a truly magnificent flight of 110 miles to Rickland Airport near Syracuse. As he nominated this as a goal he gets 25 per cent. additional points. It will be recollected that he was flying the " Schweizer TG2," a rather solid 2-seater built to Air Force wartime specifications for training, and which makes no pretence to high performance in a competition sense; his flight to-day, therefore, is probably the most meritorious of the day and deserves special praise. If he handles the " Olympia " at Camp Hill with equal skill, he will prove a formidable competitor.

McHenry, in his " Laister-Kauffman," completed a goal flight of 95 miles and now holds eighth place. Burr with 109 miles, also a goal flight, lies ninth, and Charles holds tenth place, with a total of 182 points. Positions at the end of the day are therefore as follows :—

Name	*Aircraft*	*Points*
1. MacReady ..	Orlik	452
2. Comey ..	1-21	378
3. Coverdale ..	Minimoa	367
4. Compton ..	Laister-Kauffman	349
5. Smith ..	Lawrence	331
6. Reeves ..	1-23	266
7. Ortner ..	TG2	255
8. McHenry ..		254
9. Burr ..		233
10. Charles ..		182

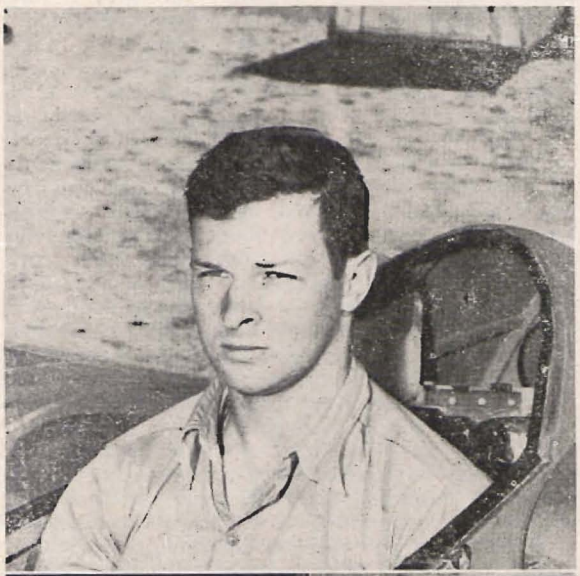
It is interesting to note that in the first seven places are seven different types of aircraft, one Polish, one German, and the remainder American, and the first five places are all held by types of different manufacture.

On the eighth day, 9th July, there was no competition flying due to unsuitable conditions.

Ninth and Last Day, July 10th

The ninth and last day of the Contests was a good day, within the limits set by an inversion at about 7,000 ft. (A.S.L.), conditions which had prevailed throughout a larger part of the Contests. By midday

there was a fairly active crop of thermals and cumulus, and at one time what appeared to be a definite cloud street developing down-wind from Elmira. In order to ensure that all contestants would be back in time to take part at the Banquet and prize-giving that evening, the event scheduled was a speed dash, over a 42 mile course down-wind. Time was taken from the beginning of the aero-tow to crossing the line, in flight, at the destination, and contestants were cast off their tow at 2,000 feet above Harris Hill. As Harris Hill is 1,750 ft. (A.S.L.), and higher than the destination, and the course of 42 miles was diminished in air mileage by a 10 m.p.h. wind, this speed dash was far more a test of the speed ability of the sailplanes, than the ability of pilots to find thermals and make speedy and effective use of them, in fact one suspects that the " Horten IV," the " Reihe " maybe, and possibly " Weihe," might have completed the course in a straight glide from release, without troubling the pilot to search for lift at all. In the event, the race was won by Scribner flying the little " Schweizer 1-23 " at a speed of 49.8 m.p.h. Second came MacReady in the " Orlik " with 43.3 m.p.h. and third Smith, in the attractive " Lawrence " sailplane, with 44.4 m.p.h.







1. *Paul MacReady, U.S.A. Champion* 1948, 1949.
2. *Former Champions, Dick Comey* 1947, *Stan Smith* 1933, *Emil Leheka* 1937, *Paul MacReady* 1948, 1949.
3. *Winner's Team, Himself, Father, and three others.*

Whilst the competitors were engaged in this speed race, the U.S.A.F. gave a superb demonstration of formation flying over Harris Hill, watched, among others by Mr. Symington, Secretary of the Air Force. The formation consisted of four " F-80C's " (Lockheed " Shooting Stars ") in diamond formation. About 4/10 cloud over the airfield enabled the leader to complete some of these drills, rocket loops for instance, by disappearing on top of the cloud, having begun the loop at airfield level, a piece of showmanship which added much to the performance. Without wishing to draw comparisons with the Navy show which opened the meet, it may be said that this formation too, would have gone down well at Hendon. Perhaps highest praise should go to the man in the box, whose precision and formation keeping was faultless.

This concluded the flying side of the Contests and the final placings are as follows :—

Contest Standings

Name	*Total Points*
1. Paul B. MacReady, San Marino, Cal.	452
2. Richard J. Comey, Weston, Mass.	378
3. W. H. Coverdale, Jr., Chattanooga, Tenn.	367
4. Francis B. Compton, Miami, Fla.	349
5. Stanley W. Smith, Tonawanda, N.Y.	331
6. Richard H. Johnson, Palm Springs, Cal.	271
7. E. J. Reeves, Dallas, Texas	266
8. H. L. McHenry, Sayre, Pa.	257
9. Jose S. Ortner, Buenos Aires, Argentina	255
10. Howard E. Burr, Elmira, N.Y.	233
11. Paul F. Bickle, Dayton, Ohio	192
12. Kempes Trager, Detroit, Mich.	185
13. J. Shelly Charles, Atlanta, Ga.	182
14. William E. Frutchy, Elmira, N.Y.	150
15. Kimball J. Scribner, Flushing, N.Y.	128
16. Floyd J. Sweet, Dayton, Ohio	126
17. Eugene Miller, Miami, Fla.	113
18. Bernard Carris, Big Flats, N.Y.	100
19. F. A. Tietzel, Columbus, Ohio	87
20. Emil Lehecka, Long Island City, N.Y.	79
21. L. M. Holloway, New York City	78
22. W. E. Doherty, Hammondsport, N.Y.	60
23. Dana L. Darling, Greenfield, Mass.	43
24. Howard Klitgord, Rochester, N.Y.	37
25. Ruth Mary Petry, Ithaca, N.Y.	35
26. Roscoe Christman, Trumbauersville, Pa.	32
Contest take-offs	154
Contest miles flown	5,381 miles
Flights from 100 to 200 miles	19
Flights above 200 miles	1

GOAL FLIGHTS

Stanley W. Smith, 129 miles to Fort Plain Airport, N.Y.
Richard J. Comey, 110 miles to Buffalo Municipal Airport.
W. H. Coverdale, Jr., 110 miles to Buffalo Municipal Airport.
Richard H. Johnson, 110 miles to Buffalo Municipal Airport.
Paul B. MacReady, Jr., 110 miles to Buffalo Municipal Airport.
Jose S. Ortner, 110 miles to Richland Airport.
Howard E. Burr, 109 miles to Utica Airport, N.Y.
H. L. McHenry, 94 miles to Syracuse Airport, N.Y.
W. E. Doherty, 48 miles to Cortland Airport, N.Y.
E. P. Miller, 48 miles to Cortland Airport, N.Y.
Paul F. Bickle, 41.5 miles to Tri-Cities Airport.
Francis B. Compton, 41.5 miles to Tri-Cities Airport.
Kempes Trager, 41.5 miles to Tri-Cities Airport.

Paul MacReady is the National Champion for the second year in succession, and there can be no doubt in the minds of all those who observed his handling of the " Orlik," and especially his speed in locating, and efficiency in using thermals, that he thoroughly deserves the honour. In making the award to him at the Banquet, special mention was made, and a special prize given to his ground crew. For those who are contemplating competitive soaring, there is much to learn from MacReady's crew, headed by his father, Dr. MacReady, and MacReady's team made a great contribution to his success; the whole team, pilot, ground crew, and Polish-designed and built " Orlik," are to be congratulated upon their excellent performance. Comey and Coverdale are to be congratulated upon their positions as second and third respectively, followed closely by Compton (Fritz) in fourth place, in his " Laister-Kauffman," a very fine performance indeed, in which his crew chief, Mrs. Compton shares, and for which she was awarded a well-earned prize. Perhaps of all the others Jose Ortner deserves most praise; flying a type never intended for competitive soaring, he attained ninth place by outstanding soaring skill, and it will be seen that, in marks, only sixteen separated the 6th, 7th, 8th and 9th places. We shall look forward to welcoming a really skilled pilot to Camp Hill.

Finally, mention must be made of the superb manner in which the competitions were run and organised, and couple with it one's own thanks for overwhelming kindness and hospitality. In these times where so many things are super, and super-colossal, superlatives are apt to become overworked and meaningless; one hopes that the Schweizer Brothers, Romey Wolcott, Captain (and Mrs.) Barnaby, Miss Jones, Barney Wiggin and E. J. Reeves, to mention only a few, will know how much their hospitality was appreciated, and their work and organisation admired. One looks forward to the possibility of meeting them in England or Sweden in 1950.

IN CONCLUSION

Competition Teams

The main object of attending the Contests at Elmira was to learn. Next year the Americans are hoping to send a team to Sweden, and it is clear that they will be well organised and formidable competitors. MacReady's speed in his four principal flights make the standard he has attained quite clear, and it is important to note that these speeds were set up, not in the rather luxurious Texas thermals, but in conditions approximating fairly closely to North-West Europe. Similarly nobody is likely to have overlooked the part played by MacReady's grand organisation. This is a much more specialised affair than merely a retrieving crew; they do in fact, under what amounts to Dr. MacReady's team management, relieve the pilot of nearly all tasks except flying. In competition flying (six or seven hours daily thermal hunting, varied by instrument flying, can be very tiring), this is vital. This, then, should be Lesson One: the absolute necessity of properly organised teams, and run under first-class management.

Costs in Soaring

Lesson Two is perhaps less tangible, and different people will doubtless draw different conclusions. However, to this observer, the Elmira Contests seem to confirm a trend is soaring towards increased complication, and hence increased cost. We have come a long way, with our aero-towed launches, radio to ground, and blind flying instruments from the earlier gliders, bungy-launched from hill-tops. Nobody will dispute the desirability of such things unless they tend to obscure, or limit the popular side of soaring. We should, perhaps, examine our aims in the gliding and soaring world, and decide whether or not the time has not come to establish " restricted " classes, in the manner long practiced by yachtsmen, with the specific aim of reducing costs, and drawing into the soaring world many young men from our schools and universities, who at present cannot take part.

Aero-Towing

The third point (it cannot be called a lesson, since it is only the writer's opinion) concerns aero-towing. Using aero-tows, it required over 1½ (one and a half) hours to launch the 25 competitors on the eighth day, and one hour and twenty-eight minutes on the second day. On all other days, times were longer. Cost were $3.00 (i.e. fifteen shillings) for each tow to 2,000 feet. Winch-launching in the 1948 B.A.F.O. Contests, to about 2,000 feet (sometimes more) cost approximately 10 cents. (sixpence) a launch. Admittedly the B.A.F.O. conditions are peculiar, and it is difficult to compare them with the conditions at Elmira in 1949. Nevertheless it does seem to this observer, that where cost is important, there is much to be said for the winch. Additionally, such launching ensures nearly exactly equal starts for all competitors, and a given number of winches launch aircraft in quantity faster than the same number of aircraft. Finally, this writer must make what is no doubt a damaging admission and say that after many years behind vibrating engines, he holds firmly to the view that no such device should be allowed off the ground. Soaring, using electric winches, seems to one sphere in which this aesthetically desirable aim can be attained.

PYTHAGORAS.

THE FIRST ALL-AUSTRALIAN GLIDING CONFERENCE

Sunday, June 26th, saw, for the first time, a truly representative gathering of gliding people from every state of the Commonwealth. About forty gliding people met at 10 a.m. at the Hotel Federal, Melbourne, and quietly froze until about 5 p.m. During this period, under the diplomatic chairmanship of Gurth Kimber (Canberra Gliding Club) the piled-up business of the years was dealt with rapidly and harmoniously. Decisions on major points were agreed with unusual unanimity, and because of this the major matter of deciding the policy of the Australian gliding movement towards the proposed regulation of gliding by the D.C.A. was disposed of fairly rapidly.

Despite the complete lack of information as to the proposals which were to be made by Civil at the conference on the morrow, it became evident that those present had a very clear idea of how far they were prepared to go in agreement with regulations covering certain defined matters.

To sum up briefly :—

(*a*) *Pilots' Licenses.*—The meeting expressed united opposition to any regulations in this regard. A suggestion that an oral examination be added to the " C " certificate was accepted.

(*b*) *Airworthiness and maintenance.*—It was decided to press for this matter to be left in the hands of the gliding movement as far as possible.

(*c*) *New Designs, Type Certificates, etc.*—It seemed agreed that some ground was likely to be conceded on these points. The paramount importance of keeping existing machines in the air, and of ensuring that the building of new machines of recognised types should not be hampered, was stressed.

(*d*) *Subsidy.*—It was decided to ask for more.

(*e*) *Radio.*—The technical recommendations of the N.S.W.G.A. were accepted in full.

At this stage, when it was felt that the delegates who would be attending the meeting on the day following were agreed in general as to the feelings of the whole movement, the matter of a properly constituted Federal body was discussed. It was eventually decided that a Federation of State bodies, to be known as THE GLIDING FEDERATION OF AUSTRALIA be set up. Pro tem officers were elected : M. Waghorn as President ; Fred Hoinville as Secretary-Treasurer (both members of the N.S.W.G.A.) ; and two delegates were nominated by each State. For Victoria, Norm Hyde (President of the G.C. of V.) and Bill Iggulden (President of the V.S.A.) were nominated. The committee thus formed is to draft and submit a constitution to the State bodies within five months. A technical committee—consisting of Martin Warner (N.S.W.G.A.), Geoff Richardson (V.S.A.), Norm Hyde (G.C. of V.) and Kevin Sedgeman (S.A.G.A.) was then elected to draw up a scheme covering the administration by the G.F. of A.'s member bodies of a system of maintenance and airworthiness.

Finally, as Merv. Waghorn had to return to Sydney, it was agreed that Gurth Kimber would act as spokesman at the conference with D.C.A.

Whatever price the Australian Gliding movement has to pay in the form of regulation and control of gliding—and on present indications it seems that the price will not be high (it might even be outweighed by the assistance and goodwill which the D.C.A. officers concerned have offered)—probably not too high a price to pay for the formation of the Gliding Federation of Australia. The field of good works for the benefit of gliding, which is open to such a body, is vast, and as a representative body for the whole continent the G.F. of A. should be able to cover a lot of ground. For the formation of the G.F. of A., the D.C.A. is largely responsible. Had the department not called the Melbourne conference it is possible that a long time may have passed before such a body was formed.

The Conference with Civil Aviation, Monday, June 27th

In bright and unseasonable sunshine, the conference with D.C.A. opened at Henty House, Melbourne, at 10 a.m. It would be useless to hide the fact that most of the representatives of the gliding movement present were gloomily prepared for anything. Some, if not all, were resigned to the possibility of a long and difficult fight, in Melbourne and Canberra, to keep gliding going.

With the opening remarks of the Chairman, Mr. Stone, of Civil Aviation, all was changed. It became clear that reasonable discussion on the problems common to both D.C.A. and the gliding movement was to take the place of the departmental bludgeon which some—with suspicions now seen to be unworthy—had expected. Furthermore the prompt announcement that Australian gliding was now represented by the Gliding Federation of Australia immediately reduced the problems facing Civil. It offered them a single body through which they could rapidly contact all gliding people in Australia and a body which was competent and willing to assume responsibility for the safe conduct of gliding.

A team of D.C.A. experts—Messrs. Tuttleby (Pilot licensing), Evans (Air traffic), Langford (Airworthiness, etc.) and Morrison (Subsidy) were present throughout the conference and each took it in turn to deal with matters in his own field. After an outline by each expert of the problems gliding posed in his own field, general discussion took place and in each case Mr. Stone summed up in a very able and pleasing manner—and in most cases proposed a compromise or a simple solution which all were able to find acceptable.

Subject to promulgation the results of the conference indicate that regulations along the following lines will be drafted and submitted to the G.F. of A. for comment :—

(*a*) *Air traffic.*—In general the only restriction on cross-country or other flying will be that Controlled Air Spaces (10 mile wide traffic lanes used by airlines) will only be crossed under Visual Flight rules (i.e. not in cloud). Also Regional Control is to be notified in advance when and where training is to take place and whether cross-country flights are likely to be attempted. Subsidiary regulations will

probably cover procedure by aircraft on aerodromes where gliding is taking place, etc.

(*b*) *Pilot licenses.*—No license will be required by pilots of gliders. As suggested, the oral exam. on rules of the air will be added to the " C " certificate tests, carried out by the clubs.

(*c*) *Airworthiness and Maintenance.*—C's of A., maintenance, daily checkouts, etc., will be administered officially on approved lines (to be worked out by G.F.A.) by people suggested by the G.F.A. and suitable to D.C.A.

(*d*) *New Types, Type Certificates, etc.*—All new designs will be submitted to D.C.A. with full drawings, calculations, etc., for a Type Certificate. Designs now flying, and overseas designs, will be given a type certificate where satisfactory drawings are available (the effect of this will be that no further design formality will be necessary to build identical machines). Other designs, with a history of safe operation now flying, will be given a Certificate of Airworthiness.

(*e*) *Registration.*—Gliders will be registered (no charge) and given identification letters. Registration, renewable annually, will have no relation to C'S of A., and is simply to aid identification and to establish ownership.

These cover briefly the salient points of the conference at Henty House.

Many of the old hands will regret the passing of the good old days when gliding was a carefree and happy free-for-all. While these days have gone, it does seem, that with the help and understanding of our problems which the officers of D.C.A. named above—and others—have offered and shown, that Australian gliding is entering the new era on the best possible terms. It is some consolation to us to feel that from now on, the chances will be more than ever against such happenings as the few, but harrowing, accidents of the past.

SOARING NEWS FROM FRANCE

8th May

Garland gets his complete Golden " C " badge with a 198-miles flight from the Pont Saint Vincent Centre to Roanne.

10th May

Orbillot soars from Troyes to Barbézieux (Charente) 260 miles.

Jean-Pierre Weiss, 18 years old, becomes the youngest Golden " C " holder by flying 304 miles in a " Nord 2000 Olympia " from Pont Saint Vincent. Weiss began to soar a year ago, and during this short period he succeeded in getting the " A," " B," " C," Silver and Golden " C " badges. When I met him at the Saint Auban Centre, he had only the Silver " C " with 50 hours of flight.

Young Menjuc, 20 years old, gets also his complete Golden " C " in a " Weihe " with 226 miles from Pont Saint Vincent.

7th-15th May

Regional Soaring competition at Romanin les Alpilles with the Aéro-Clubs of Marseilles, Aix, Marignane; Montpellier, Millau, Avignon and Orange. The Mistral wind blew during five consecutive days, and sensational altitude flights were recorded in the Provence standing waves. Young Jean Guige attained the 17,000 feet level in an " Emouchet " training machine. Eight other 10,000 feet gains were performed, and Galtier got the three legs of the Silver " C " and the altitude leg of the Golden " C " in 24 hours.

13th May

Roger Eynard earned his Golden " C " badge by going from Troyes to Mortagne sur Gironde—248 miles, in a " Nord 2000 Olympia." I think that no previous year saw so many Golden " C's " accomplished.

22nd May

Max Gasnier, General Inspector of French Soaring, in an " Air 100," broke the French goal-with-return record, with 142 miles on the Beynes-Montargis track.

31st May-6th June

Regional Soaring competitions at Corbas, gathering 14 sailplanes (1 " Weihe," 3 " Olympias," 3 " Castel 310," 2 " Emouchets," and 5 " Babies "). The weather was very bad with low soaring ceilings. I shall remember for a long time a 30-miles flight at 400 feet. Brézun reached the best altitude—a 8,200 feet gain in a big cumulus. Best distance in straight line was 60 miles, but the most interesting competition was a 30-miles distance flight in circuit. Youngest competitor was Mademoiselle Nicole de Montal, 15 years old, having already flown 6 hours 40 minutes at the Cessieu airfield, the local record. One of her sisters is also a good sailplane pilot, and their father has his " B " badge ; what a family.

Results were the following :

1st. Brézun (Rhône Aéro-Club) in a " Weihe."
2nd. Marty (Tour du Pin Aéro-Club) in an " Olympia."
3rd. Boyer (Valence Aéro-Club) in a " Castel 310."
4th. Lizère (Dauphiné Aéro-Club) in a " Castel 310."
5th. Dupeley (Dauphiné Aéro-Club) in an " Olympia."
6th. Borgé (Rhône Aéro-Club) in a " Castel 310."
7th. Brunaud (Lyons Aéro-Club) in a " Nord 1300 Baby."
8th. Davoust (Lyons Aéro-Club) in an " Emouchet."
9th. Mourier (Rhône Aéro-Club) in an " Olympia."
10th. Auplat (Lyons Aéro-Club) in an " Emouchet."
11th. Borie (Annonay Aéro-Club) in a " Nord 1300."
12th. Miss de Montal (Tour du Pin Aéro-Club) in a " Nord 1300."
13th. Durand (Villefranche Aéro-Club) in a " Nord 1300."
14th. Cartaillet (Valence Aéro-Club) in a " Nord 1300."

In the team competition, the Rhône Aéro-Club (Brézun, Mourier and Borgé) takes the first place. During the contest, 1100 miles were flown, with 40 cross country landings, and without one breakage.

PETRIFYING THE PENGUINS

THE recent soaring meet at the Torrey Pines gliderport was not outstanding from a soaring performance standpoint, but everyone had a good time and all the pilots enjoyed the smooth slope soaring from winch tow. At one time there were 14 sailplanes soaring together, giving the photographers a field day. Several of the ships " posed " just off the edge of the cliff, 300 feet above the water, in various attitudes other than straight and level.

The altitude of the ships varied above the cliff's edge from 100 to 400 feet when suddenly there was a lull in the wind. The heavier ships and the more cautious pilots landed one after the other as everyone lost altitude.

Many of the pilots who had over 2½ hours duration strove desperately to avoid landing, for everyone was competing for first place in duration. Among the last six ships remaining in the air there was a real contest to stay up the longest, and still land on the gliderport on top of the cliff. A beach landing was disqualifying. Milton Kuntz—" TG3," Bob Fronius—" Robin," and Dick Johnson—" TG2," all slipped below the edge of the cliff, hoping vainly for the wind to pick up again. John Robinson—" Zanonia," Paul MacCready—" Orlik," and Harold Huber—" Senior Albatross," were all hanging on just above the cliff.

Kuntz landed on the beach first. Then Fronius and Johnson did likewise, after flying at half mast on the cliff for some time. Robinson dropped a little below the edge, and then slipped in over the top to make the field after all. Seconds later the wind blew stronger. MacCready and Huber, with ships of lightest wing loading, remained aloft to battle it out for first and second place duration, after again reaching comfortable altitude. (Comfortable means above 100 ft.). Soon all the ships were being launched to soar again as the wind remained steady. Thermals were too weak for cross-country. Robinson was the only one who decided to attempt it on Saturday. Let's go along and see what happens :

" After losing out on duration, I competed in aerobatics from airplane tow, and then elected to go cross-country, via the slope wind, from winch tow. For many years before the war, soaring pilots had talked about trying to slope soar north along the cliffs from Torrey Pines, going as far as possible, but no one had ever tried it.

" There are several qualifications for such an enterprise : 1. Low tide, giving the pilot a wide beach on which to land. 2. Sufficient slope wind out of the SW. 3. A crew for retrieving. 4. A ' do it now ' incentive.

" All the above conditions existed on Saturday afternoon, Feb. 26th, 1949. A winch tow about 4 p.m. netted about 600 feet altitude, which I increased a little over the high cliffs as I started north. Altitude above the beach was 1,050 feet.

" The first break in the cliffs at Torrey Pines wasn't too noticeable, but the next gap north of Del Mar let me down to about 300 feet. The slope wind would maintain my altitude over the cliffs, but normal sink developed while gliding along the beach in the gaps where there were no cliffs. I was letting down in steps between succeeding rows of cliffs, without ever regaining any lost altitude. The cliffs became progressively lower. So did I.

" Leaving Solana Beach I was only 50 feet above the edge, and the cliffs are less than 100 feet. I stretched the glide past GEORGE's place in what I considered a hopeless attempt to reach the next bluff, which couldn't have been more than 40 or 50 feet high. Most of the time there was a good beach below. When I reached the bluff, the lift area of the slope wind was so narrow I could feel it only on my right wing. It was sustaining, however, and I gained perhaps 20 or 30 feet while passing cars on the highway, bound in the opposite direction. Some of the drivers looked worried ; some stopped and climbed out. A police car nearly left the road while the officer driving looked back after passing under me.

" Over a cove where several seagulls were soaring, I managed a couple of figure 8's, and eked out a gain of 40 feet. (This sounds silly when talking about cross-country gliding where altitude gains are usually measured in terms of thousands). However, this bit of gain made the continuance of the flight possible. I passed Encinitas so low I felt I was intruding on the privacy of many homes with swimming pools.

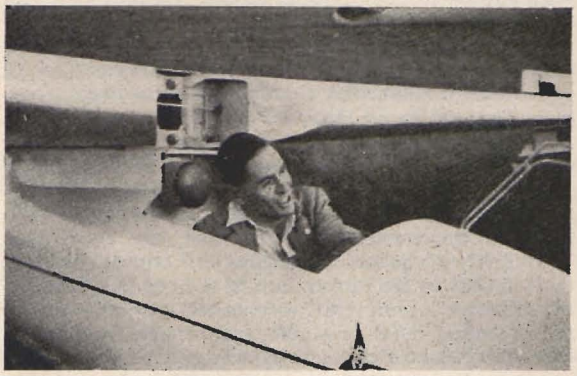
" It was an amazing feeling to soar silently mile after mile, less than 100 feet above the beach. Soon it was only 50 feet, but I continued, expecting to land at any moment. Scanning the beach for obstructions to be avoided now required constant attention. Rocks I thought could be avoided by steering with the rudder, but fishermen standing with their poles presented a much greater problem. They might move at the wrong moment. Several did not even see me as I passed silently 50 feet over their heads. Many had left poles unattended—a good way to get a nasty hole in the leading edge of a wing.

" South of Oceanside even the 20 to 30 foot cliffs flatten out into the sand, and I knew that I must land. A southbound car on the highway ahead stopped. Several figures, waving wildly, jumped out. As they passed below me, I recognized Mia Klemperer and her daughter. Since 10 feet was hardly enough altitude, I slid to a stop on a very clear section of beach below the cliffs. It certainly was convenient to have as reliable a landing witness as Mia. Since the Klemperers were contest-bound, I rode back with them to contact John Olley who was with my car and trailer.

" This flight, which required 22 minutes to cover 21.3 miles, is not much for comparison with thermal flights. But it will always be outstanding in my memory for the extremely low altitude at which it was accomplished, even though I don't believe that I care to recommend such procedure. Because of a lack of usable thermals the following day, this flight turned out to be the longest distance of the meet."—(from *The Thermal*, South California Soaring Association).

LULSGATE LENDS LIFT

Date. 3rd July, 1949.
Site. Lulsgate Airfield.
W/V. SW/10 m.p.h.
Sailplane. " Olympia."



Rex Young

I WAS launched on this flight after hurriedly signing a goal-flight declaration marked " Staverton " at the request of our C.F.I. Maurice Chantrill ; but on becoming airborne I decided that to go away without any prepared flight-plan was not good airmanship, and that to have a crack at beating my previous year's thermal duration flight of 5 hours 10 minutes would be a better objective.

I was fortunate in striking the first thermal right off the top of a 1,000-feet winch-launch, and while circling in this I settled simple flight details as follows :

(a) To remain airborne as long as possible ;
(b) To remain below cloud-base and NOT to enter cloud ;
(c) To increase my flying range to anywhere within landing-range of the airfield, dependent upon height at any given time ;
(d) To check loss of height against distance covered when flying back to Lulsgate against the wind, and thus secure useful " gen " for future upwind flying.

With these simple rules there were no complicated worries, and I could set about making the most of all thermals available.

The first climb took us to 3,200 feet under clear blue sky in which Cliff Dorman was already circling the club " Olympia " on a local flight during which he only just missed gaining Silver " C " height before landing, and as there was little or no cloud within range, we then turned back towards the airfield and flew straight upwind, watching the red ball for any favourable variation in the rate of sink which would indicate the adjacency of another thermal. In this glide a sink-rate of nearly 10 f.p.s. necessitated an air speed of 55/60 m.p.h. to get back well upwind of Lulsgate with all possible height in hand, but the result was encouraging, as we got back very quickly over an upwind distance of about 4 miles, and still had 1,600 feet in hand when we struck the next thermal.

At upwards of 5 f.p.s. we climbed again, and lift did not fall off (nor we fall out of it ;) until at about 3,800 feet, again with clear sky overhead and no cloud in the near vicinity. We turned back upwind, and being still without cloud indication within useful range, again watched the variometer for any signs of red ball weakness. Upwind distance 3 miles ; loss of height 1,200 feet.

Lift was then re-entered, but I had difficulty in finding the centre, and fiddled about for some while before leaving it in search of something better. A subsequent climb was not much cleaner, so the T-&-B was switched on and an effort made to polish up my circles to the comforting little hum of its gyro. This worked, and soon we settled down again.

By now it was evident that despite the large area of clear blue sky and very scattered small clouds, lift of good strength was available on search, and during the next climb it was fun to watch Keith Turner circle his " Mayflower " in an adjacent thermal and then set off on his goal-flight for Staverton, 44 miles away, which he successfully accomplished some two hours later. At this juncture I was very tempted to endeavour to follow Keith's lead on the journey, but managed to re-concentrate on my own objective and continue with the local cruising.

A little later the proceedings were enlivened by the welcome appearance of Tony Heron in the Club " Olympia," circling heartily close by. But watching the green ball and another sailplane at the same time soon weighed rather heavily upon my powers of concentration, and I turned away, while Tony, as I heard later, whistled up at a rate of knots in circles skilfully flown, and secured his Silver " C " Height with a splendid climb of more than 4,000 feet.

Our next thermal was encountered before getting back over the airfield, and in this the rate of lift seemed stronger and more turbulent than hitherto. The green ball showed 5/10 f.p.s. for the larger part of the climb, and on looking upwards during our circling I saw a small growing cloud above. We reached cloudbase at 5,200 feet, and by this time were quite a way downwind of the site, so turned once more towards Lulsgate and flew back—again through patches of 10 f.p.s. sink at 55 m.p.h.—yet reaching the airfield still with some 2,000 feet in hand. " Bluebird's " upwind penetration was standing the test with flying colours ; upwind distance nearly 8 miles—height-loss 3,200 feet.

Between 3 p.m. and 4 p.m. conditions were very good, and we descended only once below 1,800 feet before finding fresh upcurrents. In several of the climbs during this period I was able to let " Bluebird," trimmed to fly at 42 m.p.h. indicated, complete her turns at about 24 seconds per circle without touching the stick apart from very light corrections from time to time. Her stability was very reassuring, and flying in this way was a pleasurable relaxation.

During the third hour's flying we again reached cloudbase at 5,400 feet. It had risen appreciably since the start of the flight, and I knew that ground temperature must have been rocketing up since the

early afternoon. This was duly confirmed by the number of completely shirtless figures seen on the airfield during a visit back over the site, though I was quite cool in the cockpit.

Between the fourth and fifth hour some time was spent in planning how best to prolong the latter stages of the flight and thus ensure raising the Club record, and it was decided that the best chances lay in endeavouring to do another climb right up to cloud base as late as possible, and then using the final descent in as leisurely and protracted a way as conditions allowed.

At 17.40, five hours after take-off, this plan was under way and we were climbing up towards a welcome cloud that was approaching from the direction of Cheddar reservoir. The lift varied between 3/5 f.p.s. in the early stages, but during the climb it diminished with increasing height. The cloud was thus obviously on the wane, but we struggled up towards its dissolving contours while concentrating fairly hard on the indications of the vario, and were eventually rewarded with a reading of 5,200 feet on the altimeter just as the last remnants of the cloud decided to take their departure. We likewise departed from the scene as gracefully and thankfully as possible, and used this last descent by flying slowly back to Lulsgate, circling mildly in one or two areas of zero sink on the way down, and landing 5 hours 36 minutes after take-off.

As I had had but a light breakfast that morning and was airborne during lunch and teatime, there was some excuse for the eight cigarette stubs which Cliff Dorman helped me remove from " Bluebird's " cockpit on landing. True they looked forlorn and untidy, but they recorded that 15 thermals were encountered during the flight . . . I had lit one in every alternate climb !

The lessons of the flight were more than worth a very empty stomach. Summarised, I think they can be stated as follows :

1. That thermal Five-hour Duration flights within site range are not difficult of attainment on all days of instability in moderate wind conditions.
2. That distance from the airfield during such flights can be widened to give quite a large cruising area without fear of " landing outside ".
3. That the " Olympia " covers ground splendidly upwind when flown through sink-areas at high cruising speed.
4. That airspeeds should at all times be tied closely to the movements of the red ball between thermals ; in this way much ground can be covered and new lift can easily be found.
5. That flat site devotees who sigh for the hills can find a satisfying compensation by essaying local Duration flights of a thermal nature.
6. That a Dunlopillo seat-cushion will repay its cost on ONE such flight only ! (This latter is quite personal !).

REX YOUNG.

ULTRA LIGHT AIRCRAFT ASSOCIATION

THE THIRD ANNUAL GENERAL MEETING—(*Continued from last month*)

Report of the Chairman of the General Purposes Committee, Mr. Geoffrey Dorman

My main work for U.L.A.A. for the past year has been inducing a number of gentlemen, who were themselves primarily responsible for starting the light aeroplane movement, to become Vice Presidents of the Association. These are : Lord Balfour of Inchrye, who was one of the first to own and fly a " Moth " ; Sir Geoffrey de Havilland whose firm produced the " Moth " ; and Frank Halford who made the first light aeroplane motor out of bits and pieces of scrap motors ; Sir Alan Cobham who pioneered flights to the Continent with the " DH 53 " ultra light and the first " Moth " ; Fred Miles who did so much to build light aeroplanes that were wanted and who still has a very fertile brain and may yet produce the ultra light plane you all want so badly ; and George Bulman who was so many years chief test pilot to Hawker and who flew the early RAE " Hurricane " ultra light, and won a substantial prize with the Hawker " Cygnet " in the 1925 Lympne ultra light contest.

I asked these gentlemen to be our vice-presidents so that their example might inspire you to take off your coats and do some real work in helping to produce the ultra lights of the post-war period, rather than waiting for someone else to do this for you. I hope that more of you will reward their confidence in you by pulling out those fingers and producing something you all can fly.

I know that times are hard ; there is not much money and there is too much frustration of controlled confusion. But difficulties are made to be overcome. Our Vice Presidents overcame difficulties in the early days which seemed then just as impassable as do the difficulties of to-day.

Is the problem which now faces you in producing an ultra light aeroplane, now that you know how to fly, any worse than the problem which faced the Wrights, de Havilland, Halford, Miles, Cobham, Balfour or Bulman ? Show them that the present generation can improvise to fly just as well as they could. I know that they did not have an A.R.B. to contend with. But the Air Ministry, which was then the chief source of frustration, could be just as difficult to get by as are our present sources of frustration. It is up to you to show that the U.L.A.A. is a disciplined body with fruitful ideas. When you have proved yourselves you can expect that the A.R.B. will give you wider latitude but you have to prove to them that you are worth their trust. Let our Vice-Presidents see that you are worth their patronage.

Report of the Chairman, Materials Sub-Committee, Mr. M. O. Imray

Unfortunately, I have been unable to give much time to this important aspect of the work of the Association, because of the more urgent work entailed in the secretaryship, with which I have had to deal. Members will already have heard from the Chairman of the Constructions Sub-Committee some of the difficulties which we have had over J.A.P. engine reconditioning. Consequently, costs have had to be adjusted, and it is feared that the hoped-for allowance of between 33.3 per cent and 25 per cent on the selling price is a trifle optimistic. The selling price to members will therefore be in the region of £60 as against the original hoped for £50. However, this figure still represents a reasonable concession over the full price.

I have been able to put some members in touch with firms who have been able to supply necessary equipment and it is suggested that all constructors—especially Groups—should draw up a list of their anticipated requirements and submit them to the Sub-Committee. This would enable lists to be circulated showing where the necessary materials could be obtained.

The original intention of the Association was to act as a buying agency and pass on to individual purchasers the saving shown by bulk purchase. Because of the fact that so little construction has been undertaken, no doubt because of the lack of approved design, it has been impossible to proceed with this scheme at the present time.

It was hoped that sketches of the U.L.A.A. Badges would be available together with the prices for this meeting. Our suppliers, however, have unfortunately been unable to meet our date line, and the prices will be announced as soon as they are to hand. In addition to the proposed enamel, bronze, silver and gold badges for pilots, there will also be available a badge, without wings, for members who are not as yet qualified to obtain their ultra-light wings.

ANNUAL GENERAL MEETING REPORT

IN the discussion which followed the Committee reports at the Annual General Meeting, questions were asked about maintenance and repair of ultra-lights. Requirements for pilots' licences were also discussed as well as Motor-Tutor Kits of Parts and the availability of the " Zaunkoenig." The reports were then adopted.

The next item on the agenda was the election of the Hon. Secretary and Hon. Treasurer. Mr. Martin offered himself for re-election and in the absence of a candidate for the Secretaryship, Mr. M. O. Imray, the acting Hon. Secretary stated that he was prepared to carry on in the hope that a member with more time at his disposal might eventually offer his services.

In the absence of other nominations Mr. Imray and Mr. Martin were declared elected.

The following sub-committee chairmen were due to retire and offered themselves for re-election :—

Group Captain E. L. Mole, Design Sub-Committee, F/O I. G. Imray, Operations Sub-Committee, Mr. L. E. E. Martin, Finance Sub-Committee. The following co-opted members offered themselves for formal election :—Messrs. C. P. Choularton (Insurance and Registration), R. W. Clegg (Communications), G. Dorman (General Purposes), J. E. Fricker (Public Relations), A. R. Weyl (Research.) In the absence of alternative nominations all were declared either elected or re-elected.

Motion submitted by Mr. W. J. Watkins

" That the U.L.A.A. undertakes the design and construction of a two-seat ultra light aircraft suitable for training and Group construction."

This motion was discussed at length and it was pointed out by Group Captain Mole that it was not part of the Association's function to design and construct but rather to encourage manufacturers and others to undertake such work.

It was further pointed out by the Hon. Secretary that the Association did not have the necessary financial resources to undertake such a task. He felt however, that the spirit of the motion was right and proposed the following amendment :—

" That the U.L.A.A. draw up a design specification for an ultra light two-seat trainer and use every endeavour to get the design undertaken and the prototype produced by a source other than the Association."

The amendment was seconded by Mr. G. A. Chamberlain (Aerotech Club), and accepted by the meeting.

Incorporation of the Association

It was proposed by the Hon. Secretary and seconded by Mr. Harding (Individual Member, Birmingham) :

" That the U.L.A.A. be incorporated as a limited liability company, by the formation of a separate limited company, to be known as ' ULAIR LIMITED ' which would take over all assets and liabilities of the Association and would transact all business on behalf of the Ultra Light Aircraft Association. The directors of such a company will be appointed by, and responsible to, the General Council of the Association."

The motion was carried unanimously.

The Chairman then called upon the President, Mr. P. G. Masefield, to speak.

The President said that it gave him great pleasure to meet those members present, and that although he was very pleased to accept the honour of the Presidency of the Association, he wanted to say straight away that he had not always seen eye to eye with the Committee, especially on the question of solo training;

He continued by reviewing the past year and saying that it had been a very disappointing one from the point of view of getting the industry to produce ultra light aircraft. There had, too, been little official encouragement.

Mr. Masefield looked with horror upon the new flying regulations, especially the requirements for Pilots' Licences, which were mainly due to I.C.A.O. and which were, to say the least of it, unhelpful and quite unrealistic. However the need for 40 hours' flying before obtaining a Private Pilot's Licence would help to put an emphasis on the use of economical ultra light aircraft and brings out the need for both two-seat and single-seat types.

There seemed little prospect of suitable types becoming available until the lack of a suitable engine, a stumbling block that was still before us, was overcome. The President felt that the Zuendapp engine which powered the " Zaunkoenig " would be an excellent power plant if it could be made available.

Referring to the " Zaunkoenig " the President congratulated the Association on obtaining it and remarked on its excellent slow flying qualities. It was in fact the only aircraft from which he had seen a whole over bowled at cricket without changing course !

The President then went on to call for co-operation between all factions of aviation—the broad objective of all should be to encourage the air fairing outlook. One very practical way in which the Association could help was to endeavour to get large industrial and commercial undertakings to support ultra light groups.

Mr. Masefield then stressed the need for great care and watchfulness on the part of all members in respect of safety. It was better to err on the side of safety if one was to err at all, for the whole of the good work of a movement such as the Association, could be undone by accidents due to disregard of safety.

The President concluded by saying that the motto of the Association might well be " The Lord helps those that help themselves " and would the Minister of Civil Aviation please note !

Design Supplement (Contributed by Group Captain E. L. Mole, Chairman, Design Sub-Committee)

" Zundapp Z9-92 " Engine

One of the best U.L.A. engines ever produced is the 51 b.h.p. " Zundapp," which was made in Germany just before the war. This engine was used in various aircraft which broke international records in the 2-litre class. The Association has acquired two examples of the type, one being installed in the " Zaunkoenig " which the writer has flown for several hours. The engine seems to be ideal for our purposes : it is smooth and quiet, simple to maintain and delightfully easy to start. A detachable car-type cranking handle is inserted into the side of the engine, thus avoiding the inconvenience of propeller swinging.

The " Zundapp " is an inverted 4-cylinder in-line air-cooled engine of 1.98 litres capacity, with a compression ratio of 6.2/1. Its design is straightforward and suitable for ease of production. Steel cylinders are used with light alloy heads containing overhead valves, operated by push rods from two camshafts, one on each side of the crankcase. A one-piece crankshaft is used. The dry weight is just under 150 lb. and its rated maximum output is 51 b.h.p. at 2,300 r.p.m.

We have for some time been trying to arrange the manufacture of the engine in this country, and have managed to interest a suitable firm in the project. The firm concerned have collected our spare " Zundapp " for strip and examination, and are now in negotiation with the German manufacturers over production arrangements. We are hopeful that they will soon obtain the financial support required, so that at long last our much-discussed 50 b.h.p. engine will become a reality.

U.L.A. Ground Trainer Project

We have heard from Mr. D. E. Bianchi, Manager of Personal Plane Services of Ashford, Middlesex, that he has been building a ground trainer (to be known as the " Ladybird ") which should be operating by the end of June. He has had previous experience of this type of machine as he built the two Kronfeld trainers before the war.

The " Ladybird " is designed to be as small as possible, and it has a span of only 15 feet. It is intended for use on the ground only, but is controllable about all three axes. It will operate safely up to speeds of 35/40 m.p.h. The prototye is to be powered by a 599 c.c. Harley Davidson twin cylinder motorcycle engine, arranged as a tractor.

Mr. Bianchi considers he could supply complete machines with A.S.I. and twin and bank indicator for just under £100, or even less if the demand is adequate. He is, moreover, prepared to supply pre-fabricated kits of parts in any stage of manufacture, the construction of which will be extremely simple. As soon as the prototype is completed he is anxious for our members to test it, and our Operations Sub-Committee would be glad to hear from everyone interested so that arrangements can be made for its trial.

French U.L.A. Developments

The recent Paris Salon de l'Aeronautique revealed an awakening of interest in France in the ultra-light aircraft movement. The following notes have been extracted from *The Aeroplane* and *Flight* reports on the Salon.

Avions J.D.M. exhibited an interesting single-seat U.L.A. of minute proportions known as " Le Roitelet." This is a low wing monoplane of simple and cheap construction, with a semi-monocoque plywood fuselage, and a single spar, ply-covered wing. The aircraft is powered by a 25 b.h.p. flat twin engine, but a 35 b.h.p. version is contemplated. It weighs only 231 lb. empty, and 450 lb. fully loaded. The " Roitelet " has a span of 19 ft. and a wing area of 66.5 sq. ft. giving a wing loading of 6.8 lb./sq. ft. It is claimed to have a maximum speed of 96 m.p.h. a cruising speed of 87 m.p.h., an initial rate of climb of 590 ft./min. and a range of 230 miles. A preliminary production line of 20 aircraft is said to be in hand, and the price is to be about £500 at the present rate of exchange.

Another exhibit was the Starck " New-Look," a small primary trainer type powered by an inverted twin cylinder in-line Aubier and Dunne 2-stroke engine of 17 b.h.p. arranged as a tractor. This has a remarkably simple welded steel tube fuselage of triangulated construction, with wings fitted at the " mid " position and pylon-wire braced. Ply and fabric covering is used. The ailerons are simply flat plate surfaces, elliptical in shape, mounted externally from below the trailing edge. The cockpit is very " open," the rudder pedals being mounted externally on the undercarriage legs. The " Starck " is the simplest primary trainer design we have yet seen, and we will obtain further details of it should any members be interested.

(*To be continued*)

NEWS FROM THE CLUBS

THE LONDON GLIDING CLUB

Flying Notes for July

We have had such a spate of easterly and north easterly winds that the only flying other than training has been by thermal contact. Many pilots have distinguished themselves. On the 9th, Swinn who was launched in the "Cadet" for his five hours in a N.N.W. wind was flying quite nicely at about 600 feet over the power wires when he decided to go round the Zoo, and of course was compelled to land. At the time transport was difficult, and he was left in the pony paddock for the remainder of his five hours. Later when the transport situation eased we took a winch to the Zoo, and some lucky blighter was launched back to the ridge (a very pleasant novelty). On the 10th, G. H. Lee made a goal flight to Cranfield and almost back, running out of thermals at Hockliffe four miles from home. On the 14th, Louis Leith went to Arlesy, 16 miles, the wind having changed during his flight, he found he was trying to make an up-wind flight in worsening conditions. Frank Allen went away in the "Krajanek" on the 26th, reaching Stansord Rivers 35 miles away, thus completing his Silver "C." Frank is a this year ab-initio having obtained his "A" in January. The same day Ron Dodd flew the Gull IV to Southend Airport, complying with all three requirements of the Silver "C," one of which will have to be done again. He was retrieved by air. Frank Foster also took his "Buzzard" home to do a mod. This was a very good goal flight, having nominated the field at the back of his local pub. at Hedgerley Hill, Farnham, Bucks. On the 10th, Steve flew to Cardington and return, a distance of 36 miles, and on the 23rd to Sywell Aerodrome and return, 64 miles. On the 29th, Arnould did his five hours in a "Tutor." The 30th produced another five-hour duration flight, this time by C. O. Vernon of the Handley Page Gliding Club in their "Buzzard." On the 23rd, G. H. Stephenson, that is to say "Steve," gave us a talk in the club restaurant on cross country flying, and it is felt we all know a lot more about how it is done, the only difficulty we have is demonstrating. Not so with "Steve" on the 30th he gave us another, being launched at 11.50, he flew upwind to Halton, had to resort to hill soaring for half an hour before having sufficient height to make a return flight, then having reached 5,000 feet at Dunstable, did an out and return to Aylesbury. Two out and return flights in one five-hour flight. Certificates for the month: Bilham "A"; Kay, Brooker, Dunbar and Thirsk "A" and "B"; Button and Walker "B"; Buckle and Elliott "B" and "C"; Martin Butcher, Bennett, Goodrum and Veillard "A," "B" and "C"; Ayers, Warner and Miss Battlebury "C"; Allan height; Allen and Dodd height and distance; Vernon and Arnould duration. Cross country flights were made by Lee, Leith, F. Allen, Dodd, Foster and many by G. H. Stephenson, not to mention one by Bennett who slipped over the top of the bowl and landed down wind, down hill, in a small field at the back of "The Rifle Volunteer."

MIDLAND GLIDING CLUB

April to July, 1949

In mid-April twelve members of the Bristol Club came to the Mynd for a nine days' stay, and after a slow start due to unco-operative weather conditions, they packed much activity into the last few days. Easter Monday, 18th April, was a grand day with wind on the hill and lift to 3,500 feet all over the place. The Bristol Club chalked up six "C" flights, and the Midland Club three. Horrell and Adams both recorded Silver "C" height for the Midland Club, whilst Neill in the two-seater, with Batty, our secretary, on one of his comparatively rare visits to the Mynd made a climb to 3,800 feet. Rice flew his own "Olympia" to Wolverhampton. April 19th was almost as good as yesterday, though stratus at 2,000 feet limited the heights achieved. Parry Jones (Bristol) did his Silver "C" duration. On the 25th, Miller did Silver "C" duration in very rough air. On the 30th Holder flew from the winch cable right into a vigorous thermal which carried him to cloud base at 4,500 feet, after which he carried on to 5,000 feet where, after some unseemly evolutions, he thought discretion the better part of valour.

Some good flying from winch launches was had during early May, and Freeman completed his "B" qualifying flights on the 7th, following these by a "C" flight on the 8th. There were some days of flat anticyclonic weather in the middle of the month, and it was not until the 28th that we had another really good day. Charles Wingfield was due to perform in his "Olympia" at a flying display at Wolverhampton, and although Jack Rice had arranged to aero-tow him over he announced that he was going to make this a goal flight. By the time his tug arrived he had already landed at Wolverhampton. On the 29th good cloud streets were seen at intervals, but no one contacted them until Ince reached 3,500 feet in "T21," and later Baker 5,300 feet in cloud in Club "Olympia" at the astonishingly late hour of 19.30.

Saturday, 4th June, sent the Whitsun Camp off to a good start with unstable air and a good hill wind. Fay did a "C" flight in "Tutor," Horrell reached 3,500 feet in "Olympia" in cloud, and Ince was at 3,200 feet at 20.00 hours. On the 5th Wingfield went to 5,100 feet and spent several hours flying round the neighbourhood. On the 7th the cream "Tutor" was unfortunately damaged by spinning down vertically on to the hillside after some very slow flying on an attempted "C" flight, but luckily the pilot was unhurt. The 9th was another good thermal day with variable winds, and Wingfield made an out and return flight to Welsh-

pool in just over one and a half hours, reaching 5,600 feet on the way. On 10th June the Mynd wave was performing, but the first noticeable effect was a cancelling of the hill lift in what was apparently a quite soarable wind. Later it must have shifted a little for wave lift was eventually contacted at the north end of the ridge giving a smooth climb to 2,000 feet with the characteristic increase in temperature and changes of wind speed and direction with height—failing light prevented a proper investigation on this occasion. On the 11th there were still odd lenticulars when Lansdown did his 5 hours in "Petrel." The Cambridge University Club Camp started on 14th June, and their activities included a flight by Edwards to 7,000 feet on the 15th, a flight to Monmouth by Laurie (Surrey) on the 18th, and a flight to Staverton by Wingfield (Midland) and Grantham on the 25th. Wingfield had made a climb of 10,000 feet on 23rd June. On the 26th Ince flew Wingfield's "Olympia" back from Staverton to the Mynd.

In July Wingfield and Sanders both made out and return flights to Knighton on the 4th, then on the 11th Dennett completed his Silver "C" requirements by making a distance flight from Cheltenham to Oxford after an aero-tow, while on the 10th Wingfield had made a goal flight from the Mynd to Lulsgate Bottom. On the 21st Sanders made an out and return flight to Llandinam in Wales, 25 miles each way. On the 23rd in a light northerly wind Ince flew Wingfield's "Olympia" to Wolverhampton, and Holder flew the club "Kite" to Leominster. Our wave was once again apparent in warm sector conditions on 27th and 28th July but was not contacted. Sunday, 31st July, gave a good kick-off to the August camp with a fair day of hill soaring beneath and between low stratus.

THE GLIDING FEDERATION OF AUSTRALIA

The story of the formation of the G.F.A., and of the Australia-wide conference with the Department of Civil Aviation on the subject of control of gliding, has been fully and ably covered elsewhere in this issue. With the fate of New Zealand and South African gliding fresh in our minds, we cannot help realising how fortunate we are in having a D.C.A. which, far from wishing to strangle the game, seemingly hopes to help develop and increase its potentialities. The fact that the gliding movement was welded into an obviously united front played a decisive part in achieving what seems to be a good, workable system of regulations.

That this united movement was prepared to implacably resist any stifling regulations was early made plain to the Departmental spokesmen, with politeness, but certainty. Naturally, we will all feel relieved that no such long and tiring business may be necessary.

A sport which develops so many fine characteristics — ingenuity, courage, sensitivity, fitness of mind and body—is surely one which only the most arrantly introverted officialdom would seek to curb. Because nowadays the trend seems to be away from individualism towards a centralisation of activities in all spheres, it is a good thing that we, who are, by the very nature of our sport, the most obstinately rugged of freethinking individuals, should have formed such a body as the Gliding Federation of Australia. Long may it live.

Winter Work Diary

Work at Berwick is progressing steadily, but a little slowly due to meetings, conferences, wet weather and now the cessation of week-end public transport. However, the work now being done is of a kind which shows immediate results. Seen from the Prince's Highway, the white hangar stands out trimly against the green paddocks and, unhampered by false modesty, we loudly admire it. A recent Saturday night gale, now and then reaching 60/70 m.p.h., roared over a snug, sound building and found no loose iron to make hideous the night with banging and clattering. The latest week-end's work consisted of transporting timber and the sincrete bricks from Glen Iris to the airfield and, next day, running water-piping around the west and south walls, putting in two extra taps at strategic points. The external taps will make radiator-filling an easier job and will be an additional fire-fighting aid, if necessary, which we hope not.

There is plenty to be done; maintenance on aircraft and equipment, painting the roof and interior, many other minor jobs. A knowledgeable type is on duty each week-end to allocate work; Spring is just around the corner for the wattle is blooming and foolish fruit trees are furtively decking themselves with blossom—so keep slogging.

Arthur Hardinge and the "Yellow Witch"—The End of the New Zealand Tour

Our wandering boy has returned at last, looking a little tired, but quite fit and well. The story of the tour neared its completion with the last letter from New Zealand, when Arthur told of demonstration flights at Ruhukia, with a comment that, on the tow from Auckland to Ruhukia, the tug pilot forgot the maximum permissible towing speed and, thinking to give spectators at the Waikato Agricultural Show a thrill, screeched over at 400 feet for three circuits, before continuing on the 'drome five miles away. As Art. and the "Witch" couldn't pull the plug at that altitude over such a place, they had perforce to sit in behind thinking all sorts of things, none of them printable. Next week, Arthur flew for the Piako Aero Club, after saying good-bye to his cousin, Kit Batten, who was returning to Australia, having played a large part in making the tour a success. Kit's cheerfulness and drive carried them over many low spots in the first stages of the tour.

The next show was at Waharoa —"The day came and, with it, a big layer of low cloud. Appearances not very promising but the stuff passed over and away we went, from Morrinsville to Matamata, climbing to cloud base at 4,300 feet, then coming upwind to Waharoa, where the upper wind reached 55 m.p.h. The tow lasted 50 minutes and at times we were just about stationary. I put on two flights, the first tow was to 2,900 feet, the second to 1,800 feet; cloud base was dropping rapidly and conditions were gusty. At 4 p.m. all Ruhukia aircraft were ordered to leave. By this time the base was 500 feet, and it was raining heavily, so off we went. A hard upwind plug to Morrinsville, then round the bend to Hamilton

—the deviation being due to a range of cloud-obscured hills. We arrived back at the airfield with 1,200 feet, the cloud being much higher there. As it was still raining I made short work of the landing, then pulled the Witch apart and put her into the hangar.

At the send-off in the bar, the Waikato Club generously gave me their luck token ; a pig's ear, from a descendant of those liberated by Captain Cook. It was a great honour and I am to paint them a replica of the " Yellow Witch " in return. They are a great crowd. One condition with the pig's ear—it must be placed in a glass case in the V.M.F.G. hangar and if any of the Waikato members visit Berwick and the pig's ear is not on view, there will be a song and dance and a big enquiry! They also said that, if they start having prangs, they'll want their pig's ear back."

Continuing, Arthur told of a race before a storm front showing five distinct anvils. He laconically comments—" We managed to beat it, dodging rainclouds all the way." This was the last flight of the tour. " I think," wrote Arthur, " I've had enough for a while, with several thousand aero-tow miles in hand and 54 hours flying here, making a total of 61 hours in the " Olympia," since test flight day."

The " Olympia " is now on her way home in the *Korimiki*, Arthur having preceded her by air. And so ends the tour of the " Yellow Witch." Its planning took imagination and enterprise, its execution considerable moral courage, acumen on the ground and great skill in the air. Arthur and the " Witch " will long be remembered in New Zealand, not only by the gliding fraternity but—and this is an important point—by the general non-flying public. It is not exaggerating to say that he has made New Zealand soaring conscious ; whether this awareness will be only a temporary state of mind will depend on how long it takes the New Zealanders to fight their way out of the greatest snarl of the knottiest red tape that ever choked enterprise and the wishes of free people. Not only was the " Witch " seen and admired by many thousands of spectators at airshows and exhibitions, her activities written up at great length in the press, but, as she tracked behind her tug-planes over cities and farmlands, rugged volcanic mountains and coastal areas, in air that ranged from stable to extremely turbulent, she was seen and talked about by people throughout the two islands. To the New Zealand glider pilots it must have been a sight producing mixed emotions ; the sheer joy of seeing the lovely " Witch," the real agony of themselves being grounded.

It is with large and loving smiles that we welcome home Arthur and the " Witch."

Greetings

To two newcomers to Australia we extend very hearty greetings. . . .

Steve Kirsten began gliding in Poland when he was fourteen years old. The war interrupted things for Steve rather considerably, but, arriving here from England a few days ago, he looked up Geoff Richardson, who brought him up to Berwick on Saturday. We hope Steve soon is able to pick up his flying where he left off.

Oscar Hegetschweiler arrived here in a " Sokol " monoplane, three months out from Switzerland. As reported in the daily press, the adventures of the " Sokol " duo were many and varied. Oscar's companion was not a motorless man and so skirmishes with the controls took place sometimes when Oscar wanted to investigate clouds, mountain ridges and the like, while his companion emphatically did not. A few hours after arriving in Melbourne, Oscar was at the Roberts' home with as many club members who could be contacted at short notice, happily talking soaring, despite the handicap of a bare three months' knowledge of the English language. Not that this made much difference, for the gestures used in discussing the game seem to be universally similar and universally understood, so that when, in telling us about a Samedan incident, Oscar broke into his own swift language, everyone followed the story quite accurately by virtue of his waving hands and arms and the expressions on his face. It was interesting to learn that Oscar flew, at Samedan, the " Gull IV," now owned by the Sydney Soaring Club. He owns a " Moswey III," and has flown the " Moswey VI." Oscar intends to remain here for a few years and hopes to bring out the "Moswey."

Both Steve and Oscar will certainly enhance the local gliding scene and we are looking forward to seeing them try out our Australian conditions. When they have settled down, we will use a little persuasion to see if they will not contribute something to *Gliding Angle* for our edification.

About " Coogee "

" Coogee " seems to have aroused interest here and there, so let's talk about her. For the benefit of several English enquirers, the word Coogee is an aboriginal one and has two meanings, one of which, for obvious reasons, we prefer to the other . . . " stinking kelp " and " mist rising from water." Having manfully got that off our chest, we will carry on and ignore the ribald laughter. Here is some information kindly supplied by our Honorary Member, Tom Proctor, " Coogee's " designer-builder. A lot of people will be delighted to see Tom popping up again at last, and to hear that he hopes to see us some time. Soon, we hope, Tom. Tom says :

" I don't think I can put on to paper all the pleasure I have derived from reading the reports on " Coogee." It makes me very happy to know that she is serving you so well. . . . My introduction to a sailplane (the " Golden Eagle ") was at Dromana one Sunday. The " Kestrel " was there, too. I made up my mind to continue my flying per sailplane." (Tom had been doing a course for " B " licence, commercial, when war put a stop to his plans.) " You can well imagine the time spent on studying all phases of the sport, etc. At last, in December, 1939, I felt confident enough to begin my designing and stressing. I decided to stick to orthodox methods and simplify the design as much as possible. My weight—190 lb.—was a very big item. This factor caused me considerable thought, as I wanted performance as well as reliability. After deep study of various wing sections, I finally decided on " Gottingen 535," changing to " Clark 74 " at the tips, with a taper. The c.g. had me worried, though. I'm still convinced that the scales I weighed myself on were wrong. I proved

that on the first flight that Ron (Roberts) had in her. I noticed the difference 70 or 80 lb. made. Did Ron, I wonder, notice it, too? However, the final decision gave me these specifications :

" Wingspan—41 ft. Fuselage and Length to Tip of Rudder—19 ft. 2½ ins. Chord—4 ft. Wing Area—151 sq. ft. A.R.11. Stabiliser and Elevator—8 ft. 3 in. Chord—3 ft. Wingloading—3.4 lb. per sq. ft. Which all gave me a gliding angle of 1 in 18, sinking speed 3 f.p.s., stalling speed 28 m.p.h.

" The most important parts of " Coogee " were given generous safety factors, as much as up to 12. There and then followed a steady two years before she was ready for flight tests. These were carried out at Stuart Hill, 170 miles from Melbourne, to which place I had towed her for my holidays. In January, 1941, after 6 short flights, a willy-willy caught the tail as I was coming in to land. Result, broken nose block and torn skid. However, the following week, out she went again with a limited amount of launching cable behind the Ford. That day I had 39 flights, I remember gradually increasing to approx. 600 ft. For the rest of my holidays I burnt a lot of petrol, but, my logbook not being handy I can't quote details. Shortly after that, " Coogee " was with the happy band. Before I finish, I would like to connect Geoff Richardson with the building of " Coogee," I thank him very much for all his valuable advice and assistance during the hibernation period."

Tom's computed figures were close to the mark : in stable air, " Coogee " sinks at an unwavering 3 f.p.s. ; she stalls, perhaps, at a little less than 28 m.p.h. and her gliding angle is not quite as good as that of a " Grunau Baby," which is 1 in 18. It is rather interesting to note that in the period Jan. 1st to May 31st this year, " Coogee's " average time per circuit worked out to 8½ minutes; excepting for five aero-tows, all launches were by winch and, of course, only thermal soaring is possible at Berwick. This is quite a fair performance for a club machine, especially taking into consideration the fact that all but one of the pilots flying her regularly in that period, were having their first crack at thermal soaring. Then, too, " Coogee " is perhaps the only sailplane in existence which has landed on top of a tree and been moved to the ground so little damaged that she could have been flown again immediately. (She wasn't !)

On May 15th, a " Gull IV " was flown in Australia for the first time. The first test flight was made by M. Warner with an aero-tow from F. Hoinville's " Tiger Moth " and M. Waghorn at the controls.



H. Ryan in "Gull IV" for first flight in Australia 15.5.49.

All the remaining members of the Sydney Soaring Club except for Sel. Owen and Keith Collyer who are in New Guinea, then had one flight each in the following order : M. Waghorn, L. Schultz, F. Hoinville, P. Neary, H. Ryan and Doc. Heydon, who insisted on going last, and like all the others was very pleased with the machine. Particularly as he had recently flown Wotherspoon's " Olympia " in Melbourne.

There was a steady 5 to 10 ft. per sec. sink all around so no one was able to stay up for longer than it took to come down from the height of release, which was usually about 3,000 ft.

There was a very rare standing wave condition slightly upwind and high overhead and had it been any other day, but the " Gull's " first we would no doubt have tried to make contact.

I was unable to obtain a good picture of Doc. Heydon in the machine but will do so at the first opportunity.

HARRY RYAN.

Vice-President and Treasurer, N.S.W. Gliding Association Ltd.
President Southern Cross Club.
Hon. Sec. Sydney Soaring Club.

SALISBURY GLIDING CLUB, SALISBURY, S. RHODESIA

This Club, which was founded in the capital city of S. Rhodesia in 1938, has been recreated and is again assuming activities under the chairmanship of Mr. Robert C. Mitchell. The Hon. Secretary, Mr. Hugh Rowland and Hon. Treasurer, Mr. D. R. Lane, can be contacted at Salisbury G.C., c/o Barclays Bank, Salisbury, S. Rhodesia.

The Club, the second in S. Rhodesia, has started activities with a " Kirby Tutor," purchased from the Umtali Gliding Club and with an " SG38 " from the Defence G.C. of The Transvaal, South Africa. The club has obtained a year's lease from the Government of a section of the disused Mount Hampden, ex-R.A.F. Station, and is fortunate in being able to rent a bungalow. Circuits to date indicate great thermal possibilities. The present membership exceeds thirty.

SCOTTISH GLIDING UNION

June was an excellent month at Balado, with a week-end total of launches surpassing the whole month's launches in 1948. The weather was very nearly perfect, and aero-tows and training went on in full swing. Dorothy Lawson and Messrs. Aitken, Brown, Fleming, Fyfe, Harrington, Sproule, Thomson and Whyte (I hope I haven't missed anyone out) converted to the " Tutor." Bill Adamson got his " B " Certificate, and Douglas Fleming his " A " and " B."

Activity on the " Bishop " was limited to ferrying road-metal up the hill. This inaction is chiefly due to the new C. of A. regulations, for the gliders no sooner got their letters painted on than their photographs had to be taken, and now they are waiting to be weighed. This beauty treatment takes time.

On Sunday, 5th June, Norman Manclark soared the " Olympia " in standing wave conditions, in much the same spot as Andrew Thorburn

found them in December two and a half years ago. After casting off from aero-tow at 2,000 feet, the "Olympia" lost height, but found rising air over the "Bishop," and climbed at 3 feet per second to 4,700 feet, in a clear sky.

The "Tiger Moth" developed engine trouble on the last two week-ends in June, which gave an extra fillip to "S.G.38" training, with a winch at each end of the airfield to speed up launches in the wind-free conditions. Weak thermals on 10th July were a joy to the new "Tutor" pilots, who were fascinated by the sight of the green ball dotting up in the variometer; but conditions were not good enough for more than a few slightly extended circuits.

The amalgamation of the S.G.U. and the Loch Leven Flying Club to form a social club has paid immediate dividends in an atmosphere of hard work and co-operation, with a resultant increase of comfort and Club spirit.

CAMBRIDGE UNIVERSITY GLIDING CLUB

On Tuesday, May 31st, J. W. S. Pringle, during a flight lasting several hours soared the "Olympia" to 8,800 feet. He started from Marshall's aerodrome and was seen later a few hundred feet above Bourn, apparently about to land. He then caught another thermal and climbed away again finally landing back at his starting-point.

A few days previously Grantham and Bell (G.J.) in the "Kranich" had made this same 18 miles out-and-return trip from Marshall's to Bourn.

June 1st saw a 34-mile cross-country by Cleminson who flew the "Olympia" to Downham Market. Unfortunately (due to height of release) this was not far enough for Silver "C" distance.

The following day Ward completed his Silver "C" by reaching 6,400 feet in cloud on his first instrument-flying venture.

A few days later Staffurth, too, completed his Silver "C" with a good flight to Southwold (via Ipswich). His height was 6,600 feet (gain 4,600) and distance 65 miles. After 3 hours flying he landed the "Olympia" on the sports field of a girls' school, where he had tea with the headmistress. When he had de-rigged the machine he claims that it was carried off the field by numerous girls and when the trailer party eventually left, it was along an avenue lined with young ladies waving good-bye.

Our summer camp at the Long Mynd with the Midland G.C., began on June 13th, and the following day Edwards climbed 7,000 feet in the "Prefect," partly in cloud. He eventually came down due to the cold, as he was wearing no extra clothing.

During this camp we had several quite remarkable thermal days (good recompense for the complete absence of soaring wind) when there was no difficulty at all in staying up and most of us had flights of an hour or more in the "Olympia" or "Prefect," and Grantham had a 2¼-hour flight in the "Kranich."

On Saturday, June 25th, Head climbed to 5,000 feet in cloud and then Grantham made a 51-mile goal flight to Staverton, the base of the Gloucester G.C. This flight in the "Olympia" lasted 2½ hours. The following day Edwards, in the "Olympia" had an aero-tow launch from Staverton, and spent nearly four hours exploring the local countryside. On Tuesday 28th, Grantham had a similar flight of several hours.

The following day the small party with the "Olympia" returned to Cambridge, the main party having left the Mynd three days earlier after a camp which we all thoroughly enjoyed.

SOUTHDOWN GLIDING CLUB

Figures for the first half of the year were a little better than the target of 1,250 launches. The total came to 1,287 with 126 hours 35 minutes, the results for individual aircraft being:

"S.G.38," 107 slides.
"Cadet," 526 launches, 25 hours 4 minutes.
"Grunau Baby," 190 launches, 36 hours 44 minutes.
"T.21b," 380 launches, 56 hours 43 minutes.
Visiting machines, 84 launches, 8 hours 4 minutes.

The "G.B." would have flown more but for minor crashery, and finally major crashery; by contrast, the most outstanding increase in utilization has been the "Cadet's," which has earned its keep with a healthy margin to spare. During these six months it won the club all of its 10 "A," 4 "B" and 5 "C" certificates. The June ones were 2 "A" for R. Tull and V. Tull, on the 10th, and 3 "C" for Murray, Block and Tullett, on the 25th. Up to the time of writing in July, Miss Lewis, R. and V. Tull, George Schneider, and Gelston have all obtained their "B," and Willbie and three Portsmouth members their "C".

Compared with last year, when for a long time the hangar was the only piece of club equipment that soared (it collapsed twice), 1949 has seen the club surmount most of its difficulties. Thanks to work done at week-ends and on Wednesday evenings, the site looks a little tidier; and labours with a paint brush, prolonged through several seasons of the year, in an effort to make the hangar match the countryside, have left us with five different shades of green on the roof. The main landing area now has a telephone which speeds up operations and saves the C.F.I.'s voice, and the improvement is one that can be recommended to all and sundry.

The one setback has been an affair between the "Grunau" and a barbed wire fence, quite the most execrable piece of flying we have ever seen. As a substitute until the time when we shall have a good soaring single-seater in use again, we have been fortunate in acquiring quickly a couple of "Tutors," of which one has so far flown. Just to prove that these things really work, Chris Hughes went up to 2,600 feet on the morning of July 24th and stayed over the aerodrome for 1 hour 34 minutes in a wind that was 3 m.p.h. south on the south side of the field and 3 m.p.h. north on the north side. Upper air was north.

Tailpiece. July 26th was not much use until 5 o'clock, when a wide area of lift developed across and up the Cuckmere valley and took people to 1,500 feet for the next three hours (very odd!). You could go almost up to Alfriston before turning back. One of our visitors did. Something went wrong on the return, and those who were watching saw a sight they had never seen before. Although barely above the ridge, the pilot was lured on by some circling gulls. Doing a

low turn over the sea followed by an exhilarating approach (" I was flying at 50 only a foot above the waves. . . ."), he did a pretty landing with the skid mark commencing exactly at the water's edge. Meanwhile the " T.21b " and a " Grunau " were soaring more than 1,000 ft. A.S.L. This is the most interesting demonstration of hill lift since Stutchbury threw his hat into the air and saw it come up in front of his nose.

THE MYND ROAD

The poor condition of the Burway, the rocky road leading up the Longmynd, the Shropshire headquarters of the Midland Gliding Club, has been a sore point with sailplane enthusiasts for a considerable time. It has, in fact, been a sore point with many residents in the nearby town of Church Stretton. But things are on the mend.

The condition of the road and the possibility of its being improved was the subject of a long discussion by the local Urban Council at their meeting this week. The matter had been discussed before, and the Council had before them a report from their Highways Committee saying that the Surveyor estimated that the plans of any proposed improvement would take about five weeks to complete to satisfy the requirements of the Ministry of Transport. The Committee had agreed that in view of the expense involved the proposed improvements should not be undertaken.

Several councillors, however, immediately spoke against the decision of the Committee. Councillor E. L. Gibbon, said he had received a letter from Mr. E. C. Hardwicke, President of the Midland Gliding Club stressing the urgent need for repairs to the Burway. Reports had been received of damage to machines.

The Longmynd, said Mr. Hardwicke, was regarded as the finest soaring site in the country, and only the bad condition of the road prevented the holding of national competitions there. He pointed out to the Council that many thousands of pounds would be brought to the district if the road was put in good condition.

Support for Mr. Hardwicke's plea came from several more councillors. The Longmynd, they said, was the Mecca of Gliding, and for many years local people had enjoyed going to the Longmynd. Several would not face it now because of the road's condition. The Gliding Club, it was stated, was a spur which had brought the matter to the notice of the Council. The road was in a disgusting state.

Councillor Lovekin proposed that the matter be discussed by a special meeting of the Council in Committee, and after an amendment had been defeated, the Council went into Committee immediately to discuss the matter. It was afterwards stated that the Council had decided to proceed with the scheme to improve the road.

DERBYSHIRE & LANCASHIRE GLIDING CLUB,
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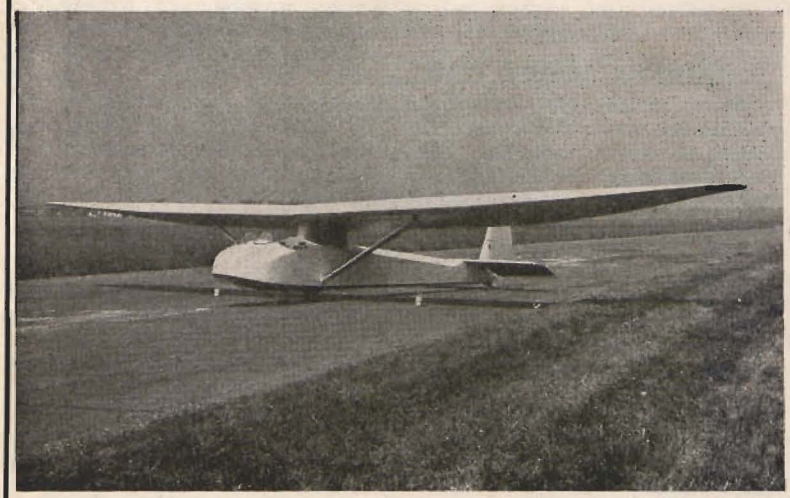
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The Long Mynd, Church Stretton, Shropshire. Telephone: Linley 206.

Full particulars may be obtained from the Secretary, F. G. Batty, F.C.A., 2, Lombard Street West, West Bromwich, Staffs.

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

JUNE, 1949

GLIDING CERTIFICATES: "A" .. 161 (10125—10285 inc.)
"B" .. 63
"C" .. 47
Silver "C" 20
Gold "C"

"B" CERTIFICATES

No.	*Name*	*A.T.C. School or Gliding Club*	*Date Taken*
2374	Jack Ronald Hayward	London G.C.	28. 5.49
2669	David John Manley	141 G.S.	30. 1.49
4004	Gerald Rogerson Thomas	87 G.S.	22. 5.49
4712	Glyn Jones	188 G.S.	12. 6.49
6276	Ronald Joseph Finer	146 G.S.	21. 5.49
7185	William Victor Attwooll	London G.C.	28. 5.49
8325	Reginald William Brownill	24 G.S.	12. 6.49
8474	John Martin	45 G.S.	12. 6.49
8978	Philip Anthony Folwell	R.A.E. Tech. G.C.	20. 3.49
9248	Douglas Stuart Bridson	London G.C.	5. 6.49
9610	Alan James Peters	122 G.S.	12. 6.49
9685	Madeleine Burns	Gloucester G.C.	19. 6.49
9904	Alan Newham Dawson	102 G.S.	28. 5.49
9990	Robert John Bazley Jackson	12 Group G.C.	7. 6.49
10129	Frank Robert Chance	Oerlinghausen G.C.	30. 9.48
10133	Zuzislaw Ludwik Zeyfert	Gloucester G.C.	27. 2.49
10134	Frederic Bedrich Adler	London G.C.	8. 5.49
10135	Douglas George King	104 G.S.	15. 5.49
10141	George Elliot Robertson	Newcastle G.C.	15. 5.49
10142	Robin Lovell Holmes	Surrey G.C.	29. 5.49
10144	Ivan Vesty	Halton Apprentices	28. 5.49
10145	James Thomas McGregor Holmes	203 G.S.	9. 4.49
10155	Ian Dunbar Grey	Oerlinghausen G.C.	24. 6.47
10156	Peter Claude French	102 G.S.	20. 2.49
10157	Leonard Oliver Simpson	A.H.Q., B.A.F.O. G.C.	26. 3.49
10168	John Woodhouse	Fulmar G.C.	21. 5.49
10170	Derek Ian Knight	R.E.F.C. G.C.	28.5.49
10173	Harold Gainsford Dryhurst	Reserve Command G.C.	14. 4.49
10174	Dennis Edward Osland	Oerlinghausen G.C.	3. 2.49
10175	Peter Ashman James	Bristol G.C.	17. 4.49
10176	Edward York Bramble	London G.C.	28. 5.49
10179	Michael Desmond Keith Turner	R.E.F.C.	28. 5.49
10181	Wilfred Cooksey	48 G.S.	21. 5.49
10190	Michael John Smedley	Surrey G.C.	6. 6.49
10196	Gordon David Clark	London G.C.	18. 4.49
10197	Dennis Charles Taylor	London G.C.	1. 6.49
10198	Norman Clement Tucker	Gutersloh G.C.	8. 5.48
10199	Patrick Blythe	Fulmar G.C.	28. 5.49
10200	Jack David Leveridge	141 G.S.	29. 5.49
10201	Alan Thornhill	Fulmar G.C.	28. 5.49
10211	Roy Wilson Gibson	188 G.S.	15. 4.49
10214	Bernard James Decker	Luneburg G.C.	17.10.48
10215	John Frederick Munday Oram	Bristol G.C.	11. 7.48
10226	Francis Robert Ward	Cambridge U.G.C.	15. 5.48
10229	Robin Anthony Brown	Uetersen G.C.	17. 4.49
10230	William Edward Barker	A.H.Q. B.A.F.O. G.C.	7. 8.48
10231	Albert Ronald Mettam	London G.C.	31. 5.49
10232	William Harold Austin	Gutersloh G.C.	12.12.48
10233	Robert Henry Swinn	London G.C.	8. 5.49
10236	Anthony Pragnell	Loudon G.C.	24. 7.48
10242	Preston Fairfax Marsball	Loudon G.C.	8. 5.49
10244	George Heath Hogan	Uetersen G.C.	19. 5.48
10251	Richard William Morgan Davies	44 G.S.	19.12.48
10252	John Aytoun Underwood	R.E.F.C.	28. 5.49
10253	Edmund Christopher Parker	Cambridge U.G.C.	23.11.48
10258	John Augustus Anthony Ireson	London G.C.	29. 5.49
10259	Geoffrey Rolfe Coy	R.N. G. Unit	17. 9.48
10262	Robert Chadwell Dorman	Bristol G.C.	6. 6.49
10263	Jeremy John Miles	Surrey G.C.	1. 4.49
10268	William Howland Ansley	Luneburg G.C.	30.10.48
10270	John Cedric Shepherdson	Bristol G.C.	25. 6.49
10281	Charles Martin Harcourt	R.A.F. Coll. Cranwell	8. 6.49
10283	Kenneth William Foreman	H.Q. B.A.F.O. G.C.	10. 4.49

"C" CERTIFICATES

1742	Bernard Howard Eldon	123 G.S.	29. 5.49
2374	Jack Ronald Hayward	London G.C.	29. 5.49
4646	James Abel	London G.C.	24. 5.49
5436	Gordon Victor Eli House	89 G.S.	1. 5.49
6047	David Langford	London G.C.	8. 5.49
7138	Laurence Bernard Hill	Uetersen G.C.	1. 5.49
7432	Anthony Thomas Jones	Gloucester G.C.	28. 5.49
7795	John Samuel Fay	Midland G.C.	4. 6.49
7803	Roger Dimock Humphry	London G.C.	25. 5.49
8150	Ernest Noel Grantham	London G.C.	28. 5.49
8400	John Harold Parry-Jones	Midland G.C.	18. 4.49
8517	Margaret Joyce Thornley	Imperial Coll. G.C.	25. 5.49
8587	Wilfred Samuel Christopher Smith	Gloucester G.C.	7. 6.49
8722	Frank Kinder	Surrey G.C.	5. 6.49
8890	Nigel Gregory	London G.C.	4. 6.49
8982	Kenneth Cyril Forty	Gloucester G.C.	5. 6.49

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The B  **GLIDING BADGE**

The C  **SOARING BADGE**

Silver C  **and Golden C**

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ROYAL AERO CLUB GLIDING CERTIFICATES—*continued*

"C" CERTIFICATES

9000	Mirian Gilbert	Imperial Coll. G.C.	5. 6.49
9159	Sims William Reeves	Gloucester G.C.	6. 6.49
9169	Frederick Charles Worley	Gloucester G.C.	5. 6.49
9248	Douglas Stuart Bridson	London G.C.	11. 6.49
9325	Robert John Bazley Jackson	12 Group G.C.	21. 5.49
9371	Jean Lennox Bird	Surrey G.C.	25. 5.49
9752	Timothy Paul Digues La Touche	12 Group G.C.	22. 5.49
10129	Frank Robert Chance	Oerlinghausen G.C.	20.10.48
10133	Zdzislaw Ludwik Zeyfert	Gloucester G.C.	17. 4.49
10155	Ian Dunbar Grey	Oerlinghausen G.C.	4. 7.47
10157	Leonard Oliver Simpson	A.H.Q. B.A.F.O. G.C.	24. 4.49
10173	Harold Gainsford Dryhurst	Reserve Command G.C.	18. 4.49
10174	Dennis Edward Osland	Oerlinghausen G.C.	26. 2.49
10175	Peter Ashman James	Bristol G.C.	17. 5.49
10176	Edward York Bramble	London G.C.	4. 6.49
10196	Gordon David Clark	London G.C.	23. 4.49
10197	Dennis Charles Taylor	London G.C.	4. 6.49
10198	Norman Clement Tucker	Gutersloh G.C.	2. 8.48
10214	Bernard James Decker	Luneburg G.C.	2. 4.49
10226	Francis Robert Ward	Cambridge U.G.C.	21. 6.48
10231	Albert Ronald Mettam	London G.C.	4. 6.49
10232	William Harold Austin	Gutersloh G.C.	15. 4.49
10233	Robert Henry Swinn	London G.C.	24. 5.49
10236	Anthony Pragnell	London G.C.	5. 6.49
10242	Preston Fairfax Marshall	London G.C.	29. 5.49
10244	George Heath Hogan	Uetersen G.C.	15. 4.49
10253	Edmund Christopher Parker	Cambridge U.G.C.	17. 3.49
10258	John Augustus Anthony Ireson	London G.C.	4. 6.49
10259	Geoffrey Rolfe Coy	R.N.G. Unit	17. 9.48
10268	William Howland Ansley	Luneburg G.C.	18. 4.49
10283	Kenneth William Foreman	H.Q. B.A.F.O. G.C.	5. 6.49

SILVER "C" CERTIFICATES

No.	*Name*	*Certificate No.*	*Date Gained*
201	H. J. Walker	7066	19. 5.49
202	E. F. P. Mercy	4180	24. 5.49
203	L. O. Simpson	10157	11. 5.49
204	L. W. Sadezky	7463	28. 5.49
205	D. B. James	7089	29. 5.49
206	W. D. Campion	6607	1. 6.49
207	K. J. A. Fripp	2569	29. 5.49
208	M. I. Gee	5354	30. 4.49
209	J. Free	7209	12. 6.49
210	G. Scarborough	6664	5. 6.49
211	P. Bisgood	9858	4. 6.49
212	B. Eppy	2532	27. 5.49
213	C. W. Dowdell	7288	7. 6.49
214	P. A. Lindsell	8013	23. 5.49
215	A. McDonald	7945	6. 6.49
216	F. R. Ward	10226	2. 6.49
217	M. C. Crosfield	1194	6. 6.49
218	F. Smedley	9005	6. 6.49
219	C. Staffurth	8193	5. 6.49
220	H. U. Midwood	4439	11. 6.49

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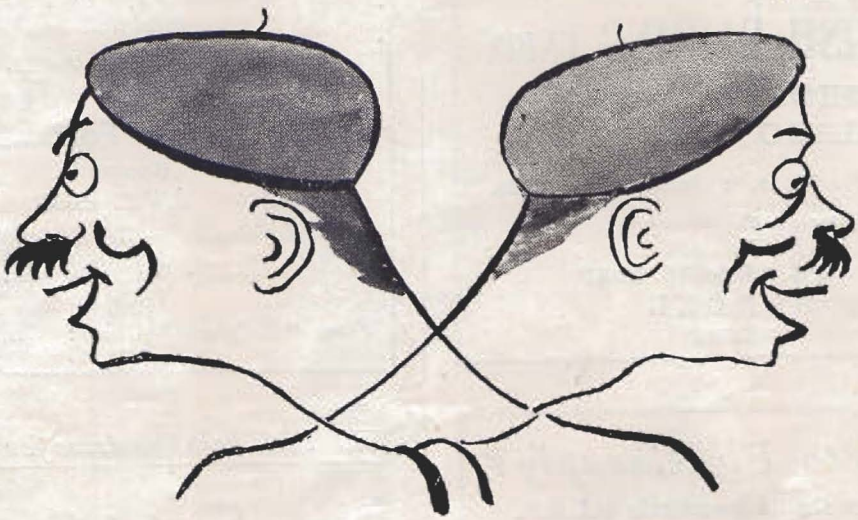
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