Sailplane and GLIDING

2/6

DECEMBER 1957



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SAILPLANE AND GLIDING

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION

Edited by Alan E. Slater, M.A., F.R.Met.S.

Published by The British Gliding Association, 19 Park Lane, London, W.1.

Magazine Committee : Anstace Gladstone, Godfrey Harwood, Walter Kahn, Peggy Mieville, Colin Moore, Veronica Platt, Ann Welch, Philip Wills

Volume VIII, No. 6. Bi-monthly

December 1957

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COVER PHOTOGRAPH.—A buzzard circling at 5,000 ft. under a cumulus cloud, photographed by Philip Wills shortly after leaving Tarrant Rushton during the longest soaring flight yet made over Great Britain (see article "Travelling Hopefully").

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FIN DE SAISON

SO we come to the end of 1957—and what a year it has been! Records have fallen like corn before the sickle. New clubs have formed, existing clubs thrived. The biggest and best Championships. Gold C's and Diamond legs galore. Not the least triumph: one more club permanently established on its own site—the Scottish Gliding Union at Portmoak.

What of our magazine? Have you noticed, dear reader, that the last three issues have been 8 pages larger? It does not look as if we shall be able to afford to continue this for the next two or three issues, but we are working still further to increase our circulation so that by the time next summer arrives we can expand again. On another page are details of a competition for a new Cover Design, which should stimulate even more interest than the one just concluded for the heading to Club and Association News.

In this season of goodwill, we should like to mention a few of the many people who help us to keep in the forefront of the world's gliding magazines.

Charles Brown, with his magnificent photographs, a genius who is ever generous in letting us use his triumphs; Thurstan James of *The Aeroplane*; Ken Owen and Maurice Smith of *Flight*; and Oliver Stewart of *Aeronautics*—we put them in alphabetical order, but all are equally kind in allowing us to use their pictures and gliding articles when we have asked for them.

It is partly because we have friends such as these that we can look to 1958 and beyond for further triumphs. So to them and all our readers



A Merry Christmas and a Happy New Year!

Aerobatic Contest at Dunstable

by Peter Fletcher

OUR First Annual Aerobatic Contest for the Jack Hanks Trophy was held at the London Gliding Club's ground on 22nd September. The weather being kind, the show went off well and we feel a good time was had by all.

The competitors were aero-towed off by our two Tiger Moths and released in the correct position by being waved off by the tug, the pilot of which got his instructions to do this by Aldis light from control. This meant that the judges were ready as each machine commenced his show. While one glider was doing aerobatics, the next contestant was being towed up ready to move on to the release point as soon as the previous pilot reached his "break-off" height of 500 feet and started his approach for the spot landing.

The control on the ground was by walkie-talkie and made things run smoothly, since all the officials there knew exactly what was going on. The public address was very ably handled by Roy Williams who took on the job at very short notice, as Lawrence Wright had gone down with Asian flu. Dick Ruffett, as chief marshal, kept the aero-tows going at a rapid rate, while Archie Erskine, aided by a large number of members, descended on each glider as it finished its landing run and removed it at the double.

We need not discuss the actual aerobatics here, as they are described in the report by the Lockheed Trophy Panel of Judges, which follows this article. They have given their expert views most ably, and we would like to say that we were very honoured to have such a galaxy of aeronautical talent at Dunstable for the contest.

We were also very pleased to see so many of our gliding friends from other clubs present, more especially since one of the main objects behind this one-day event was to make it an At Home for the London Club, and to give everyone something interesting to look at.

At the conclusion of the contest a short programme of flying was put on. Godfrey Lee, our Chairman, dived the Skylark II through the "sound barrier" and streaked across the airfield at considerable velocity while a resounding "boom" was heard! Your scribe released the Prefect at 1,150 feet for height judging, confident that the odd 50 feet would fool them. Not so; two members of the public guessed right, and had free joyrides as prizes. Then John Everitt, our C.F.I., donned a monkey outfit and "escaped" from the Zoo, "borrowed" the Grunau and put on a very good show of crazy flying that looked as horrible as it was actually skilful.

Finally, Mike Reilly, who, with Sue Burgess, both from the British Parachute Club, had come along to do delayed drops, jumped from one of our Tiger Moths at 4,000 feet. He carried out one of the finest



From L. to R.—Dan Smith, who won the competition; Brenda Horsfield, the only woman competitor; and Arthur Doughty, who came third.

(Courtesy "The Aeroplane")



Admiral Sir Caspar John presenting the second prize to David Ince, whose Olympia 403 was stressed for flying upside-down.
(*Courtesy "The Aeroplane"*)

and most stable free falls which the writer has ever seen, and opened his parachute at about 1,000 feet. Unfortunately the wind in the lower layers had rather more south in it than he had calculated, due to the effect of the hill, and he landed on the Clubhouse roof. He made a good touch-down, but in the subsequent roll over he struck his head on the parapet and knocked himself out. Happily no bones were broken, and he was up and about the next day. Meantime, Sue Burgess had taken off to do her drop, but control recalled the Tiger as it was felt that more calculation as to wind effect was necessary for safe live drops at our site.

At the conclusion of the proceedings Admiral Sir Caspar John presented the prizes. Dan Smith won the Jack Hanks Trophy. David Ince was second, while Arthur Doughty was third. Brenda Horsfield won the ladies' prize.

It was estimated that about 2,000 people attended the show which received a good Press and was well covered by British Movietone News.

The Organizing Committee would again like to thank all those people who gave us so much help in running the contest, both within the club and from the outside.

Report of the Judges

THE Judges have the honour to make the following report to the Chairman, The London Gliding Club.

THE WEATHER.—From the point of view of the contest the weather was good but, as cloud cover ranged from overcast to a clear sky and bright sunlight, different competitors had different problems of positioning to solve.

THE ORGANIZATION.—This was efficient, the competitors following one another in regular sequence except for the luncheon break period and for one slight delay in the take-off of the last competitor.

THE RULES.—Because of the cloud base it was decided that the release height should be altered from 750 metres to 600 metres (2,000 ft.) and that the compulsory manoeuvres should be reduced to two, a chandelle and a loop.

THE STANDARDS.—The overall standard of the aerobatic displays was fairly high, and some of the displays gave the judges especial satisfaction by their well-knit sequences and by their variety.

GENERAL COMMENTS.—Differences in the characteristics of the aircraft produced large differences in the manoeuvre potential of

each competitor, a 40% difference not being uncommon. The judges seek to make allowance for such inequalities; but it is never possible completely to divorce the achievements of the pilot from the capabilities of his aircraft. The question of a height differential at release designed to adjust in some measure the performance characteristics of extreme types of aircraft might be worth consideration when the rules for 1958 are being studied.

A previously fixed release position may place some competitors at a disadvantage in the subsequent positioning of their display. The question of giving the competitor a measure of choice might be discussed.

For the sake of the future of this contest the judges attach importance to the minimum height rule for aerobatic manoeuvres. They decided (as stated in the first announcement of results) to make massive mark reductions in the tally of two competitors who had done aerobatics below 150 metres (500 ft.). Because there was no suggestion of danger in these instances the judges were unanimously against disqualification; but competitors should be warned in future contests that disobedience of this minimum height rule, whether it introduces an aspect of danger or not, will be severely dealt with in the marking.

Individual Displays Reviewed

D. S. BRIDSON (Skylark II).—A display which began well and ended well was given by this competitor. The opening compulsory manoeuvres were well executed and the partial aileron turn from the loop was interesting, but there was a decline in variety in the middle of the period. The landing range was 4.04 metres (13 ft. 3 ins.).

A. W. DOUGHTY (Kite II). THIRD IN GENERAL CLASSIFICATION.—This competitor was released in a direction opposite to that for the other competitors; that is, when into wind. He used the characteristics of his aircraft to develop a genuine spin and a full stall. The clouds were dispersing and bright sunlight increased the problems of positioning, but although the aircraft was held a little too far up-wind, these problems were, in general, well surmounted. Landing range 14.17 metres (46 ft. 6 ins.).

F. FOSTER (Skylark II).—After a slow start, this competitor gave a varied and accurate display, with a sequence of two loops with partial aileron turns and useful half-rolls. Unfortunately his positioning brought him too far to the right of the judge's stand after a release almost in front of the stand. Landing range 10.67 metres (35 ft.).

E. J. FURLONG (Skylark III).—Once again positioning tended to mar a good display. This competitor was working in a period of about 6/8 cover and was obscured by the sun at one time and at another was almost immediately above the judge's stand. His landing range was the best recorded during the contest at 46 centimetres (1 ft. 6 ins.).

D. GODDARD (Skylark II).—A promising start was made by this competitor with firmly defined and accurate loops and chandelles, but yet again bad positioning interfered with observation. He seemed to pack into his display a great variety of figures, with effective stalled turns and a well executed half roll; but the judges found it impossible to make a record of his performance because of his positioning. When the sun came out he was between it and the judges' stand. Landing range 8.91 metres (29 ft. 3 ins.).

A. GOUGH (Olympia IIa).—Although the chandelles were inadequately defined, this was a vigorous and effective performance which the judges regretfully found it necessary to mark down for infringement of the minimum aerobatic height rule. Before this deduction, this competitor was placed high in the total markings for scope, continuity, positioning and originality. Landing range 2.79 metres (9 ft. 2 ins.).

BRENDA HORSFIELD (Skylark II).—This competitor displayed a quality highly rated by the judges; that of even-handedness, making the figures first in one sense and then in the other. Two turns of a spin were included. Accuracy was highly marked but the aircraft was brought much too far over the judges' stand. Landing range 23.42 metres (76 ft. 10 ins.).

DAVID INCE (Olympia 403).—SECOND IN GENERAL CLASSIFICATION.—This competitor's position in the general classification is sufficient comment; but it should be added that the inverted flight and the succession of slow rolls were especially appreciated, as was the positioning which brought the aircraft down sun where its movements

could be conveniently studied. Marks were lost because a spin was omitted. Landing range 8.63 metres (28 ft. 4 ins.).

D. L. MARTLEW (Skylark II).—A high degree of accuracy, especially in the looping plane, was noted in this competitor's display; but there was a lack of variety in the overall design of the routine, and the positioning brought the aircraft too much to the south at one part of its competition period. Landing range 18.90 metres (62 ft.).

B. MASTERS (Skylark II).—It was pleasing to be able to note sound positioning throughout this competitor's performance. He also contrived to conserve height without sacrificing the definition and amplitude of the figures. A well performed display. Although the judges regarded the landing range as a relatively small factor in the totality of their decisions, this competitor lost marks for his figure of 45.41 metres (149 ft.).

R. PADGAM (Skylark II).—Released when almost immediately above the judge's stand, this competitor elected to perform most of his figures behind the stand where observation was free from sun glare. A position free from glare could have been found to the front and right of the stand, however. The compulsory figures were well done and the incipient spin was well defined. Landing range 13.05 metres (42 ft. 10 ins.).

R. F. POLLARD (Prefect).—The judges took into account the type of aircraft flown by this competitor; but they nevertheless found that the figures were mostly performed too brusquely. The loop and 90-degree aileron turn were satisfactory. The landing range was 43.7 metres (143 ft. 5 ins.).

A. E. ROWLEY (Prefect).—This competitor wasted no time in going into his routine after release, and after the compulsory manoeuvres he demonstrated a stall with incipient spin and then a roll off the top with subsequently a turn of a spin—the latter almost over the judges' stand. He also demonstrated the merit of even-handedness. Landing range 21.03 metres (69 ft.).

P. A. RIDDOCH (Skylark II).—A high degree of accuracy was demonstrated and the positioning was good at the beginning of the routine. It subsequently declined somewhat, however. Although they did not penalise him for it, the judges felt that this competitor took his aircraft somewhat too close to the main body of spectators. Landing range 14.32 metres (47 ft.).

P. RUSSELL (Skylark II).—Lack of definition prevented this display from achieving a higher marking. It took place during a period of broken cloud with patches of clear sky, and the positioning was satisfactory. Landing range 15.85 metres (52 ft.).

The panel of judges at work. L. to R.—Air Cdre. Allen Wheeler, Jeffrey Quill, Maurice Imray, Geoffrey Tyson, Hubert Broad, "Bill" Bedford, Sqn. Ldr. C. K. Turner-Hughes, Wg. Cdr. H. P. Powell, Maj. Oliver Stewart (chairman).

(Courtesy "The Aeroplane")



D. A. SMITH (Olympia).—FIRST IN GENERAL CLASSIFICATION.—A programme packed with interest from the moment of release, well positioned and accurate. The figures were clearly defined and firmly controlled. This competitor explored the entire aerobatic capabilities of his aircraft. Landing range 2.84 metres (9 ft. 4 ins.).

G. H. STEPHENSON (Skylark III).—This was the second case in which the judges had regretfully to mark down a good performance for infringement of the minimum height rule. Accuracy was high, and the approach and landing were given the highest rating in the contest. Landing range 84 centimetres (2 ft. 9 ins.).

H. R. WATSON (Prefect).—Although admittedly handicapped to some extent by the relatively brief period permitted by the aircraft characteristics, this competitor did not appear to make the fullest use of that time, and he also tended to come too far over the judges' stand. The loops were satisfactory, but the degree of bank in the first chandelle was inadequate. Landing range 11.68 metres (38 ft. 4 ins.).

LORNE WELCH (Skylark II).—This competitor delayed somewhat after release. His compulsory loop was accurate and well positioned, and again towards the end of the routine a loop was performed which was a reminder of what can be done with this common manoeuvre when it is executed with great precision and is clearly defined. A spin was included and again was fully developed. The intervals between one figure and the next tended to be over-long. Landing range 11.58 metres (38 ft.).

Maj. OLIVER STEWART, M.C., A.F.C. (Chairman).
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Air Cmdre. ALLEN H. WHEELER, C.B.E.
Secretary to the Judges: Wg. Cmdr. H. P. POWELL, A.F.C.

ACROSS THE CHANNEL

DURING 1957 there have been four soaring flights across the Channel from England, making eight altogether since the first in 1939. The crossing by Tony Goodhart, made on 11th June this year, was described by him in SAILPLANE & GLIDING for October 1957 (page 268). Since then there have been three more:

Mrs. Anne Burns, 21st August.
Robert Cockburn, 28th August.
Philip Wills, 15th September.

The last is described on another page.

Anne Burns took off from Lasham in a Skylark IIIb, having nominated Hawkinge as her goal. After arriving somewhere near Dover at 7,200 ft., she was "blown" across the Channel, encountering a good deal of cloud, and reached the other side at 5,200 ft. Beyond Calais, she got two more thermals which carried her down-wind to a landing at Rely, near Merville, 41 miles S.E. of Calais, and 160 miles from the start, after flying for 3 hrs. 45 mins.

After two days getting the paperwork sorted out with the assistance of a very helpful customs officer, Mrs. Burns obtained an old German open trailer and took the machine to Merville aerodrome, from which Derrick Goddard towed her back with Nick Goodhart's Auster.

Bob Cockburn took off in a Sky belonging to the Empire Test Pilots' School. He writes:—

"I released from aero-tow over Farnborough at 2,000 ft., about 1 p.m. At 4 p.m. I was over Dungeness at 1,000 ft. and thought I'd have to land at Ferryfield, when I got into a patch of 1 green. As height was gained the thermal strength increased to about 5 green. I lost my artificial horizon soon after entering the 3,000 ft. cloud base and continued in smooth lift on the turn-and-slip. I slipped out of the thermal at 8,400 ft. and turned onto 090°.

"When I came out of cloud, I was about two miles off Dungeness and thought I could see the French coast in the haze. About ten miles offshore I realised that I had been looking at a water shadow. About this time I got into heavy subsidence (10 red) which lasted for about five minutes. Finally I could see the French coast about

eight miles out; I had a sink of about 5 red at this time which gradually decreased to 2½ as I neared the coast. I coasted in at 800 ft., 1 mile south of Griz Nez. Lovely little puffs of cumulus were visible, starting about four miles inland, but I knew I couldn't make them, so I attempted to get some ridge lift off the slight coastal slope in the area hoping I might make Le Touquet. I was able to get reduced sink (as much as 1 red) but ran out of height at Wimereux and came down in a stubble field about one mile south of the town on the coast highway.

"The local police were very helpful and put an overnight guard on the aircraft for me. The next day I hired a truck and carted the aircraft to Le Touquet where a recovery team from Farnborough had come over in a Chipmunk."

HOLD THAT TIGER

by Brenda Horsfield

(These experiences of a tug pilot at the National Championships are reproduced with acknowledgements from "Lasham Gliding")

A TRICKLE of sweat slid down between my shoulder blades and I decided to go round again. Fun, I thought, to have an engine: funnier still to have had air-brakes. Trying to make myself inconspicuous, I turned behind the hangar and climbed back into the circuit. A fatalistic crosswind leg made me consider again the problem of landing and I reviewed my instructions. "Approach from the north, over the clubhouse. Mind the trees. Mind the clubhouse too, come to that. And mind the competitors' gliders; they will be lining up on the north side of the main runway with the car park and public enclosure out to the east of them. Gliders returning from the race will be coming in from the west, so keep a good look-out. You can land alongside part of the south-west runway—you could call it downwind—yes, it does slope downhill a bit—any questions?"

As I closed the throttle I could see the scene clearly in my mind's eye—the Chief Marshal in his trilby, his pale blue electric megaphone at his lips, his trigger finger white with the strain of talking. A yard away from him the group of tug pilots listened with polite interest. They knew all about the Chief Marshal's troubles and there were no questions. The scene faded as I made my final turn. No mistake; this was what we were meant to do. Painfully conscious of the 200 ft. of nylon tow-rope trailing behind me, I gave the trees 100 ft. clearance and launched into a brutal and determined sideslip. I minded the winch wires, the rows of cars, the unsuspecting public, the 70-odd gliders waiting to be launched, and gratefully reached the ground—ground that was getting used up all too quickly as we clattered towards Southampton. Four great bales of hay marked the boundary of the undershoot—Silverstone stuff. I wove my wingtips between them and came to rest. The men from Dan Dare's hangar stopped playing football and raised a thin cheer. I taxied back to the launching point to pick up the next customer.

It was the last week of my holiday, and with mixed feelings I had decided to spend it driving one of the fifteen Tiger Moths needed at the Nationals, as all the competitors were being launched by aerotow to 2,000 ft. It promised several hours of free flying, but I had never done any towing and I was not sure that my maiden efforts should be made under centre-court conditions. The week before the Championships, David Darbishire, who was in charge of tugs and tuggery, had handed me a typed page of regulations and soothing information. It was duplicated in purple ink and looked exactly like the French exam. papers at school. Alarmed, I put it into the pocket of my flying suit, intending to study it in private, but when I looked for it there had been rain and only a few clear words stood out from a colour-wash of pale mauve ink . . . 53 knots minimum . . . full power climb . . . rate one turns . . . responsible for D.I.'s . . . avoid flying into a low sun. It sounded a bit complicated. Perhaps it would be better not to ask for another copy.

The first day, Sunday, full of Dukes and distinction, was, I felt, a day for experienced pilots. I decided to watch, and believe me, it was worth watching. Snaking across a vast track of aerodrome a few yards at a time came the long line of gliders, as bright as butterflies. Each pilot attended by his crew and his sisters and his cousins and his aunts. When they reached the runway they came within range of the blue megaphone, and if that was not enough to subdue them there was Mrs. Peter Hampton in incredibly smart ski-pants with a small luminous signalling bat in each hand. As I watched her I felt that the customers were unlikely to give much trouble, and I was glad, on the whole, that she was going to be waving at them and not me.

On the other side of the runway the tugs were lined up, each with its brand new tow-rope and guardian boy-scout. Two larger boy-scouts handled the machines into position on the tarmac, bats were waved at all concerned and the launches went off at the rate of one every 1½ mins. The tugs had arranged themselves into two groups, the E.T.P.S. and R.A.F. Chipmunks living a life of their own at the head of the line. Some inflexibility of the public accounting system made it impossible for them to tow club or private gliders, so they sat and waited until appropriate competitors appeared. The Tigers, not being blessed with cartridge start, kept their engines running as long as there were competitors waiting to be launched. Once a Tiger stopped running, as the flow of gliders slackened off, it was quite likely that it would not be started again for hours, if at all. The Tigers left in business could probably cope with the traffic and would fly happily round and round until they had to refuel. This had to be done at the double or another lurking Tiger would leap into the gap and the refuelled machine might be out of the game for good. There was always a chance, however, that the lurking Tiger, cold and cross, would not start, while the refuelled one would fire on the first swing. It didn't take the tug pilots long to discover that they were engaged in an advanced aerial version of musical chairs.

But on Sunday afternoon they were just picking up the rules. and when the excitement had died down I was told that I could give my first tow. The club Eagle was giving joy-rides to the richer visitors, and I was to take it up to 2,000 ft. until one or other of us gave in or darkness supervened. I watched apprehensively as this great flame-coloured object was tied to my tail, but once we got going I was rather proud of it. At 500 ft. or so I said "53 knots" loudly to myself and looked at the A.S.I. Immediately I made an interesting discovery. Far from being in danger of falling below the minimum towing speed I couldn't even get within ten knots of it, because I could not pull the nose of the aeroplane up any further. I looked back at the Eagle and saw that it was in a highish position—not very high but just enough to be picking up the tail of the Tiger and pushing it downhill. I got to grips with the stick and the combination staggered up to 1,500 ft., but I was out of breath and definitely getting the worst of it. My arms were aching and so was my back. The next 500 ft. might have been Everest. I got to the top exhausted, and when the glider released I flopped back on to the ground and took some glucose tablets. This was going to be a tough week. After prolonged and abusive negotiation, the Eagle sulkily agreed to fly in a lower position and we settled down for the rest of the evening.

During the first couple of days quite a lot of this sort of thing went on, particularly with the T-21s. If they flew high, the tugs went faster and the gliders became uncomfortable to handle. Once a glider was on the move, sheer weight did not, of course, matter. General lack of drag and the skill of the glider pilot became all-important. But there were exceptions. Whenever the massive Short Nimbus or a certain skidded Skylark II turned up, the tugs all suddenly discovered knots in their towropes or huddled pathetically round the bowser.

Probably the most rewarding part of a week's solid towing was learning more about Lasham thermals. Each day the gliders had to be dropped in a designated area behind the starting line, and being able to find thermals was a useful accomplishment. Quite apart from feeling sufficiently competitive ourselves to want to give our individual customers a good start, it halved the time of each launch to climb in lift. On the first tow of the day one explored the dropping area for lift—trying to decide where it was coming from and at what height it could best be picked up. Once one had an outline thermal map, the rest of the tows were easy. Throughout a week of relatively stable conditions, each day's thermals were extremely reliable. For hours

on end one could go back and collect them. Any slight shift in the wind meant twisting the map round a bit, but the pattern remained the same: a patch of bare ground, a cornfield, a slight ridge, a wind-shadow . . . it was not gliding but it was the next best thing.

B.G.A. NEWS

World Championships 1958

The following seeding list has been agreed by the Council:—1, H. C. N. Goodhart. 2, A. J. Deane-Drummond. 3, P. A. Wills. 4, G. A. J. Goodhart. 5, D. H. G. Ince. 6, G. H. Stephenson. 7, F. Foster. 8, J. S. Williamson. 9, A. Gough.

The Championships will be held at Leszno, Poland, from 15th to 29th June 1958.

Nicholas Goodhart will fly either a modified Skylark III with improved outer wing panels, or an Olympia 403 (new version).

Tony Deane-Drummond will (if he can get leave from Malaya, where he has been posted) fly the new version of the laminar-flow EoN Olympia 403.

Philip Wills and Tony Goodhart will each fly a "standard class" machine, one a 15-metre version of the Olympia similar to the original 401, and the other either a modified Skylark II or another Olympia 401.

B.G.A. Week-end

The B.G.A. Annual Ball will be held on Friday, 14th March 1958. The Annual General Meeting, Instructors' Conference and a Club Treasurers' and Managers' Conference will be held on Saturday, 15th March.

National Records

In conjunction with the Royal Aero Club, the Council has agreed that the conditions for British National Records should now be worded as follows: "British National Records may be claimed by pilots who are eligible to hold a U.K. passport and who are normally resident in the United Kingdom."

Records Homologated

UNITED KINGDOM SINGLE-SEATER GAIN OF HEIGHT AND ABSOLUTE ALTITUDE: J. S. Williamson on 19.7.57, from Lasham, in a Weihe; gain 26,500 ft.; absolute altitude 28,500 ft.

UNITED KINGDOM SINGLE-SEATER SPEED ROUND A 300-KM. TRIANGULAR COURSE: H. C. N. Goodhart on 25.6.57, Lasham—Cerne Abbas—Nympsfield—Lasham, 41.2 m.p.h.

Note that the 100 km. triangular speed record of 46.3 m.p.h. by F. Foster (see August issue, programme, page v) is a British National as well as a U.K. record.

National Championships Correction

In the tables of results of the 1957 National Gliding Championships, published in the October issue on pages 256 and 257, the figure 0 indicates that the pilot flew but did not score, while a dash indicates that the sailplane was under repair. In this respect three corrections should be made to the table for League 1 on page 257:—

14. G. H. Stephenson and E. J. Furlong, 6th contest day: insert dash instead of 0.

17. D. A. Smith, 5th and 6th contest days: insert dash instead of 0 for both days.

Christmas 1957

Xmas cards photograph of Olympia 403 by Charles Brown **9d. each** (10% dis. on 20 or more)

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TRAILER BUILDING

by Nicholas Goodhart

BEFORE starting to build or even design a trailer it is a great help to get a clear idea of what you are trying to achieve. In my own case I was aiming at a weather-proof trailer capable of standing up to high speed retrieving and having a high degree of rigidity. It was to carry specifically a Skylark III, and universal carrying was not considered. A minimum weight was required in the interests of high-speed retrieving. Cost was to be as low as possible but was not to be allowed to spoil the design.

Design Considerations

The first thing to consider seems to be the basic layout of the glider in the trailer. There are several possibilities if one accepts putting the wings externally on the trailer and then using canvas sides to cover them, but this does not meet my weatherproofing requirements, nor does it provide any crash protection whatever. I, therefore, concluded that the standard type of covered-in trailer would best meet my requirements.

The layout of the bits in the trailer was then worked out, based on the following requirements:—

(a) Each piece must go in the trailer in the order in which it is removed from the glider. For a Skylark this means tailplane, wing-tip, wing-tip, centre-section, fuselage.

(b) The resultant c.g. of the pieces must come out near the centre of the trailer.

(c) No gimmicks if at all possible.

(d) Trailer width must be as small as possible. A wide trailer is a nuisance and inevitably tends to hit things now and then.

Consideration of these requirements leads to the conclusion that the best layout is as shown in Fig. 1. The alternative of putting the fuselage in nose-first is attractive at first sight, since it allows a considerable saving of cost and weight by building the trailer lower at the front. However, this introduces

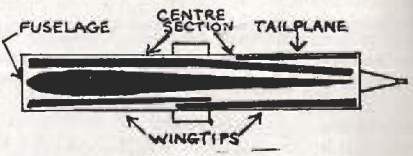


Fig. 1 Layout

a serious c.g. problem, and building the trailer lower at the front end means that one will not be able to walk about inside conveniently—this is important when carrying a Skylark III centre-section. Another snag is the necessity to arrange to swing the centre-section about its centre as the fuselage enters, or else accept some increase in trailer width.

So back to my selected layout. Its disadvantages are a c.g. which is a little too far aft, and slight difficulty in running in a fuselage tail-first accurately—it is usually necessary to lift it across a small distance when the wheels reach the ramp.

In my layout there is no scope or c.g. adjustment, since the fuselage and centre-section of a Skylark III are of equal length. Purely by luck, the amount by which the mean c.g. of the bits of glider is aft of the wheels exactly balances the weight of the tow-bar, with the result that I tow with no down-load on the tow-bar. Since the tow is completely stable, I have left it at that, but the original intention was to have a down-load of 10-15 lbs.

The next consideration was the type of structure. A trailer can be considered as a loaded beam supported in the middle. The tow-bar adds quite considerable up and down loads which are opposed by the inertia of the trailer. Other things being equal, the strength of a beam goes up as the cube of its depth, and in the case of a trailer one has a very considerable depth available. A beam consists of two booms with a web to keep them apart, and in a trailer the two sides offer themselves as perfect beams of great strength, provided—

(a) A longeron is run along the top of each,

(b) the sides are not curved,

(c) buckling is prevented.

Torsional rigidity is sadly lacking in some trailers. This is probably due to lack of diagonal bracing in the floor, which lets the two sides move backwards and forwards relatively and hence lets the whole trailer twist.

Consideration has to be given to lateral stiffness (see Fig. 2). This is dependent on the two ends, and also on the attachment of hoops to the floor.

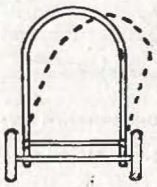


Fig. 2

Plywood and hardboard generally come in 8 ft. x 4 ft. sheets. Consideration in the design is required to achieve economy in sheets.

The Design

Overall size. My Skylark III is 24 ft. 9 ins. long, so I chose 25 ft. overall for the trailer. The width was more difficult, but with a view to being able to get from end to end even with the machine in the trailer, I settled on 4 ft. 4 ins. between plywood sides. The inside height came out to 5 ft. 10 ins. automatically, based on a circular arched hoop above 4 ft. high trailer sides; this is just sufficient to clear the fin.

The outline of the trailer was now more or less complete and the drawings could be started.

The first consideration was the strength of the trailer in bending. I decided to put a main horizontal longeron of ash along each side of the trailer at 4 ft. height to form the top (tension) member of the two beams and at the same time provide a backing for the scarf joints of the sides to the roof. I had already decided to have eight hoops (laminated ash) giving seven bays of 3 ft. 7 ins. approximately. The verticals of these hoops are an important part of the strength of the sides of the trailer, but this is not completed without diagonals or stressed skin. It was for this reason that I chose 4 mm. plywood for trailer skinning. If it buckles too badly in the areas where it is used as stressed skin, I can always put in the diagonals.

The next step was to choose a material for the bottom of the beam. After some consideration I decided on 4 in. x 2 in. pine. This is far stronger than necessary, but it is cheap and also provides some small measure of crash resistance.

For the floor I was determined to get away from the usual cross-wise planks of about $\frac{5}{8}$in. to $\frac{3}{4}$in. plus a central fore-and-aft member. This system is both extremely heavy and completely lacking in rigidity so that, in addition to the central fore-and-aft member underneath it, diagonal bracing is necessary. Clearly the floor should consist of large sheets of material to give rigidity, and should have a greater thickness so that it can take the normal loads without having a support member in the middle. Greater thickness with less weight clearly calls for a sandwich material, but I failed to find a suitable one. What is wanted is a material about 2 ins. thick consisting of two pieces of 4 mm. ply (maybe less) kept apart by some low-density filler, e.g. foamed resin, honeycomb paper, balsa, drilled softwood, etc., etc., but not costing much more than the cost of ply alone. Nothing suitable seemed to be available on the market, so I decided to build my own. This consisted of two sheets of 4 mm. ply 2 ins. apart, and on edge between the two at 3 ins. spacing a strip of 2 in. ply edge-glued. This is recorded only for interest; I don't recommend it. Were I to build another trailer I would make the floor out of sheets of about $\frac{3}{8}$-in. ply supported by joists of about 3 in. x 1 in. at about 15 ins. spacing.

In the interests of keeping the maximum trailer width inside, I decided to make the ash longerons flush with the side of the trailer, and as I had already ordered the hoops, this meant that the longeron had to be a series of short lengths between each hoop. This is obviously not good for a tension member, so I decided to carry the load across each hoop with a steel strap screwed to the longeron.

Joining the hoops to the bottom fore-and-aft members is significant since it affects

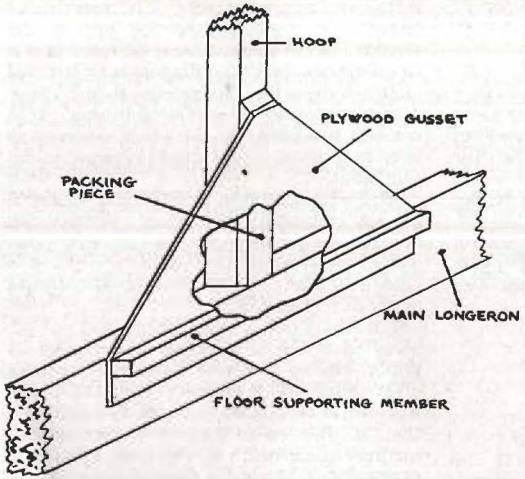


Fig. 3

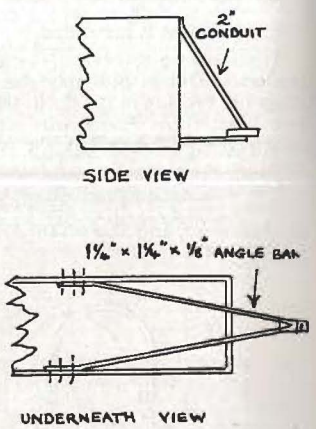


Fig. 4 Detail of Towbar.

lateral rigidity. Fig. 3 shows in detail the simple method used. It has turned out to be amply strong and rigid enough.

In place of the usual sliding tubes and pins used for supporting trailers in the loading or unloading attitude, I have fitted hinged wooden bars at the front of the trailer which lower down to the ground to support the front end. It is essential with this type of prop that the trailer brake not only works but is properly applied. These hinged props will not cope with ground which is too uneven, but so far this has proved to be no problem whatever.

That covers the main details of the trailer hull. For the tow-bar the requirement was to carry the towing load to the main bottom longerons in such a way that the car does not foul when being turned at full lock. To meet this it is necessary that the tow-bar shall stick forward at least half the width of the car and that it shall have a narrow angle at the point of tow. Fig. 4 shows my tow-bar. Important points are the near vertical tube to the top of the trailer, which takes out the bending load in the tow-bar, and the straight run back to the main longerons to which the bar is attached by 3 in. x 5/16 in. bolts each side. Incidentally the tube member provides a convenient route for the wiring. One point not generally remembered in considering tow-bars is that the load is likely to be far greater in compression than in tension.

The wheels and undergear produced very little complication as I ordered a complete set of axle and springs from a manufacturer. I used a straight axle with underslung springs, which gave me good axle and trailer ground clearance. The spring shackle plates were attached direct to the main longerons by vertical bolts. I was in some doubt as to whether the shackle plates, which are only about 4½ ins. long, would penetrate the softwood longerons, but they have so far shown no sign of this in about 4,500 miles of fairly high-speed trailing.

Construction

Now to the pain, sweat, toil and tears. The whole thing took nearly three months to build, working almost entirely single-handed in my spare time. It would have taken a lot less if I had not wasted so much time on my fancy floor.

The choice of 4 ft. 4 ins. for overall width necessitated one complete scarf joint throughout the floor length, which had to be made first as it was unsupported. It was only necessary in order to get the required width to be able to get up and down inside the trailer when the glider is inside. I am now somewhat doubtful whether it would not be better to settle for 4 ft. width with

the consequent saving in building time.

The glue used was Aerolite 300, and it was found extremely satisfactory and easy—one might even say tolerant. After I had discovered that it can be wiped off with a wet rag as long as it has not touched hardener, everything was a lot less sticky. All ply joints were scarf joints—I made a special scarfing tool for this purpose which saved an enormous amount of time, but I never did discover a quicker way of making tacking strips than by banging each tack in by hand. It is an excellent plan to do it on a piece of steel plate, then every tack goes in the right amount, with one tap, but it still takes ages. The amount of plywood used in tacking strips staggered me. I considered re-usable metal strips, but never worked out how to keep the tacks secured in the holes.

Securing the parts of the glider in the trailer calls for a surprising amount of attention to detail. My first try produced chafing on all aerofoils at the support points but this has now been overcome. My initial fuselage attachment was a bracket on a fore-and-aft longeron in the roof, to which the standard Slingsby pole was pinned. The longeron was screwed to the hoops with brass screws. These failed in fatigue in the first fifty miles. Stop blocks were found necessary to prevent the aerofoils from sliding forward in the trailer during panic stops. The fuselage fore-and-aft motion is checked by a bolt in the floor over which the tail skid fits. Special steps have had to be taken to stop this from working loose.

Electrical services, too, take a good deal of thought. I have simply duplicated the tail end of my car on the back of the trailer, i.e. tail lights, stop lights, and flashing turn signals. This is all very well, except that my earth return wire is too small, with the result that the general "Piccadilly Circus at Night" effect on the back when I am braking for a turn shows nothing much more than that something is, undoubtedly, afoot. The amount of wire needed is surprising.

For the finish, 2-in. tape was first doped over all external plywood edges and scarf joints. The whole trailer was then given two coats of high-quality lead-base primer, hand-brushed. This was followed by two coats of Dulux gloss paint sprayed on. This finish has done very well but has, of course, only had one season so far. Another coat of Dulux will probably go on this winter.

Cost

The total cost worked out at about £127. This is undoubtedly excessive, but is the result of contracting out such items as undergear (£35) and hoops (£24). The cost could undoubtedly be got down below £100, but this would entail a good deal of extra time and effort in seeking out cheaper items and doing more oneself.

Results

In general, I am delighted with the results, since the trailer has been extremely satisfactory all summer; the following items of experience would be fed into any new design:—

(a) High drag. Due to its height and flat front and back ends, the trailer has excessively high drag at speeds over 50 m.p.h., and this has a serious effect both on petrol consumption and achieved speed, particularly head-to-wind.

(b) My floor is unpractical from the point of view of time in building. I am also doubtful how long it will last.

(c) Scantlings of all members are too large and strong. The 4-mm. ply seems about right. Reduction of scantlings would save quite a lot of weight.

(d) More thought must be given to attachment arrangements for the glider bits.

(e) The electric system must be more carefully planned.

One of the most outstanding results is the complete stability of the trailer which, apparently, has no instability speed; at least if it does, it is above 75 m.p.h. There are many possible reasons for this stability, any or all of which may play some part:

(1) Rigidity of the trailer. It does not flex at all.

(2) Heavy springs. The springs are designed for a one-ton load, but the trailer only weighs 14 cwt. loaded. The strong springs are counteracted to some extent by fitting oversize (16 × 6) tyres.

(3) Wide track. Owing to an error the track is 4 ins. more than is necessary for the wheels to clear the sides of the trailer.

(4) Deeply curved springs. The effect is to produce slight steer with roll in a stabilising direction.

The final weight of the trailer when completed came out at 980 lbs. I am sure this can be bettered, but it is not unsatisfactory.

Flying in the French Nationals

by D. Brennig James



PONT St. Vincent is a hilltop site, approximately 200 metres above the surrounding country, situated in the north-east corner of France about 100 kms. from the German and Belgian borders.

Entrants were 18 seeded Frenchmen in Bréguet 901s. This is a laminar-flow 18-metre single-seater with flaps, retractable wheel, water ballast, blind-flying equipment and twelve-channel radio.

The Czech champion, Zejda, flew a Démant, which is very similar but, having a wing section with 50-55% laminar-flow, slightly superior in performance and probably with a slightly lower wing loading. Lepanse flew a Bréguet 902, a lighter and cheaper two-seater; Cayla had a Bréguet 904 two-seater, similar to the 901 but with 20 m. span. Tahon flew a Javelot—similar to a Mu-13, with a laminar-flow wing. Xhaet (Belgian) flew an Olympia and Maresia (Swiss) a Moswey IV.

Due to the high cost of insurance, I could not borrow a Bréguet 901, but flew an Air-102, which is comparable to a Sky.

The organization, professionally run, was very efficient, with always a very pleasant and friendly atmosphere. Briefing was excellent and the tasks were very well chosen.

All 25 aircraft were lined up in rows of 10, 10 and 5 abreast, and with 10 tow planes launching was over in 15 minutes.

The time of take-off was chosen by the task-setter, but the pilot could choose his own time if he made a second or third attempt to get away.

As to the weather, the wind slowly veered through 360° during the course of the competition, so that one's cross-country tracks at the end looked like the spokes of a wheel.

On only the last day was the wind of more than moderate strength (15 kts.). The atmosphere varied from wet to dry during the two weeks and during the same day, so that the flying was always very interesting.

Contest Flying

The first day (30th June) was free distance. I elected to go down what wind there was to the S.W., and after a second launch made 238 kms. to get 9th place. Most people made over 200 kms. within an arc of about 120°; Weiss made 370 kms., 80 more than anyone else. The first 25 kms. were wet with plenty of good cumulus based at about 1,000 m.; then the second were dry and stable; then the next 25 were wet and unstable—and so on, rather like a series of waves, so that the flags on the map settled in groups. For example, seven pilots landed between 229 and 238 kms. and none between 238 and 265 kms. This was most noticeable in the air, and one entered each successive band of instability lower and lower until at last one landed, only to see someone circling about 10 kms. downwind.

The second day was a race of 156 kms. to Troyes, which was over a similar course to the previous day but a little more to the north. Here again the same phenomenon occurred; firstly waves of cumulus, fading down to true undulatory waves, which the five survivors made use of.

At Brienne le Chateau seven of us congregated out of a clear sky as if from nowhere and slowly circled in a wide, weak belt of lift. I decided to paddle my own canoe and pushed on, only to land 25 kms. short and to watch the others, to my consternation, slowly flying over my head to their goal.

This flight raised for me the question as to whether one should stay with the gaggle or push on alone. One prefers to circle alone for the pleasure of it, and it is better to find one's own thermals as a long-term policy; but this day I came unstuck because of it. Perhaps the major factor is how tired one is, since at the end of a long flight one's ability to catch a thermal at low altitude is more a function of the amount of one's determination than of one's skill, and having a few others around at such a time makes it that much easier.

As a general rule I would say that on free distance it pays to get away from the pack, but on races exploit other sailplanes as cunningly as you can. Having been in the first ten on the first two days, I no longer felt outclassed, but was encouraged to "have a go".

I had already noticed that the first to push off generally went the furthest, and now on the third day (4th July), having advanced to 13th in the launching order, had some opportunity to put my theories into effect. The wind was from the south, dry and fairly stable, and the task was free distance to the French border.

We started in a gaggle of about ten, slowly thinning out as we went up the valley of the Moselle. After about 30 kms. it was obvious that the steelworks were almost the only source of lift, so that one hopped from one dirty stinking thermal to the next. However, with 2-3 m./sec. to a 700-800 metres inversion a rose would not smell sweeter. At Thionville it was obvious that the border was within reach, so I caught three more thermals from steelworks in a valley going off to the left so as to strike the border further from the start. I found a kink in the border, flew into it, spotted the barrier of the frontier post, did my last turn in Belgium and my touch-down in France.

Labar did the same in another kink a little further to the west, which I had not seen, so he was first with 1,000 and I second with 991 points, now feeling fairly pleased with myself.

The next day the task was a race to Sarreguemines 94 kms. away. The wind was weak and from the S.W., but the air was very, very stable. We were all cast off at 700 metres but hardly anyone got back to that height. My own barograph showed a flight which was 3¼ hours long and much of it seemed to be underground—it certainly would not have qualified for a C. However, the desperation and the despair paid off as I made 85 kms. for first place, and since 2nd and 3rd were 76 and 58 kms. it gave me a big bonus in points, so that I was now 2nd in the general classification.

The next task was a race to Sarrebourg, only 74 kms. to the east, but as it was a better day, nearly everyone got there. The technique this day was to remain high and not to cross the starting line until one saw a gaggle circling a few miles downwind; one then dashed to join them and tried to keep up with them. With my machine I had little hope of a fast time, but by dint of being in the right gaggle I made 7th place. The thermals this day were interesting, since with the wind from the N.W. the "bubbles" of lift within the cylindrical envelope of the thermal lay on a line 8 o'clock to 2 o'clock looking down track, so that if one joined a gaggle from below, then one usually found the best lift to the left, and sometimes could outclimb them in one's own bubble. By three-quarters of the way we had straggled out, so one had to find one's own lift. I was one of the first arrivals, and the sight of the others arriving in groups of three or four neck-and-neck at about 150 kms./hr. was extraordinarily impressive.

Labar, who had been leading, could only make 17th, so I was now leading in the general classification and immediately started feeling very vulnerable.

On the 8th there was an out-and-return race to Epinal to the S.E. The course was 102 kms., the wind was weak, the air was moist and unstable. I got out in 45 mins. but got caught under a layer of stratus on the way back and was lucky to get into the airfield with a few feet in hand after another 2½ hours of desperate scraping. Only 538 points, but enough to hang onto the lead.

The next race was a 107 km. triangle. The first leg was simple cumulus stuff, but the second and third legs each started with a desperate low scrape, a rapid climb, and the rest of each leg was cloud street. If only one had known, one could have gone around them at 200 metres without circling. Zejda went around with water ballast in 1 hr. 42 mins. and his barograph record was notable in that he was never below 200 metres and never above 900 metres, probably never circling more than five times in the same thermal. I was 15th in 2 hrs. 04 mins. for 820 points, enough for a close second place in general classification; there

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was only 25 minutes between 2nd and 19th, showing how evenly matched people were.

The 11th was the day of days. The wind was fresh and northerly with plenty of cumulus, and a mistral with its waves for those who could get that far.

Fonteilles, lying 11th, rose to the occasion. He did 350 kms. of easy thermal soaring down the valley of the Rhône,then a difficult 100 kms. of scrape and hill-soaring, finally catching a wave as the sun went down. He climbed at 4 m./sec. to 2,500 metres, then hopped downwind from wave to wave, finally landing at 10.15 p.m. by moonlight, 585 kms. away. Zejda, the eventual winner, made 564 kms. in the same way to become outright winner, but no one else did better than 445 kms. I fell into the time-honoured trap of trying to cross the Jura and landed at 3 p.m. after only 167 kms., ending up seventh. Fourteen people beat 300 kms. that day and 21 beat 200 kms.

It had all been a wonderful competition, which I had enjoyed immensely. The whole atmosphere had been extremely pleasant and one's experiences on the ground, thanks to the delay in the retrieve, no less fun than the flying.

As to the flying, one learnt a lot; the outstanding impression was how often one got really low, even on good days, and had to scrape for one's life, and secondly how the people who appeared to enjoy flying the most seemed to fly the best; perhaps it was they who could produce that extra bit of determination in a tight corner. Lastly I would like to thank all the pilots and French people there, particularly my retrieving crew, for making what was for all of us an unforgettable experience.

International Classification: Final Results

Place	*Pilot*	*Points*
1.	Zejda (Czechoslov.)	6383
2.	Barbera	5843
3.	Weiss	5788
4.	Labar	5722
5.	Lacheny	5703
6.	Landi	5609
7.	James (Gt. Britain)	5588
8.	Trubert	5566
9.	Marchand	5511
10.	Fonteilles	5409
11.	Lambert	5207
12.	Gasnier	4933
13.	Costa	4538
14.	Didion	4513
15.	Lepanse	4468
16.	Rouvière	4339
17.	Combettes	4353
18.	Mlle. Abadie	4248
19.	Gavillet	4066
20.	Mme. Choisnet-Gohard	4014
21.	Mlle. Dupuy de Mery	3828
22.	Tahon	3724
23.	Cayla	3315
24.	Xhaet (Belgium)	2775
25.	Maresia (Switzerland)	408

After each successive contest day, Dr. James's placings were: 9th, 9th, 7th, 2nd, 1st, 1st, 2nd, 7th.

In the National Classification, confined to French pilots flying the Bréguet 901, the winner, with 6231 points, was Lieut. Jean-Paul Weiss, who becomes French Champion.

ONE FINE DAY

by Philippa Chubb

I FOUGHT my way to consciousness as something jabbed hard into my ribs. "I don't feel very well," wailed my husband.

I glanced out of the window. A perfect day—blue sky, with just the right amount of white fluff drifting across it. I took my cue.

"Just relax, dear," I said, "I'll 'phone the office and tell them you won't be in today."

Dressing hurriedly in slacks and warm jumper, I gave the special "Lasham" signal on the children's door as I passed, meaning —all hands to the wheel, *fast*!

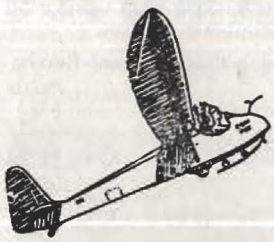
We have now got it down to a fine art. After all, speed is essential if Dad is to get on the soaring list ! Eldest child dresses and washes junior, whilst middle one finds essentials like chalk and roller-skates. I prepare large quantities of sandwiches, cakes and drinks whilst keeping an eye on the breakfast.

I dashed upstairs with a cup of tea and shaving water: "Here you are, darling, we're all ready." "Ready?" growled a hoarse voice, "what for?"

"Why, Lasham, dear," said I a little doubtfully . . .

"Who, for goodness sake, is going to Lasham, when I feel like death—you just don't care!" wailed the brute.

I ask you, how was I to know he had Asian flu?



ITS - ALL - YOURS

For and About Instructors



FIRST SOLOS

Now that darkness falls at a civilised time, there is time for some food and drink before next spring once again raises the divorce potential among instructors. It is into these long winter evenings that I want to throw some thoughts about first solos.

There is still considerable difference of opinion on whether the two-seater should be used for the first solos, or whether the pupil should be transferred to a single-seater with a somewhat comparable performance. To be honest, this practice of changing the pupil to an unfamiliar glider is a straggling relic from the past when the pupil started solo on the most elementary and simple glider (usually with the worst controls) and progressed type by type until, if he lasted or persisted long enough, he would rise to quite a respectable aircraft. I an quite sure that had we started from the beginning with two-seaters it would never have occurred to anyone to do other than send them solo in the two-seater.

To be fair, the relic has lasted mainly because of the financial problems which face clubs. The initial purchase of the two-seater cost a lot of money, and was regarded as a much-needed addition to the fleet rather than a replacement. The accumulation of inefficient training single-seaters therefore remained, and as it was a pity to waste them, they continued in the scheme of training. As a temporary measure there was justification for this practice, but it is often continued deliberately by the purchase of more obsolete and low-performance gliders to replace those worn out or broken.

The two reasons given for not using the two-seater for first solos are that (1) the two-seater might get broken, and (2) the two-seater is too busy giving dual to be spared. The answer to the first is simple. Statistically a pupil's first solo flights are among the safest that he is likely to make for some time, provided of course that his training has been done competently. The answer to the second cannot be stated simply, for the benefits are indirect, and can only be assessed if all the instructional flying is carefully analysed. Briefly, the answer lies in how many two-seater launches would have been done altogether if three solos per pupil had been included, and how many subsequent breakages of single-seaters would have been saved?

It is accepted that the majority of pilots do not have any real difficulty in managing the double jump of first solo plus strange glider. Further, in practice such normal pupils do not necessarily need more dual to do this double jump. They will go through the normal syllabus of training, and when they are fit to deal solo with all the eventualities of local flying they will almost certainly be fit to deal with the change to another selected glider. It therefore follows that for the average pupil soloing on the two-seater is not likely to reduce the amount of dual given. But these normal people, as every instructor knows, by no means make up the pupil population of a club. Apart from the morons, there are those who are slow to teach, either because they are nervous and under-confident, or because they have the type of brain that will not accept, or be successful at, anything new until they fully understand what they are trying to do. For such pupils the double jump of first solo and new type may be too great. Either some risk has to be accepted, or the first solo postponed, or avoided altogether. Because such pupils suffer from these complexities does not mean that they are not potentially good pilots. Both sorts

are likely to progress steadily and well, once they are flying solo, and in due course, having had time to sort themselves out, may well become very good; more than one World Championship pilot had difficulties with his initial training.

I think it is not always realised the bad and lasting effect that an unsuccessful or frightening first solo can have on a pupil. Because good ones are the normal thing, there is little drama in sending people off, and this is as it should be, and the flight which provides a little excitement is soon forgotten—except by the pilot who made it. For him, or her, the effect may be enough to slow down the rate of progress even more, or to sow the seeds of a subconscious fear which very much later comes disastrously to the surface when the pilot is called upon to cope with some emergency, like landing in a particularly difficult field.

If these slow and difficult learners are sent solo in the two-seater, an appreciable number of dual launches may be saved which would have been used to prepare them for a step which would otherwise be larger than they could manage, and there is a greater chance of the flight being successful.

The second advantage of sending people solo in the two-seater is the saving of time and complication. If the pupil is going to fly the glider of which he has already warmed the seat, the instructor merely has to get out, strap in the ballast, and say, "Do the same again". There is no long briefing, and no need to get out another glider, or wait for it because it is airborne; the rope is hooked on, and the pupil goes straight off.

Using the two-seater for first solos, even if it is the only one in the club, is safe, practical, and does not waste launches. It also allows the subsequent solo glider to be of higher performance, which means more time in the air for less effort on the ground.

THE ADVENTURES OF JOE

"OH, Joe," said the member who was D-I'ing the two-seater, "the string holding the harness pin on is worn out. Go and make up another one."

So Joe wandered down to the workshop, and eventually found a length of blind-cord. As he went off to find a knife, he wondered how long a piece he should have, and came to the conclusion that, as some clot would soon break it again, he would allow enough to stand a bit of knotting.

How to get "SAILPLANE AND GLIDING"

Owing to increased postal rates and rising publication costs, the Association regrets that postage must now be charged in full. From 1st October 1957, new and renewal subscriptions obtained through the Association will be 17s. ($3.00) per annum, both home and abroad. The price of the magazine remains unchanged at 2s. 6d.

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Later in the day it was Joe's turn to fly. He climbed in, did up his straps, and after doing his cockpit drill proceeded to prove to the instructor that perhaps, after all, the check flight was rather necessary. In fact, although he had now done several solo circuits, his instructor was amazed at his flying, and reluctantly was forced to take over for the entire approach. Admittedly the weather was becoming rapidly very gusty, but there was something about Joe's flying which always made his mentor feel that he would rather be at home with his feet on the mantlepiece.

As they came in over the trees, the two-seater smacked into some really hefty turbulence, and Joe, who was sitting back and thinking about nothing, felt his tummy hit rock bottom and involuntarily threw up his hands with a gasp.

It was then that the Instructor was glad that he could really fly with his left hand, because with his right he first of all had to haul Joe up off the controls and then unravel a loop of blind-cord from round his elbow. As if this was not enough, the next gust flung the loose Joe up into the leading edge, where immediately before landing he penetrated the wing and made a new inspection hole 7⅛ inches in diameter.

A.W.

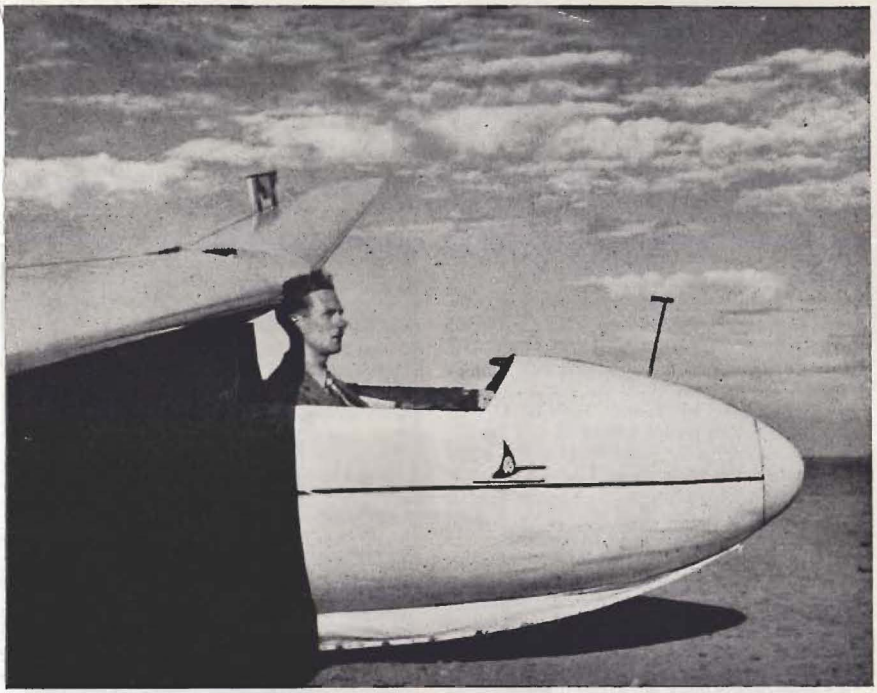
JOHN HICKLING
C.F.I.—MIDLAND GLIDING CLUB

JOHN HICKLING first joined the Midland Club in November 1948, the sum total of his experience then being an A obtained with the Air Training Corps.

In those early days we well remember his youthful appearance, quiet demeanour and slight physique, but it was evident from the very start that here was a man determined to fly, and the fact that things did not come easy to him made his intense application to the art all the more remarkable. He soloed after 4½ hrs. in the T-21, and from then on his ambition to qualify for the Olympia was all-absorbing and even in those early days gave adequate indication of things to come. In all weathers and whenever there was an aircraft to fly, John flew it, and he finally achieved Olympia status in November 1949, with 30 solo hours in his log book, only seven months after qualifying for his C. This on a hill site, some 50 miles away from home, took quite a bit of doing, and there were some of us who thought he was taking too much out of himself. However, he pressed on to such effect that in May, 1950, he was passed out by Theo Testar, our then C.F.I., for passenger flying in the T-21 and Venture, and was a keen part-owner of an Olympia in one of our early club syndicates. Instructor training followed under David Ince, who had then taken over from Testar, and "John Hick", as he was affectionately known, became a full club instructor in January 1951, and was categorised as a two-seater instructor at Lasham in April 1952, becoming Assistant C.F.I. to David Ince shortly afterwards.

When David left the district the club was faced with the difficult problem of appointing a new C.F.I.; the standard set by previous holders of this post had been so high. The obvious choice was John, although his tender age and youthful appearance made us wonder whether he could assert the authority that a C.F.I. must have. So much so that one of our founder members and senior instructors, John Horrell, was talked into becoming Deputy C.F.I. to keep an eye on the young fledgling, and early in 1953 the appointment was made. The combination of youth and experience worked extremely well, and quickly the young John found his feet and began to make his presence known. As each year passed he increased in stature and responsibility, and no club could have a more respected and hard-working C.F.I. who by his example and skill has brought the standard of flying to the high level which we see today.

The task was by no means easy, as we were growing rapidly in numbers, but John took everything in his stride and his constant attendance on the site made him personally familiar with the progress or otherwise each member made. The right people were quickly promoted to more advanced aircraft, and infinite patience shown to those who for one reason or another could not progress so rapidly. John Hickling has very



John Hickling, chief flying instructor of the Midland Club, may be wondering whether those clouds indicate wave lift waiting to be utilized by the club Olympia.

firm views on what constitutes the right aircraft for the job, and his representations to the committee over the years on what our fleet should comprise was in no small way responsible for the gradual weeding-out of older types and their replacement by fully instrumented and braked aircraft, of higher performance, the need for which is now fully appreciated on a hill site such as ours if maximum utilisation is to be obtained.

It must not be thought that as C.F.I. he had no time for other aspects of the sport, for he made it his business to visit other clubs and has flown from all the main sites in the U.K., and hopes to visit the newer ones in due course. He has assisted or flown in all the National Championships since 1951, and is part-owner of the first Skylark at the Long Mynd, and has done much to add to our knowledge of waves and east-slope flying. His main ambition now is to see the day when we can aero-tow from the site, and such is his tenacity of purpose that no one will dismiss the subject lightly.

In the short time of nine years he has entered some 750 hrs. on 16 types from 2,350 launches in his log book, and we of the Midland Club are rightly proud and extremely grateful for the large proportion done in our service.

It is said by the cynics that another good man is lost to Gliding when the female of the species comes along, but we are hoping that this will not be so in our case, for John, by the time this article is printed, will have married our ace lady pilot, Steve Fountain. We have no doubt that he will apply himself equally diligently to a different sort of dual, and that he will be similarly successful is the wish of each and everyone of us. R.L.N.

ONE WAY NOT TO DO IT,
OR, I, TOO, CAN CROSS THE CHANNEL

by Philip Wills

SUNDAY, 15th September 1957, dawned at Henley a cloudless blue with a fair north-westerly wind, backing to north above 2,000 ft. We hooked up the trailer and fled for Dunstable.

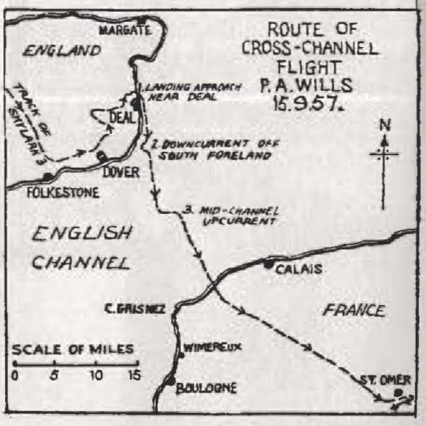
I was launched in the Skylark at 10.45, by which time ragged cumulus were beginning to form, and at 11.00 caught a narrow thermal off the Zoo which took me off on a southerly course. I had told Kitty to go to Detling (the site of the Kent Club, about 75 miles south-east and the other side of London and the Thames) with the trailer, and thus had to make a course well east of the wind direction. But, in fact, no great difficulties were encountered, though at one point near Hornchurch I was down to around 600 ft. I then flew into seven ft./sec. lift and was off again with little delay.

The possession of a Cook electric variometer really opens new worlds in this matter of picking up lift from low altitudes, and indeed one must take care to keep a watchful eye open for available landing fields, else the confidence inspired by this new instrument may lead to serious trouble.

As I approached Detling the conditions got worse. For some quite unforeseen reason the sun was cut off by a sheet of strato-cumulus at around 3,500 ft. and visibility deteriorated. However, my ground speed had averaged 50 m.p.h., it was only 12.45 p.m. and the air was still interesting enough, so I continued on towards Hawkinge. I flew up and down within a few miles of the coastline, from Hawkinge, Folkestone, Dover, to Deal. The interesting thing was that although the sky looked so dead, there was still lift to be found, and I played around between 1,000 and 2,000 ft. in the grey air until at length it looked as if I must land, a half mile or so north-west of Deal.

I picked a field and was circling it preparatory to a landing, when at under 600 ft. I once more flew into six ft./sec. lift. The wind was fairly strong, and was now blowing from the N.N.W., and as I climbed away a fascinating plan offered itself. It turned out to be the piece of cheese in the mousetrap.

* * * *



Since the sea is uniformly heated, in the general way the air above it contains no vertical currents and a sailplane will descend steadily whilst flying over it. But for many years there has been a theory that, about the month of September, when the land has cooled more rapidly than the sea after the summer months, one might find up-currents persisting out over the Channel itself.

I now had a chance—the first time anyone had had a chance—of finding out if this theory was correct, and apparently without taking any risks. Reference to the accompanying sketch map of the flight will show the plan. From Deal down to the South Foreland the coast runs roughly N—S, and the wind, although strong, was blowing out to sea at a fairly narrow angle. I could therefore circle along in my lift, only gradually leaving the coastline as I gained height.

If the lift petered out, I could immediately turn inland again at any point; if the lift continued all the way, I would leave it as I came abreast of the South Foreland and fly back to land. Q.E.D.

The plan worked splendidly. Lift continued smoothly and over a wide area, and as I climbed the wind got stronger. The sky was grey and overcast, and underneath it a milky green sea heaved uncomfortably

in the freshening wind. Visibility was perhaps 10 miles, so I could not nearly see the French coast. Instead, I kept a watchful eye on the slowly receding coastline of Kent, and was still climbing well, at 2,500 ft., when the South Foreland came abreast of me, perhaps five miles to the west. I had circled and climbed steadily over perhaps nine miles of sea—very interesting indeed. Undoubtedly the lifting air went on, but it was not for me. I turned onto a westerly course towards the white cliffs of England.

And I almost immediately flew into eight feet a second—down.

* * * *

It was as if someone had picked up a bucketful of the turbulent sea below and suddenly thrown it through my cockpit window over me. My first instinctive reaction was to wrench the Skylark round and back into the comforting upcurrent behind me. Next came a feeling of fury at my stupidity. For if in these conditions upcurrents are to be found over the sea, then clearly one should expect compensating downcurrents also to be found around them. And as I could not possibly guess how fierce and how wide this downcurrent was, it was now simply a matter of blind chance as to whether I could get back to the English coast or not, beating across the strong N.N.W. wind. The coast, which looked so near, was, in all probability, cut off from me by an invisible cataract of descending air. If one must be a pioneer, at least let one be an intelligent one. But it had looked such an innocent little bit of pioneering!

The alternative both looked and felt desperate, but quick calculation showed it was theoretically the better one. From where I was, although it was invisible in the grey mist and greeny sea ahead, the French coast could not be more than 25 miles away at most. I was still climbing, around half a mile up, and with the following wind my gliding angle in straight flight was over 1 in 45. I only had to circle and stay where I was in the friendly air for a few minutes more, and if I could hold course thereafter and not find any more downcurrents, I was there.

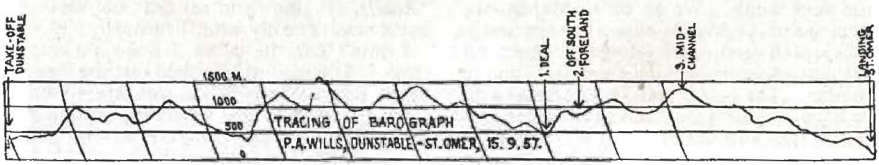
I went on circling and climbing gently until the land behind had faded from sight. Except for one or two ships ploughing short and faded furrows in the cloudy sea below, I was alone in a grey and misty sky. Slightly to the east of my track I saw a darker smudge in the dull overcast—I flew over towards it—and encountered good strong lift! The back-room boys were triumphantly vindicated.

Just at this moment a Bristol Freighter, smugly carrying its load of motor cars from England to France, sailed below. I did not know it at the time, which was just as well since I had enough on my conscience as it was, but the pilot saw me circling at 2,500 ft. and wirelessed back that he had seen a glider in difficulties half-way over the Channel, whereupon the Air-Sea rescue teams were all alerted. My piece of innocent pioneering was giving the maximum possible number of people the maximum possible amount of trouble.

As a matter of fact, of course, it was just at this moment that I was finally and certainly out of trouble—from natural causes, though what might happen from outraged international practices remained to be seen. For my mid-Channel thermal took me firmly to 3,500 ft. and a few minutes later the French coast came in sight. I crossed it at 3,000 ft.—having left the English coast 30 miles away at 600 ft. I had produced one of the most startling barograph charts of all time, but it would remain something of a monument to my lack of forethought.

One of the few consolations was that, at that blinding moment when the trap into which I had fallen became evident, I took the correct, if apparently the more difficult, decision to go on into the far mist towards France, rather than make a blind dash to the deceptively close coast of England.

I landed in a ploughed field half a mile short of the aerodrome of St. Omer, about 30 miles inland, after finding one or two



bits of lift on the way. The newspapers said it was the field Douglas Bader parachuted into when he was shot down during the war. There ought to be something clever to say about the coincidence, but I can't think of anything.

The Other Side of the Picture

by Kitty Wills

SEVEN o'clock—sleepy voice, "What's the day like?"—Philip: "Cloudless." Sleepy voice, "What's the wind?"—P.: "North-west." 'Coming to' voice: "That, I suppose means Dunstable." Out of bed in a flash—dress quickly, wake children and cook breakfast, wash up—so the day starts.

Clare, a niece aged 13, Justin, aged 10, Nell the dog, we scramble into the car (not forgetting Philip) and at 9.30 are at Dunstable, 40 miles from home. Brimming with optimism we rush and rig the glider—stew while there is the inevitable winch trouble—try and tidy the boiled sweets which are very sticky and all over the place; then suddenly everyone is ready and we aren't. However, at last airborne and we collect ourselves and the wheels and tidy the trailer.

At eleven o'clock Justin comes flying down the hill where he has been posted, to say the Skylark has gone off down wind and out of sight. We hitch up, wonder slightly about food, wonder about London—Philip had said go to Detling, through London, Moorgate station on the left, St. Paul's on the right, London Bridge, Elephant and Castle . . .

We hurry along—all goes to plan, a nice sweet shop open—a telephone at Hendon to ring Lasham as arranged and ask if there is any news. Lasham says no news and the weather there is clamped, but he's now been two hours' away from base; he must be the other side of London, so we battle on. Moorgate, dear old St. Paul's, just as we were getting worried, and even London Bridge turns up without any trouble. The other side of London. We ring Lasham again. Still no news—weather grey and cold and very windy. We go on to Maidstone; there we make friends with a garage and a coffee stall and settle down, ringing up Lasham again and giving them our 'phone number. The coffee stall is wonderful and we have coca-cola and cups of tea according to our ages and hot pasties. We then play heads and tails and wonder rather uneasily as to what can have happened, and one of the party becomes very pessimistic.

At five o'clock we hear the phone bell and everyone jumps a mile. We all rush with maps, paper and pencil. Bill at the other end, "Yes, he's down!" Me: "Where?—Goodness. What, 900 ft.? Did you say blown across? A message? Will I let the office know to-morrow? What had I better do?" Bill: "Go home, I should think."

Off again, back through London, West End—this time there was a crowd in Grosvenor Place and we thought perhaps it's Prince Philip—perhaps he'll recognise the trailer and wave—but it wasn't. Called on a friend—she was out. We got home, cooked the supper, and the children went to bed. The 'phone rings, it was Vanessa who was on her way home from a visit. "I am at West Drayton and Yiewsley." "But why are you there?" In a miserable voice "I don't know." Me answering "But you must know, darling." Vanessa, "I can't concentrate, I'm feeling ill." However, she managed to get into a train to Twyford only ten miles away and I got her home with obvious 'flu and into bed with hot water bottles and drinks. Then for a bath—thank goodness everyone's safe and I can go to bed. The telephone again, the *Daily Mirror*—now bed—the telephone again—goodness, Philip's voice saying "I've got back to Ferryfield and some kind friends are bringing me to Esher. Could you meet me at Esher station at 2.15 a.m.?" I answered: "Why couldn't you have stayed in France and let me organise an aero-tow in the morning?" He sounded rather hurt and said: "But I had no pyjamas." I replied "*Really*, Philip, you've got no *drive;*" but it wasn't really what I meant!

I didn't dare lie down, I knew I'd oversleep. I went and looked at the map. Esher was awfully across country: white roads, Virginia Water, Chertsey, Chobham Walton-on-Thames, Weybridge, all the places which I've never really been able to

sort out, and then three stations all about equidistant from Esher and none of them obviously belonging.

I thought I'd better start at twelve o'clock and tried to work out which car had the most miles in petrol. I decided the Jowett and fetched the lawn-mower petrol which I thought the car would go on in an emergency. I got in, pushed the button—starter jammed—transferred map, torch and petrol to big car, pushed that button, it went. Thunder along little lanes for 1½ hrs. Good, Walton-on-Thames; good, Weybridge; five minutes later—blast! Weybridge again—how *did* that happen?—must sort it out carefully. At last Esher, and I go along A.3 looking for someone to ask—there's not a soul. Go to one of the stations on the map. All dark, still not a soul. Try to get back to A.3—lost. At last a light. A phone box, thank goodness, the dial sort. I dial O—a lovely comforting voice. I tell him that I'm lost and looking for Esher Station and the call-box number. The voice is charming and puts me straight and at 2.30 I'm there and there's Philip. We are home again, I go to the bathroom only to find an enormous rat in the bath. It rushes at me up the side each time, nearly making the top. Philip says "Leave it to me, I will get a stick," but I have visions of the bathroom in smithereens and a mangled and not dead rat, so after a desperate sort of bullfight I manage to bottle it up in a towel and drop it all out of the window on to the veranda roof. Thank goodness, and now to bed for three hours!

NATIONAL CONTESTS OVERSEAS

NATIONAL Gliding Contests in the Northern Hemisphere are apt to be held at much the same time, so that we cannot possibly find room for detailed accounts of all of them within a reasonable period of their being held. Here are summaries of some:——

United States

The 24th Annual (except for four war years) Soaring Contest, held at Elmira, N.Y., started on 2nd July with a race to Norwich N.Y., and back, 152 miles. Paul Schweizer in a 1-24 did best, getting halfway back. Next day Bill Coverdale won a 41-mile race to Tri-Cities Airport in 50 mins., flying a Schweizer 1-26. On 5th July Graham Thompson, flying the RJ-5 formerly owned by Dick Johnson, won a 77-mile race to Sidney, N.Y. in 62 mins. Next day Francis Compton made the second longest flight ever from Elmira, 320 miles to the coast, with a Laister-Kaufmann, but Dick Schreder earned most points for a 305-mile goal flight to Boston. By this time, Lyle Maxey, last year's winner, had the lead, but Stan Smith took it from him next day with a 78-mile goal flight, all in waves, which nobody else could reach. After a 200-mile triangle task which nobody completed, Paul Bikle made best distance on the last day with 244 miles to the coast.

So Stan Smith, flying a Schweizer 1-21, won the contest, as he did in 1933. His total score was 5,366; Bikle had 4,736, Compton 4,570, Schreder 4,375 and Thompson 4,315.

Holland

The greatest number of points was earned by a French visiting pilot, Lacheney, chiefly because of an outstanding flight of 764 km. (475 miles) into and across France; it was the second longest single-seater sailplane flight in history.

Terlet, near Arnhem, was the site of the contest. Of Holland's pilots, Toutenhoofd with a Skylark II, made the highest total score with 7,195 points, followed by Kaay (Sky) with 6,261, Koch with 5,611, and De Boer with 5,541 (each with Skylark II). Twenty-one pilots scored.

Germany

The national contest was held, as before, at Oerlinghausen, but this time without foreign visitors. Launches were by aero-tow (three Tiger Moths and a Sperling). In the Open Class were 20 machines, including 4 Weihes and 4 Zugvogels, and in the

Standard Class (15 metres span or less) 9 machines, including four Ka-6 and three L-Spatz-55. Each day's winner got 800 points if at least seven pilots scored; if not, he got less—e.g. 200 points if only one or two pilots scored. Tasks were out-and-returns and triangles.

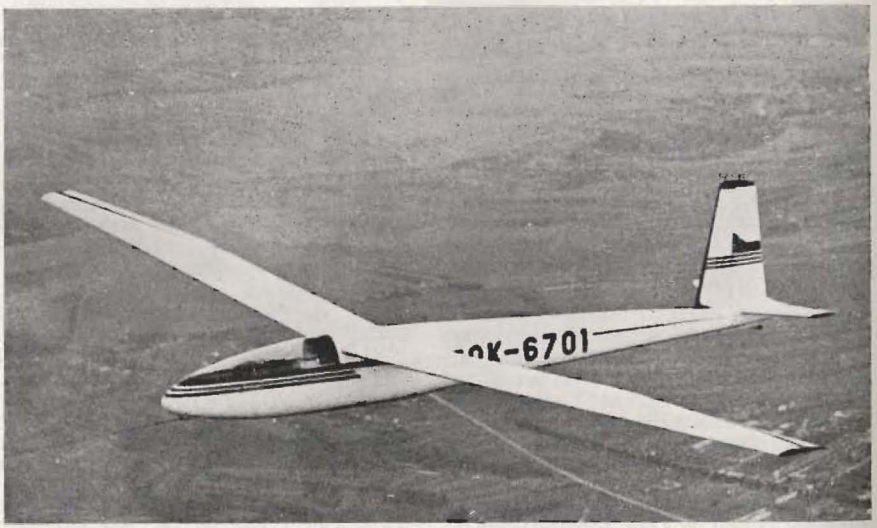
Jakob Laur won with a Zugvogel 3, earning 3,177 points; Haase, with the HKS-3, came second with 2,996; and Hanna Reitsch, with a Zugvogel 3, came third. Heinz Huth won in the Standard class.

Czechoslovakia

The third National Championships were held at Vrchlabi at the foot of the Giant Mountains. Of 36 pilots entered, 25 flew the standard Sohaj 425; but the winner, Vladislav Zejda, aged 24, won the Championship in a Démant. He not only won six events out of ten, but set up a World's record for out-and-return, 324 miles, beating the previous record by Lyle Maxey (U.S.A.) by 11 miles. On one day 27 pilots each made 300 km. out-and-return.

THE "SPARTAK"
A New Czechoslovak Sailplane

by Josef Fryba



At the end of 1955 a Central Committee of Svazarm invited tenders for the design of a high-performance sailplane, and the L-21 "Spartak" won the first prize. Its designer, Karel Dlouhy, is an active glider pilot; he has the Gold C and is chairman of the Gliding Section of Czechoslovak Aero Club. In 1952 he had a part in the design of the Laminar, the first Czechoslovak laminar-flow sailplane, and he also designed the all-metal two-seater Blanik.

L-21 "Spartak" is a high performance laminar-flow all-wood single-seater. The wings and front part of the fuselage are of so-called sandwich construction, which has the advantage of reducing the waviness of the fuselage surface, and of lower weight than normal plywood.

The wing, of trapezium plan, is provided with both flaps and dive brakes. The flaps can be pushed out only to one position—5°—and are very effective, reducing the

stalling speed by almost 10 kms. per hour. The dive brakes are situated only on the underside of the wings, so as not to spoil the surface of the wing in the region of greatest suction; they increase the rate of descent by only 1 metre per sec. The slip is also not too effective, and consequently the designer is thinking of adding a braking parachute.

The cabin canopy moves forward as on the Démant, and can be thrown off in an emergency. The pilot sits in a tilted position, but his head is supported by a small movable pillow.

The elevator can be folded up to the rudder for transport.

The stability of the sailplane is very good both in turns and in straight flight. After being set into a turn with 30° bank, it continues the turn with no tendency to change its flight regime. There is due warning of a stall. After being put into a spin, it persists for one to three turns, depending on pilot's weight.

The sensitivity of the controls is very good, in some respects better than in the Démant. The change from 45° bank to the opposite one lasts 4 seconds, compared with 5 or 6 with the Démant. The sailplane can be trimmed from stalling speed up to 150 km.p.h. (93 m.p.h.). The glide ratio is expected to be 1:37 at least. The sink at 200 km.p.h. (124 m.p.h.) is only 5 m./sec.

Technical data:—

Wing span, 16 m. (52 ft. 6 in.); length, 8.1 m. (26 ft. 7 in.); empty weight, 287 kg. (633 lb.); all-up weight (including 100 litres of water), 490 kg. (1,080 lb.).

Estimated gliding angle, 1 in 37 at 85 km.p.h. (53 m.p.h.); minimum sink, 0.65 m. (25.6 in.) per sec.; minimum speed (flaps), below 65 km.p.h. (40.4 m.p.h.); maximum speed, over 240 km.p.h. (149 m.p.h.).

Czechoslovak pilots look forward to successful representation of their country at Leszno, Poland, next year. If the Démant was valued at the French Championships as one of the best sailplanes in the world, we can say the same of the Spartak.

A NEW FRONT COVER?

OUR competition for a new design for the heading of "Club and Association News" produced an unexpectedly large number of entries, and these are now being judged by an expert committee consisting of Peter Scott, Cuthbert Orde and Lawrence Wright.

A reader has written suggesting that we now run a similar contest for a new cover design. This seems an excellent idea.

Most people think it would be best to retain the general layout, incorporating a new photograph for each issue. It has been suggested that more emphasis might be given to the word "Gliding" than in our present heading, on the grounds that this is the word in more general use by the public and the newspapers, although admittedly it gives the ignorant a false idea of what we actually do.

On the other hand, in pre-war days we had for a year or two a standard cover-design for the SAILPLANE & GLIDER which did not incorporate a different photograph every issue, but simply changed its colour. If anyone has an idea of this kind which might enhance our sales-appeal, we should be happy to see it too. But we could not afford a *different* colour-block for each issue.

We shall not, of course, be able to print each design submitted, but the same committee will judge all entries, and the winner will receive a small prize and the satisfaction of seeing his entry immortalised. The closing date for the cover-design competition is 20th February.

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MOUNTAIN FLIGHT

by W. E. Crease



FOR some years now it has been my theory that a gliding party let loose in North Wales with a Jeep and a bungy can find suitable slopes for soaring in all weather except "no wind in the wrong direction." But although I had soared in south, west, and north winds, I had never—except for one enjoyable expedition on the Great Orme—had a chance to test the east-facing slopes.

On Sunday, 16th June, with the whole country covered by an intense anticyclone, a party from Cambridge, complete with Olympia, Skylark, Jeep and Landrover, arrived at Clwyd Gate. On Monday the wind was easterly, very light. The time had come to test my theory.

Cut into the main North Wales land mass like a finger pressed into butter, the great rift of the Conway Valley (see map) runs in an almost straight line from Conway in the north to Bettws-y-Coed in the south. On the east side the ground slopes down comparatively gently to the Conway River. On the west it rises in a 1,000 ft. escarpment of wood and rock, before sloping back more gently into the welter of little peaks that form the foothills of Snowdonia. Beyond these the great rock faces rise up—names known to every rock climber, Carnedd Dafydd, Carnedd Llewellyn, Tryfan, The Glyders. South of all, the great East Bowl of Snowdon looks down on the black waters of Glaslyn, where it lies between its containing precipices, Crib Goch and Lliwedd.

After nameless trailering adventures we were at last perched on a grassy shelf at the top of the escarpment, and at 4 p.m., under a still-warm sun, I was bungied over the edge.

In the very light wind, lift was hard to come by, and even the best bits of cliff could produce no more than 1 to 2 ft. per second up. Slowly I fiddled up height until I was sufficiently clear of the cliffs to start circling. In spite of the anticyclone, thermal activity earlier in the day had seemed quite good, but they were dying now and at first I barely drew away from the rising ground below, as I circled gently back. The terrain below was sheer glory or sheer murder, depending whether one looked at it from a scenic or a landing viewpoint—but from either viewpoint it was awe-inspiring! In the distance the great peaks filled the sky-line, a savage frieze, towering far above my meagre 2,000 ft. Below me the countryside was a welter of little lakes, dozen upon dozen of them, varying from tiny things hardly bigger than a dewpond to the mile-long waters of Llyn Cowlyd and Llyn Eigiau, all sparkling blue under the westering sun like sapphires in a queen's diadem.

As always, low over broken ground, the thermals were small and shredded. I must have used twenty or more in that first hour, none of them giving me more than a couple of hundred feet but all yielding their small quota, so that gradually even the great peaks sank down to my level and below.

I raised a small cheer to myself. I was the highest thing in all that wild land. Dare I hope at last to soar the long-inviolate peak of Snowdon itself?

Alas for human ambition! The shimmering blue waters of Llyn Cowlyd were a mile or more upwind of me; I could already see over the shoulder of Tryfan—my beloved Tryfan, queen of all rock climbs—into the dark waters of Llyn Idwal beyond, when something came out of the blue sky and hit me!

The green ball dropped with a bump; the red shot up to the top of its tube—and stayed there! To my fevered vision the pointer of the altimeter seemed to unwind itself like the second hand of a watch. I took one look at the incredibly ugly ground below me—had I only a minute before called it beautiful?—and fled.

After perhaps half a minute—30 seconds of heart disease—the red ball came back to a sensible position; there were even a few faint flickers of green. The altimeter still showed 4,000 ft.; my finer self said: "turn round, you coward, and try again."

"No! No!" cried my baser self. "Your neck is a valuable commodity. Ever so valuable! Think of your insurance policy! Are you engaged in aviation solely as a fare-paying passenger? You are not! Think of your wife and children! Think of anything as long as you get me out of here!"

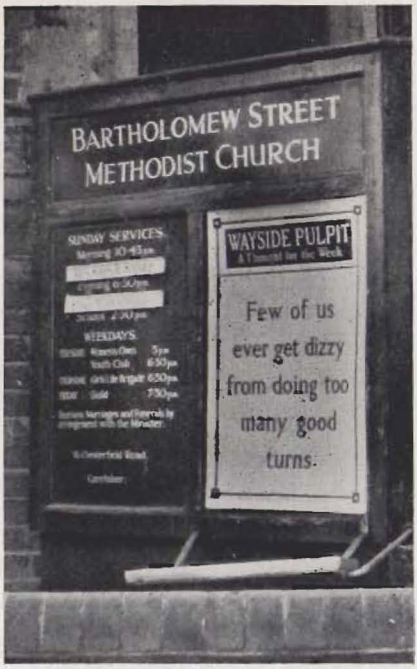
My baser self won. Only when we arrived at Bettws-y-Coed with 1,500 ft. to spare did my finer self say, "I told you so!"

By now the wind had dropped almost to zero and the thermals were dying fast. I thoroughly deserved to go straight to the bottom, but life was still kind to me. Instead of three down, I found the whole of the Conway valley filled with gentle lift. Not only over the soaring slope but over the whole valley, with the occasional weak thermal bubbling up through it. Gradually I realised that what I had was the Derby & Lancs. evening thermal, but on a huge scale. On the easterly slopes of the high peaks, as the sun dropped low behind them, the air was cooling and forming, as it cooled, a katabatic wind—you could see the leaves of the trees on the soaring slope turned downward. Undercut by this wind, and also perhaps by a certain amount of sea breeze as well, the warm valley air was being pushed upward, apparently for the sole benefit of a disappointed glider pilot.

Not often is it given one to soar thus without effort, apparently detached from the bonds of gravity. In air that had the warmth and softness of silk I slid back down the valley, to see, as I reached the seaward end, Dave Martlew climbing up to meet me in the red Skylark.

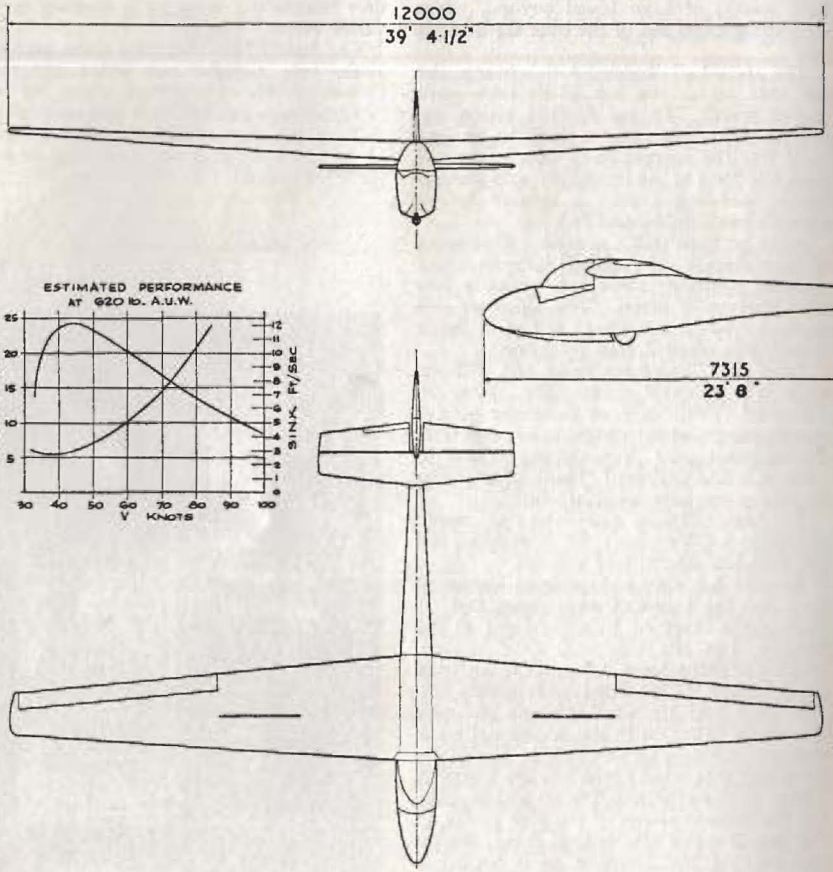
For a while we formated amicably; then Dave circled back into the mountains, and after a few more minutes I slid on down, dive brakes out now, to a landing in the valley below.

The flight of my life? Not quite, perhaps. There was a flight two years ago from Conway to Nevin and back, along the west faces of Snowdonia, which still remains the pick of my memories. But this I know. Once you have sampled mountain soaring there *is* no other.



This is the "Thought for the Week" that so inspired a Cambridge Club pilot on a retrieve during the National Championships.

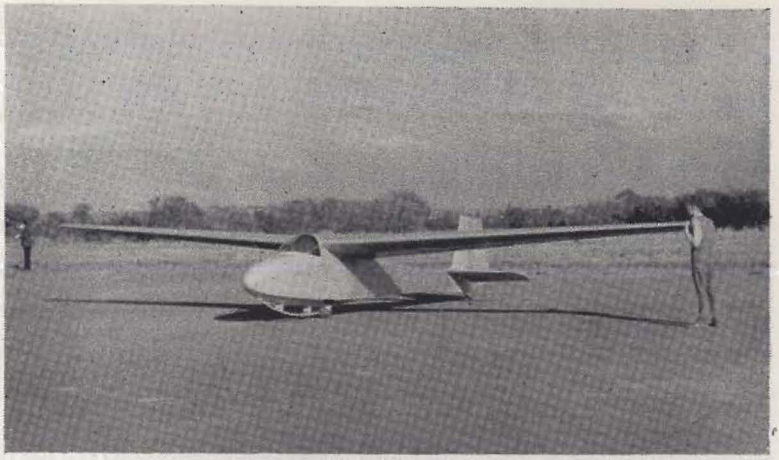
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KIRBYMOORSIDE, YORK.



Mapping Holland for Thermals

by L. R. Lucassen and Tj. Hoekstra

(Condensed from an article in "Avia" and translated by Mrs. Rika Harwood)

ALL Dutch glider pilots are aware that the thermal conditions over Holland vary widely in different localities. Speaking generally, the district known as the Veluwe, south-east of the Ysselmeer (formerly Zuider Zee), where the well-known gliding centre of Terlet is situated, is a good one, whereas the coast and certain river valleys are bad.

We decided to pool all the information available from local knowledge of thermal sources and make a thermal map of Holland. Although the idea of making such a map is not new, as it has already been done for Switzerland, the method used in compiling the map is of interest.

We used three different sources of information. First, we sent out a form to all the gliding clubs, asking the experienced pilots to fill in the details, e.g. general reputation for thermals, their location and strength, whether contact could be made from winch launches, and the likelihood of successful cross-country flights in particular directions.

Next we made an analysis of nearly 600 cross-country flights from 1953 to 1956, of which 7% were successful goal and out-and-return flights. The details of these were obtained from the Royal Netherlands Flying Association records of Gliding Certificate flights and competition flights. The average distance proved to be approximately 55 miles, and 63% of the flights, averaging 60 miles, were made from Terlet, Venlo coming second with 13% of the flights averaging 55 miles.

The third source of information was our own experience of cross-country flights, both in gliders and in powered aircraft, over different parts of Holland.

We took a blank map of Holland, and marked on it the large rivers, the County capitals and the gliding sites. We then marked on the map every cross-country landing of which sufficient details were known, using as a symbol a tiny glider with its tail pointing towards the starting place. The number of landings at any particular site was indicated, and it was taken as a reasonable assumption that if a high percentage of flights reached a given goal the thermal conditions in that district were good. If, however, there were landings scattered all round the goal this would imply poor thermal conditions.

Another reasonable assumption seemed to be that a district with few landings would be good, and one with many landings near together would be bad.

We had of course to take into account the German frontier; for if conditions were not too good a pilot would obviously prefer to land in Holland in order to avoid the greater difficulties of a retrieve from across the frontier. Similarly, we seldom found landings happening close around the aerodromes, as pilots would normally prefer to land on them rather than just outside.

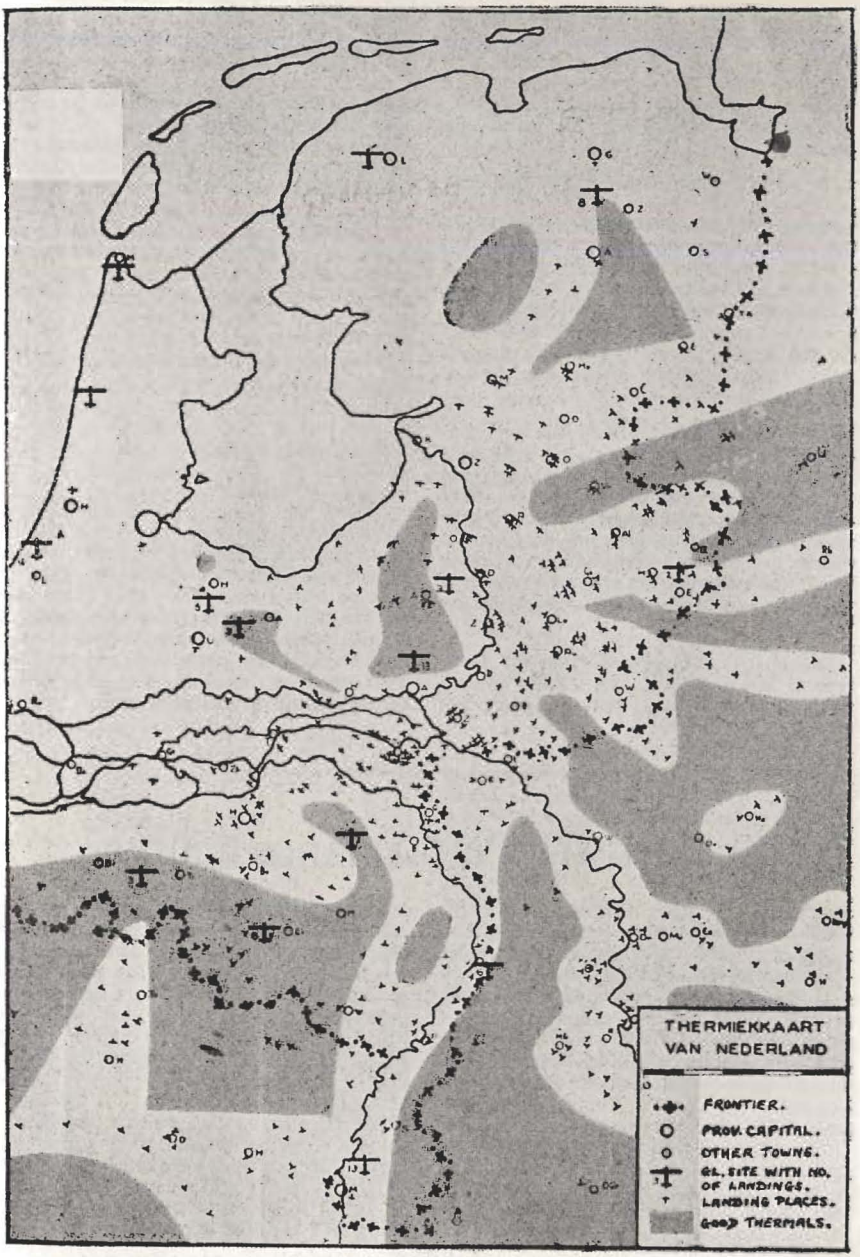
The picture of Holland resulting from this analysis can be summed up as follows:—

FRIESLAND.—No flights finished here. We believe that the thermal conditions must be poor, on account of the great amount of sea and lakes.

NORTH ISLANDS.—The same remark applies. Experience at a camp at Ameland in 1956 showed that when the sun shone, which was a rare occurrence that year, cumulus clouds built up over the islands across the wind direction, and were thus not normal cloud streets. We think that, in such conditions, a flight from island to island would probably be possible.

GRONINGEN AND DRENTE.—There were few cross-country flights. The cold lakes and the river Dollard would naturally give rise to poor expectations. Flights of 180 km. from Terlet were found usually to have ended at Eelde. The latter place has a fair reputation for thermals, but duration flights of 5 hours are rare, and the thermal strength is seldom above 2 metres per sec.

OVERYSSEL.—Many landings have been made in this County, from which it may be deduced that the thermal conditions are poor, except in the south-east corner.


THERMIEKKAART
VAN NEDERLAND
FRONTIER.
PROV. CAPITAL.
OTHER TOWNS.
GL. SITE WITH NO. OF LANDINGS.
LANDING PLACES.
GOOD THERMALS.

GELDERLAND.—In a northerly direction from Terlet conditions are very good. There have been several successful goal flights to Eelde, also out-and-returns. Other parts of Gelderland, however, are poor, except, as in Overyssel, the south-east corner.

UTRECHT.—This County is "patchy". South-east of Zeist lies Driebergen, popularly known as "downdraught village". There is no known reason for this appellation, but we think that the neighbouring Gelderland valley may be the cause. Around Hilversum the thermals are fairly good, but not so good as at Soesterberg. Of course the Loosdrecht lakes are quite near. Little is known of the area west of Utrecht.

THE SEABOARD.—Coastal thermal conditions are generally poor, but with east winds there is ridge lift to be found along the sand dunes. Often the sea breeze effect causes a long cloud street, which moves slowly inland, providing lift of about 2 metres per sec. and continuing until quite late in the evening. In such conditions it is possible to make cross-country flights along the coast.

BRABANT.—The gliding site at Gilze reports fair thermals; and as few gliders from other sites land there it seems that they probably find enough lift to fly on into Belgium. From the map it was found that many flights ended between Turnhout and Diest. South-east from Gilze the terrain is good for thermals and extends as far as the line Tilburg-Helmond-Weert.

East of the river Maas (Meuse) the thermals are good, and the Venlo Gliding Club reports excellent soaring conditions in all directions, including crossing the Rhine to the north-east near Wesel. Over the Ruhr, however, the industrial haze or smoke tends to obscure the sun and diminish thermal activity.

Overall Picture

From the mass of detail the conclusion is drawn that the best thermal districts are in the County of Drente, over the Veluwe, and in the south and south-east parts of Holland; the great river valleys, the lake districts and inland seas being, as one would expect, rather poor.

Clearly for rallies and competitions a good thermal site must be chosen, and it seems that one is limited to Terlet, Venlo, Volkel and Welschap. Since the last two have an operational rôle, Terlet and Venlo are the only ones that have been used for national competitions since 1948. As a third choice Gilze seems to be the best bet, its score on the analysis being 11% of the flights averaging nearly 44 miles.

Skylark III Performance Curves

MESSRS. Slingsby Sailplanes have received an appreciative letter from Mr. Gordon Oates, of Toronto, Canada, regarding the Skylark III with which he won the 1957 Canadian National Championships and set up new Canadian height records of 17,200 ft. gain of height and 18,800 ft. absolute altitude. Commenting on the performance curves published in SAILPLANE & GLIDING for August 1957 (page 199), Mr. Oates writes:—

"Recently I made an attempt to check the performance of the Skylark, and you may be interested in the results, for what they are worth, although I suppose their accuracy is rather doubtful. The tests were completed one morning in extremely stable conditions; in fact, no instability at all developed during that day. The tests themselves were timed glides, for each speed setting between 40 and 65 m.p.h. at 5 m.p.h. intervals, extending over at least 600 ft., the time for each 100-foot increment being noted. The airspeed was corrected according to your pitot/static position error curve and a calibration error chart for the A.S.I. When corrected to sea level, I obtained a smooth curve for the rate of sink and L/D almost identical with your latest curves, the minimum rate of sink being 1.78 ft./sec. at 42 to 44 m.p.h. and the maximum L/D being 36.7 at 47-48 m.p.h."

ANNUAL BEST FLIGHTS

by Nicholas Goodhart

DEC 57

Now that both United Kingdom and British National records have been pushed up to figures that are unlikely to be beaten except under fairly special weather conditions, there is a lack of stimulus to try really hard on the poorer days; and yet it has been shown time and again during Championships that on days when one wouldn't even think of going away under non-competition conditions, really startling achievements are actually possible.

The importance of practising under less than the best conditions cannot be overstressed for all pilots who want to reach high competition standard, and it is to be hoped that the scheme outlined below will provide encouragement in this direction.

The scheme has been produced by the B.G.A. and will be instituted on 1st January 1958, under the heading "Annual Best Flights".

Details are as follows: in each issue of SAILPLANE & GLIDING space will be allotted for the recording of the best flight to date *during the current calendar year* under each of the standard British National record headings, i.e.—

Absolute Altitude,
Gain of Altitude,
Distance,
Distance to Goal,
Out and Return,
100 km. triangle speed,
200 km. triangle speed,
300 km. triangle speed.

Each one of these will be recorded separately for single-seaters and two-seaters, but there will be no sex discrimination.

Since the flights are not records, but simply recorded in order to provide the target for other pilots, full documentation of the flights is not required, and they may be claimed simply by sending a claim card to the Secretary, British Gliding Association, Londonderry House, 19 Park Lane, London, W.1. They will then be forwarded to the writer, who has volunteered to look after the scheme. Though full documentation has not been called for, it must be noted that the spirit of the standard record rules still applies.

The claim card should be countersigned by someone in authority at the Club from which the flight was made, who simply certifies that he believes that the claim is correct and that he has seen and checked the barograph chart.

These claim cards are available free from the B.G.A., but in the absence of such a card, an ordinary postcard will do, provided the following details are given:—

Date of Flight,
Name of pilot,
Type of Glider,
Take-off, turning and landing points;
Classification (one of the eight shown above),
Single or two-seater,
Figure claimed,
Signature,
Counter-signature of club representative and R.Ae.C. Observer number.

It must be noted that the flights showing in some of the classifications at the end of the year will rank for the various annual awards; however, these awards will continue to depend on the production of proper certification of the achievement, and therefore the mere fact of a flight being logged under "Annual Best Flights" in no way guarantees that it can be certified for an award or record.

Due to the date on which SAILPLANE & GLIDING goes to Press there will be a standard dead-line of the 27th of the month preceding that in which the magazine is scheduled to appear: that is, the deadline for the April issue due to be published at the end of March is 27th February. Claim cards *posted* after this will have to be held over for the next issue.

So, if you want to see your achievements recorded, rush in your claim cards; and if you do not, still rush in a card, as there are others who want to know what you are doing.

In order to get started in January, it is suggested that flights in excess of the following figures should be claimed unless it is known that a better flight has already been put in:—

Altitude	5,000 ft.
Gain of Altitude ..	3,000 ft.
Distance	25 miles
Out and Return ..	20 miles
Goal	25 miles

Any of the triangles completed.

Modify your **"TUTOR"** to Enclosed Cabin

(As in the August Issue "Sailplane & Gliding")

Complete set of Drawings and Instructions. B.G.A. Approved

Price £1 10s. 0d.

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TUTOR WITH FACE LIFT

FLYING experiences with the Avro Gliding Club's hotted-up Slingsby Tutor, described in SAILPLANE & GLIDING for August 1957 (page 214), are described in a letter from Mr. J. M. Holbrook:—

"It really is a delightful Tutor to fly now. Some further observations of its flying qualities show that it is much more stable in yaw, due, no doubt, to the increased rudder area aided by the 'forward fin' effect of the large cabin. The two things which make this apparent are (1) its reluctance to spin and (2) much improved winch-launch characteristics, i.e. there is no longer any tendency to 'wander' on the launch.

"Another improvement is that when flying in rain, even fairly heavy rain, the raindrops do not stick to the cabin but stream off, leaving the view unobscured. This peculiarity apart, the view is excellent all round, and it is possible, even when securely strapped in, to see the outer portion of the tail.

"Incidentally the 'conversion' of pilots to enclosed cockpit type flying is speeded up considerably by the mod., and in effect it gives us another aircraft type."

Gliding Certificates

DIAMONDS FOR ALTITUDE

No.	*Name*	*Club or School*	*Date of completion*
309	D. G. Goddard	Surrey Gliding Club	18.6.57
310	J. S. Williamson	Army Gliding Club	19.7.57

GOLD C CERTIFICATES

30	A. D. Piggott	Surrey Gliding Club	6.5.57
31	J. C. Neilan	Surrey Gliding Club	13.7.57

SILVER C CERTIFICATES

680	P. T. Etheridge	Bristol Gliding Club	14.7.57
681	J. V. Ginn	London Gliding Club	13.7.57
682	L. Dent	R.A.F. Moonrakers Gliding & Soaring Club	21.7.57
683	J. R. Tudgey	Bristol Gliding Club	20.7.57

No.	*Name*	*Club or School*	*Date of completion*
684	G. C. Stacey	Surrey Gliding Club	6.6.57
685	E. J. Chubb	Bristol Gliding Club	14.4.57
686	W. R. Bridges	Kent Gliding Club	23.6.57
687	P. B. Cotton	Midland Gliding Club	26.8.57
688	M. D. P. Hughes	Midland Gliding Club	16.8.57
689	M. S. Sanderson	Yorkshire Gliding Club	17.8.57
690	J. I. Croft	Coventry Gliding Club	24.8.57
691	D. Edwards	R.A.F. Nimbus Gliding Club	14.5.57
692	D. C. Ryland	Salisbury Gliding Club, S. Rhodesia	7.7.57
693	V. S. Bailey	London Gliding Club	11.6.57
694	G. S. Larkins	Derbyshire & Lancashire Gliding Club	8.9.57
695	H. P. Buckminster	R.A.F. Gütersloh Gliding Club	6.8.57
696	R. E. Pyrah	R.A.F. Gütersloh Gliding Club	11.7.57
697	D. J. Corbett	Surrey Gliding Club	8.9.57
698	A. W. F. Edwards	Cambridge University Gliding Club	17.9.57
699	B. G. Gunter	R.N. Gamecock Gliding Club	12.9.57
700	P. L. Harris	Cambridge University Gliding Club	18.9.57
701	T. L. Hughes	Bristol Gliding Club	15.9.57
702	K. R. Brown	Bristol Gliding Club	14.9.57
703	P. S. Clay	Midland Gliding Club	14.9.57
704	D. Tapp	London Gliding Club	12.9.57
705	N. Birch	Midland Gliding Club	15.9.57

C CERTIFICATES

Name	*Gliding Club or A.T.C. School*
S. A. Jeffries	London
R. A. Hewlett	R.A.F. Four Counties
H. Kohlmann	Bristol
A. M. Moss	London
L. I. Bleaken	RAF Wahn
R. A. Hellewell	Yorkshire
A. C. Dacombe	Surrey
W. R. Bridges	61 Group, Dunstable
H. P. Rippon	Nchanga
R. F. Relph	Derbyshire & Lancashire
E. T. Murley	Army
I. G. Bailey	London
D. R. Woolley	Derbyshire & Lancashire
A. W. Sykes	Bristol
C. G. Stone	RAF Ahlhorn
J. M. Newmark	Derbyshire & Lancashire
P. Newmark	Derbyshire & Lancashire
P. Herring	Army
S. A. Steele	Handley Page
J. Costin	London
D. W. Braham	Cambridge
J. H. Ansley	RAF East Anglia
D. Milburn	RAF Ahlhorn
J. H. Blackmore	Coll. of Aeron.
K. R. Alderson	Dartmouth Cadet Camp
C. Horsfall	Army
K. C. Ball	622 G.S.
J. F. Chapman	613 G.S.
A. M. C. Macklow-Smith	Army
G. M. Beevers	Oxford
M. G. Lodge	621 G.S.
B. R. V. Hylton	621 G.S.
D. R. Godfrey	RAF Wahn
B. A. Biggadike	621 G.S.
J. M. Goffin	RAF Nimbus
J. A. Findon	Coventry
C. N. Dodds	641 G.S.
V. R. Wright	Yorkshire
H. C. Hooper	Cornish
K. Sproul	641 G.S.
J. C. P. Thomas	Cornish
L. T. Thoo	Perak F.C.
D. Edwards	Gütersloh
C. M. B. Horsfield	Surrey
W. F. Beeston	632 G.S.
J. J. Burton	Cambridge
P. W. Plaxton	Yorkshire
P. G. Burgess	Surrey & Accra
E. R. Perreaux	Cranwell
J. M. Benson	Gütersloh
K. P. Wood	B.A.O.R. Hameln
D. A. Rochester	Bristol
W. V. Menkevich	Cambridge
G. H. Martin	London
W. A. Keating	Scharfoldendorf
J. O. Maccagan-Wedderburn	Yorkshire
N. E. C. Dear	East Midlands
W. C. Swift	Surrey
H. J. S. Beazley	London
C. A. Hely-Hutchinson	Army
R. E. Pyrah	Gütersloh
D. B. Green	Surrey
R. H. Eyton-Jones	Dartmouth Cadet Camp
C. R. Hunneyball	Dartmouth Cadet Camp
K. G. Baylis	613 G.S.
C. G. W. Roberts	621 G.S.
A. R. M. Wright	621 G.S.
M. J. Gale	621 G.S.
D. H. Eastmond	621 G.S.
K. T. French	621 G.S.
M. C. James	621 G.S.
A. F. Anderton	RAF Nimbus
R. B. P. Bennett	621 G.S.
T. J. Bradbury	RAF Four Counties
E. P. Crawford	Dartmouth Cadet Camp
C. R. Hill	623 G.S.
D. C. Banting	Wessex RAF
T. F. D. Jones	621 G.S.
W. B. Wallace	621 G.S.
D. C. Gilliland	621 G.S.
B. J. Oliver	Imperial Coll.
V. M. Pemberton	621 G.S.
R. Thorpe	621 G.S.
D. L. Jones	Surrey

Glider Maintenance—4

by R. C. Stafford-Allen

PLYWOOD AND METAL REPAIRS

Plywood Repairs

HERE again we have two basic types of glued joint, the lapped joint and the scarfed joint. The lapped joint is mainly used in patching minor damage. Patches of ply should be of the same thickness and grain direction as the original ply and should be glued onto the back, or inside, of the panel. All edges should be chamfered down at a slope of 5 to 1. Patching is useful for repairing odd cracks, holes, etc., in lightly stressed panels of ply, provided these are small and of minor importance. Do not use this method for important ply panels such as leading-edge ply, etc. For this type of repair, as, in fact, for the majority of ply repairs, scarf joints must be used.

You know, by now, that you must only use Approved plywood, but here is a word of warning. You will come across two different types of plywood in glider construction. The first, or ordinary plywood, consists of three veneers of wood, the outer two veneers being laid so that the grain runs parallel with the length of the sheet, while the centre veneer is laid so that its grain runs at right angles to the two outer veneers—i.e., runs across the sheet. This is the most common type of plywood. The second type, sometimes called Shear Ply, Diagonal Ply, or 45° Ply, is a high-duty plywood used in positions of great stress such as spar webs and, sometimes, leading-edge ply. In this ply the outer veneers are each laid at 45° to the long edge of the sheet. This ply has enormous strength in shear, and must never be replaced by ordinary ply.

Grain is very important in ply panels, and all replacements, insertions and patches must be arranged so that the grains run as in the original structure.

Making scarfed joints in plywood is basically the same procedure as in solid timber, with a few exceptions. The length of the scarf must be nine times the ply thickness—no more and no less. If you try to make the scarf longer, you will almost certainly lose strength through the feather edges breaking. A shorter scarf is not up to strength. No reinforcing strips are required, but, of course, any fabric used as a protective covering must be made good. The scarf must be very accurately made, the surfaces must be really flat and must fit perfectly before gluing up. This is made easier by the laminated form of plywood, since a good scarf shows three straight stripes, of equal width, where the three veneers have been shaved down. Mark off your scarfs with a pencil line before you start and shave down with a file rather than a plane. The latter is rather too greedy and tends to break up the feather edge. The new "carrot grater" type files with replaceable blades will be found very useful for scarfing ply.

All ply scarfs must be backed; i.e., there must be a rib or frame behind the scarf, or it is impossible to close the scarf for gluing. Moreover, the backing must be at least three-quarters of the width of the scarf, and, if necessary, the rib, or frame, must have a strip of timber glued alongside it to make it up to this thickness. If there is no rib or frame to use, then you must fit a backing piece, glued into place. Never try to scarf onto thin air, i.e., without backing; it is a waste of time.

If you consider that a backing piece is materially increasing the stiffness of the structure at the repair, it may be advisable to remove it again after the repair is finished.

The usual method of closing up a scarf joint in ply is by means of a tacking strip. This is a strip of plywood about an inch wide which is tacked down over the scarf. The operation is made much easier if prepared strips, with the tack already stuck in them, are made up beforehand. When the joints have set, these strips are removed and the tacks drawn out again. As a general principle, all tacks should be removed after a repair. If you find, as you may, that on a particular job some tacks cannot be removed owing to inaccessibility, then these tacks must be of brass. Otherwise steel tacks may be used, but these must be

NOTE.—In the previous instalment the diagrams for Fig. 5 and Fig. 6 were inadvertently interchanged. Thus Fig. 5 is on page 281, and Fig. 6 is in the second column of p. 280.

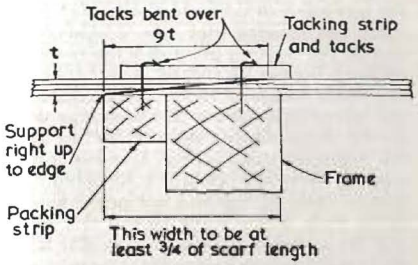


Fig. 7

removed or corrosion will set in and damage the timber. Fig. 7 shows a typical ply scarf repair.

There is another type of repair which falls rather between the two types described above. This is the Flush Insertion type of ply repair. It is useful where damage is too big for a small patch but not sufficient to justify scarfing in a new panel. It is made by cutting out the damage to an oval shape or rectangle with radiused corners and gluing in a "biscuit" of ply inside the panel. Do not make the hole circular unless you can get at both sides of the panel, otherwise you will not be able to get the biscuit through the hole. When the biscuit has been glued in, a patch can be cut to fit the hole exactly and glued into place. All outer edges of the biscuit should be chamfered to a 5 to 1 slope, and all laps should be at least 1 inch. Fig. 8 shows a sketch of this type of repair. It is not used much on gliders since the panels in general are fairly small, and usually

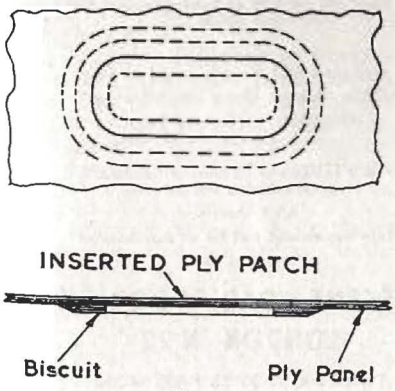


Fig. 8

it is easier to scarf in a new piece onto the nearest frames or ribs.

When replacing a damaged panel of ply with a new one, if you have to make a scarf joint at a place where there was originally a scarf joint, do not worry about the direction of the original scarf. If the new joint is in the same direction as the old one, then things are easy. Simply shave down to the old scarf joint, clean off all old glue until you have a good timber surface, and glue in your prepared scarfed panel in the ordinary way. However, if the old scarf ran in the opposite direction, then ignore it. Scarf in the new panel as usual. The joint will be amply strong. Fig. 9 shows a cross section of a new scarf running in the opposite direction to an old one.

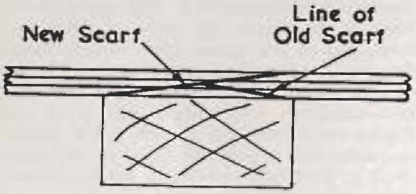


Fig. 9

This procedure of a new scarf crossing an old one should be avoided in solid spruce members. The question does not really arise since normally we can put our splices in these members more or less anywhere we like, whereas in ply panels we have to make them where there is sufficient backing, i.e., on frames or ribs.

Whenever gluing ply, it is important that the surfaces are properly sanded before gluing, since the process of manufacture tends to close up the pores.

Metal Repairs

The metal parts of most gliders are, in general, much better replaced, if worn or damaged, rather than repaired. There are a few exceptions to this rule but not many. For instance, skid shoes wear out fairly rapidly if gliders are operated on hard surfaces, and it is quite a simple matter to cut off the worn part of a mild steel main skid shoe and weld on a new piece of sheet steel. Tailskid shoes also can be repaired in this way, though in this case a thin plate of cast iron welded on to the sole of the tailskid shoe, and then quenched to leave it glass hard, seems to stand up to hard work better than anything. However, apart from

trivial things like these, no welding must be done on any aircraft structure except by an A.R.B. approved welder. This is an absolute hard-and-fast rule, and you break it literally at your peril.

If metal parts of a glider become distorted or worn, replace them. The only real excuse for repairing or reconditioning them is when the parts are difficult to obtain, as may be the case when the glider is a "one off" job.

One instance of this is when the wing/fuselage pins become worn. The easiest method of dealing with this is to replace the wing and fuselage fittings and to fit new pins. If you cannot get them you must think again. You may be able to ream the holes oversize and fit oversize pins, but you must not do this until you have received the manufacturer's approval. The new pins will have to be made, not only of Approved steel, but of the actual specification called for on the drawings. The snag with this system is that the components are then non-standard, and, while this does not matter on a "one off" glider, it's a darned nuisance on a popular type of machine, since its parts will not fit any other machine of the same type and *vice versa*.

Metal fittings must be inspected frequently for any signs of corrosion or damage. It is often not realised that even a light scratch can be the starting point of a fatigue crack; so keep fittings clean and painted, and do not scribe things on them. In this connection the writer has seen a Sky sailplane whose owner, misguidedly, had scored a line across the top spar joint fittings to assist him in rigging. Why he could not have painted a line on these fittings was not explained. The latter plan would have been quite useful, but the scored line across this heavily stressed fitting is simply asking for fatigue trouble.

Fatigue in metal is a most deadly thing. Fortunately in our gliders we find very little High Tensile Steel used. Nearly all fittings, bolts, etc., are made of Mild Steel (although it is an aircraft specification mild steel), and its behaviour under repeated loading, such as would produce fatigue failure, is perfectly predictable, unlike some light alloys. This means that there is no danger whatever from fatigue so long as the fittings are in good condition. If, however, the fittings are allowed to become corroded or scratched, there will be concentration of stress at the weakened points, and this will cause cracks to grow from them. For the same reason, if a fitting is overstrained it must be replaced.

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Release hooks, in this country at any rate, are almost all of the Ottfur type. This type is a safety hook, in that it will throw out the cable ring if the cable pull exceeds a certain angle, as will happen if a pilot forgets to pull the release at the top of a winch launch. It is most strongly recommended that no other type of quick-release hook be used, and also that only approved winch rings be used on launching cables. The practice of making up rings locally from any old mild steel bar is a very dangerous one; the rings may distort under load, and it is possible for a distorted ring to jam in the release. An approved winch ring cannot possibly jam, and it is not an expensive item. Nose hooks, intended for aero-towing, on some gliders, are locked by a pin or bolt. This prevents the release hook from "back releasing" and is intended to safe-guard against an accidental release occurring when the tow cable surges and develops an undue amount of slack. This might be awkward if you were over the middle of the Channel at the time! These nose hooks must not be used for winch or auto-tow launching unless the locking pin, or bolt, is first removed.

These Ottfur release hooks are made in several forms, differing mainly in the position, and direction of pull, of the opening lever. Apart from replacing broken springs, etc., it is a waste of time and effort trying to repair or recondition them. Messrs. Ottley Motors Ltd., the manufacturers, run a service for rebuilding these hooks, and the charge is so small and the service so quick that it is far and away the simplest and cheapest way of overhauling them. Your hook comes back to you as new, repainted and proof tested, and with a Release note certifying it O.K.

These release hooks work on what is known as the "Over Centre Mechanism" or "Toggle Joint". This is much better understood with the aid of a diagram. Fig. 10 shows the basic works of a release hook. The "back-releasing" action is not shown since that is obvious immediately on examination of an actual hook.

In the figure the release is shown locked (upper drawing) and open (below). In the upper sketch it will be obvious that no pull, however heavy, on the jaw of the hook can open it, since the pivots of the links are slightly over the straight-line position AB (hence the name "Over Centre Mechanism"). The links are merely forced against the stop.

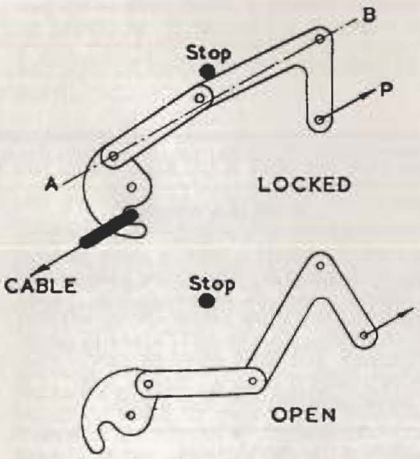


Fig. 10

At the same time quite a small force P, applied at the opening lever, is enough to lift the links off the stop, and once they pass the straight-line position the release will fly open into the position shown in the lower drawing. A little thought will show that the position in which the links come to rest in the locked position is rather critical. A small alteration here has a very large effect on the pull necessary to operate the release when under load. Wear in the pivots affects the locked position and should be guarded against by proper cleaning and lubrication of the innards of the release. A worn release usually requires more pull to open it under load.

To check a release for wear, put a finger on the jaw of the hook and try to waggle it to and fro in the opening and closing direction. This will give you a good idea of the amount of slack in the link pivots. Then waggle it from side to side. This shows up any wear in the hook pivot. If in doubt, compare the amount of slack with that in a new or reconditioned release. See that the mainspring round the hook pivot inside the frame, and the back-releasing spring on the outside of the frame, are unbroken and have not become weakened. The mainsprings particularly are liable to weakening after long service, or they may break off one "leg". This can usually be detected by the flappy feel of the mechanism when it is

operated without a winch cable in the jaw of the hook. The cure is, of course, to replace the mainspring. The other pivots and bolts should be examined for wear and security, but you are unlikely to run into much trouble here if the hook pivot is O.K. The hook pivot, and the link pivots, are the spots where wear always shows up first.

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SOME "OVER 'OMERS" IN CANADA

Jimmy Joss

(formerly of Coventry Gliding Club)

EMIGRATION is one thing, but emigration without any possibility of continuing a gliding career is decidedly another. Any avid gliding type leaving the U.K. for a new life in Canada must wonder, as many of us have in the past, what kind of flying, if any, could be had in the locality of one's intended settlement in this country of vast proportions. With encouragement from numerous ex-members of clubs in England, then, this article is being written to provide the interested folk at home with an account of how most of us in Southern Ontario have been received and made to feel at home by one particular club, to which we now offer the same enthusiasm for flying and general willingness to share the burdens of responsibility that are synonymous with any growing organisation within the movement.

The Toronto Gliding Club saw the first of what one might consider a minor invasion by pilots from "over 'ome" when Peter Folkes and the writer (from Coventry Club) showed their faces at the end of February this year. Close on their heels a short while later, and much to the surprise of them both, came a batch from Lasham—with a vengeance, for out of a brand-new station wagon driven by Dick Ballinger jumped his wife Marion and that unforgettable, crazy, mixed-up character Alan (Tosh) Cronin. This resulted in the renewal and strengthening of friendships which had developed from reciprocal visits to each other's clubs in the past and assisted in the process of becoming integrated in the ways of Canadian life whilst reducing homesickness for our old clubs to a minimum. David Spicer, who by this time was a well established member here, must have likewise been pleased to herald the arrival from "that other place"—Dunstable—of George and Liz Scarborough. More recently all of us were able to welcome yet another personality from England, namely, David Parsey, the ex-C.F.I. of Southdown Club.

Here, then, was a nucleus of seasoned pilots with no small amount of experience between them, who in a short space of time had descended on the Toronto Club with a view to obtaining membership and some flying. Any club suddenly faced with a group of such pilots must consider what effect their arrival would have within the club and possibly reserve the right to be reluctant in greeting all and sundry with open arms. With a membership list comprised of so many nationalities that the harmony of the club's functioning would undoubtedly fascinate the United Nations, we new Canadians were made welcome, however, and whatever capabilities one boasted were measured from personal showing during the course of normal club flying. In some respects this must have satisfied the club's directors, for two "Over 'omers" have obtained their Canadian instructor's rating, and it is not beyond the realms of possibility that the remainder will be encouraged to do likewise.

Difficulty has frequently been experienced in avoiding the red-rag-to-a-bull phrase—"at home we used to do it this way," and on occasions we may have glibly criticised methods employed in Canada to such an extent that there may have been sufficient justification in booting us out. Time, however, is a great healing factor; so this, plus the tolerance of long-established members, has given us the opportunity of reflecting on earlier blatant criticisms and appreciating that much of what is done over here is as good as, if not better than, existing practices at home. Differences of opinion are evident yet, and since there is an abundance of free speech in this country there is little doubt that verbal battles will continue on the basis of what each person considers best for the club or their own individual satisfaction.

The club itself is based approximately 65 miles south-west of Toronto at Brantford Airport, the home of the Brant Norfolk Aero Club, and is frequently referred to by us as Canada's Lasham. Dual runways, together with right and left hand circuits and the co-operation of the aero club, enables the satisfactory operation of both power flying and gliding simultaneously. All flying is from aero-tow and the present

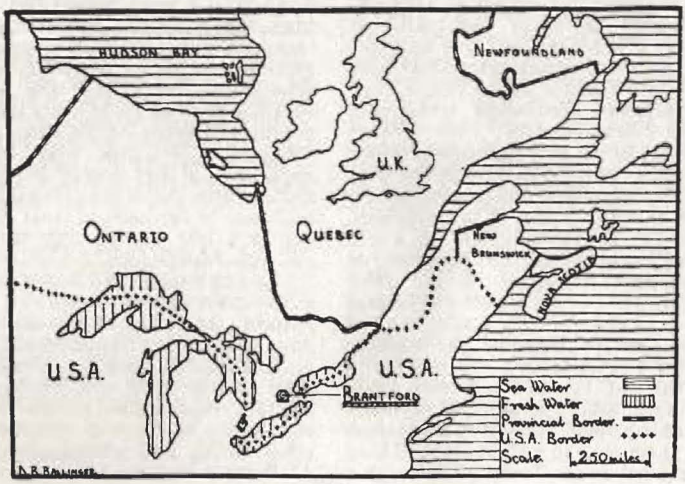
standing of the club's equipment is three Tiger Moths, a Schweizer TG-3 and TG-2, and two Laister Kauffman 10A's (all tandem two-seaters), a Schweizer 1-19, 1-26 and an L.K. Flat-top (all solo). Performances of all these aircraft differ considerably, but training and first solos are carried out in the L.K.'s with progression onto 1-26 and finally the Flat-top (a modified L.K. with improved performance).

On straight exchange rate comparisons, the joint membership of aero and gliding clubs costs approximately £11 per year, all the flying you can get for 37s. 6d. per month with tows at 17s. 6d. to 2,000 ft. Basing one's earning potential at double that received in England, these expenses compare very favourably with the majority of clubs at home. Private ownership is on the increase with the recent arrival of the Eric Best and Gordon Oates' Skylark IIID, and with a German Bergfalke two-seater for three club members. Canadian Pundits like Frank Brame, Jack Ames and Charlie Yeates fly Schweizer 1-23's of slightly varying performances, whilst other aircraft stabled here include a Baby Bowlus (pod fuselage and dural boom) and Pete (Superclot) Stickland's American-built Meise which George Scarborough has recently been cavorting around the sky in.

The club's location is not all that could be desired from the soaring point of view, due to the proximity of Lake Ontario to the N.E. and Lakes Erie and St. Clair to the S. and W. respectively. Any distances other than to the N. or N.E. must be flown along the narrow Niagara-Buffalo or Windsor-Detroit peninsulas, resulting in the frequent disappointment of being bogged down by areas of stability caused by the lake effect, usually at the narrowest points of the peninsulas. All the more credit, then, to the members who, from consistent efforts, have managed on occasions to break through these barriers and complete distances of Gold and Diamond proportions.

From club statistics available, we can quote that the total cross-country mileage flown from Brantford to date this year is 8,922, of which 5,856 miles have been flown during the two-week period of the Nationals when 72 flights produced an average of 81.3 miles per flight. This is good by any country's standards, but what comes next is even better. From eight pilots who were set the task of a race to Elmira, New York State, a distance of 190 miles, six of them got there with the resultant reward of four Gold C legs and five Diamonds obtained, with the winner, Jack Ames, setting us a new Canadian speed record for 300 km. at 49 m.p.h. Other records, too, have been broken—a new two-seater distance of 146 miles by Albie Pow, and a 200 kilometre triangle at 30.3 m.p.h., again by Jack Ames.

The total number of flights qualifying for



F.A.I. awards from Brantford to date (September 1957) are:—

Silver C legs: 11 (3 height, 3 duration, 5 distance);
Gold C legs: 6 (1 height, 5 distance);
Diamond legs: 7 (6 300-km. goal, 1 height).

Here, then, is evidence that the movement is growing rapidly in this country and does more than belie the opinion of some of the B.G.A. hierarchy that all gliding in Canada is centred around an amusing little man called Pow, and nobody much knows what they are doing. The person of Albie Pow is one of the most hard-working participants in Canadian gliding, and he possesses a remarkable sense of humour that makes meeting him a pleasure to the many newcomers to the club. He, too, is but one of the many pleasant people we now come in contact with, and when considering the Dutch, German, French, Hungarian, Australian, Danish, and not forgetting the native Canadian, we cannot count many who have not befriended us.

Perhaps this article will assist in describing how we "over 'omers" have been, and any others coming over can expect to be, treated by the gliding fraternity of Canada. There are many more like us in various parts of the country, some of whom we've met, others we just hear of; but doubtless they will all agree that willingness to assist and opportunity to enjoy go hand in hand with the majority of clubs in this country.

TRAVELLING HOPEFULLY

by Philip Wills

("To travel hopefully is better than to arrive")

AFTER waiting for years to try the 500 km. Diamond flight, it seems extraordinary that I should have had two occasions to have a hopeful shot at it within a fortnight, but so it was. On 11th June I missed it by 35 kms. or 20 miles, or one thermal, in France. On 23rd June . . .

I got out of bed at 7.45 a.m. to see a blinding clear blue morning and the first cumulus form and drift slowly to the south-west. At breakfast, 8.30, the first streets were lining the sky. We swallowed our coffee, and fled for Lasham. On the way there I cudgelled my brains as to how to use what seemed to me not the best day of the year, but the best day I had ever seen anywhere, from the weather point of view.

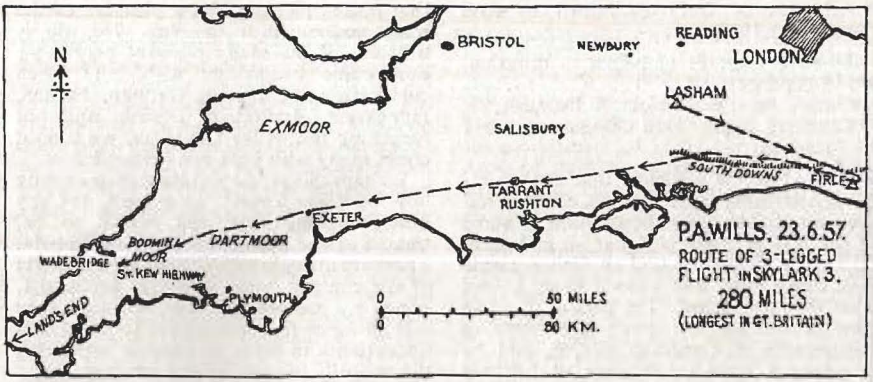
By the time we got to Lasham, the plan had crystallised. Declare a 300 km. triangle, Lasham—Firle Beacon—then west along the line of the South Downs and on to Tarrant Rushton—back to Lasham. If by the time I reached Tarrant Rushton the chances seemed favourable, abandon the triangle and make for Lands End, and the longed-for 500 km. Diamond.

The first leg, 95 km., was nearly into wind; the second was likely to be with a following wind, since one could hope along the Coast for a band of light easterlies from the sea-breeze clash with the light north-easterly prevailing wind; and the last, Diamond, leg also with a following wind, since on it one flew further inland from the coast, and so would get back into the prevailing north-easterly.

It seemed a rather heroic scheme, but it was a definitely heroic day. What was not quite so heroic, in spite of all our mad efforts, was my time of release—11.15 a.m., about 1½ hours after cloud streets had become really strong.

But it *was* a day—I released in 8 ft./sec. lift, and for the next four or five hours found regular 12 ft./sec. lift under every cloud, with cloud base at 6,000 ft.

I flew my 95 km. into-wind leg in 2 hours dead, and took my photograph surrounded by the disporting aircraft of the Southdown Club. The actual declared turning-point was a rail/river bridge a little to the east of Firle Beacon. Then I turned and scalded west along the line of the South Downs. Cruising speed between thermals 70 knots, wind perhaps 5 kts. behind me. Not only were the upcurrents fantastic, but unlike in other less favourable climes, the intervening downcurrents were not abnormally strong. The result was that I covered my 157-km. leg to Tarrant Rushton in 1½ hours dead, a quite extraordinary performance with a very light favourable wind. It was 14.45 hours. Now came the big decision of the day. Turn back for Lasham, or go on for the Diamond?



The first would probably give me a 300 km. triangle record, for although Nick Goodhart had set off on a different course for the same record (which he achieved at 42 m.p.h., so maybe I was being optimistic!) I could hardly believe he could beat me, since my course had given me so favourable a wind component. Or cut loose for Lands End. Could I do another 250 kms., starting at 6,000 ft. at 14.45 hours?

I had averaged over 100 kms. an hour for the last hour and a half. Conditions were obviously at their peak, and would now start to decline, but I might with luck have 3½ hours to go, so only had to average around 75 kms./hour.

As I turned to photograph Tarrant Rushton I flew into 12 ft./sec. lift. It was indeed a heroic day; we must live up to it. I climbed to 7,000 ft. into cloud and turned west.

There is not really much more to write. The air started to die as I reached Exeter. In the light northerly wind I flew round the northern side of Dartmoor, and found gradually weaker cumulus, whilst to the south was grey and dead. There was a black but lifeless-looking mess of storm cloud over Plymouth—I sniffed at it but could get no sense out of it. I flew on over Bodmin Moor getting lower and lower, the sea in sight both to north and to south. At 6.10 p.m., after 7 hours in the air, I landed by a railway station at a little village called St. Kew Highway, 3½ miles from Wadebridge—447 kms., or 280 miles, having missed my Diamond by 30 miles this time—a definite step back from the 20 miles short the fortnight earlier.

I left the Skylark derigged and flat on the lawn of a friendly neighbour and caught the 10.26 from Bodmin Road which got me to Reading at 4.10 a.m. Kitty met me, I had 3 hours sleep, then to the Monday morning office, whilst she set off with the trailer on the long retrieve. She stopped at Newbury to pick up Tony Goodhart, went on to Cornwall, and was back at Newbury with the Skylark at 1.30 a.m. the next morning.

Heroic days also call forth their heroines.

AN INDEX?

At the last Annual General Meeting of the British Gliding Association a suggestion was made that we should publish an index going right back to Vol. I, No. 1, of GLIDING, published in April 1950.

A full index of this magnitude would unfortunately take up a large part of one single issue, and even spread over several issues it would mean freezing out a considerable amount of contemporary news and matter. Therefore we feel that this index, if compiled, should form a separate volume altogether, and this could only be done if enough subscribers were prepared to buy it.

So will all subscribers prepared to pay either 2s. 6d. or 5s. for such an index, please write us. We should obviously need nearly twice as many two-and-sixpenny volunteers as we would five-bob ones, hence the alternative.

1966 — AND SO ON

by "Hamish" Reid

THE Kronfeld Institute was the obvious place to go. Thus in 1966 I visited that miracle of architecture, light and effervescent as the spring air, and as vast as the heavens I longed to soar.

I was conducted to the office of R.A.O. (Recruiting Advisory Officer). His charming manner put me completely at ease and we quickly filled in the details of name, address, etc. Then came the question, "Previous experience".

Happily I recalled the short, exhilarating slides in the Dagling, the crazy hops in a Cadet. "Do you know," I asked, "that they slung us up to a hundred feet or so and left us to drift down to earth without even telling us how to execute a turn in the things?"

His smile was patient.

"Of course, it was crazy and utterly pointless," I hastened to add. Then I told of the years of waiting until the opportunity offered to join a club again and start training in the T-21B. Of course, I got through to the C standard before business and family deprived me of my flying.

The R.A.O. was sympathetic. "Ah, well. You will go to the Hub, the finest centre in the world—when you qualify."

"When I qualify?" I asked. . . .

With medical examination, sight testing, decompression chamber and psychological assessment completed, I faced the R.A.O. "You will do," he nodded encouragingly. "One hundred per cent, but for a slight tendency to show lack of concentration. But in the air it will be different."

I was stung. But memory floated me back over the years to Lasham, not yet the Hub. It was a clear summer morning. We had had a good launch to over 1,000 ft.

"It is quiet," said Bill.

"Yes," said I, "glorious, peaceful, delicious."

"Deathly hush," persisted the instructor.

"Heavenly," I replied, "Here we are suspended in the skies . . ."

The controls were sluggish.

"What the hell are you going to do about it?" demanded Bill.

That sort of thing would not pass now at the Hub. No instructor at the Commonwealth School of Soaring would stand for it.

During the next two years I swotted relentlessly. I learned the fundamentals of design and construction, maintenance and inspection. The classes on Sailplane Navigation included instrument reading and calibration, the preparation of scales and charts for Best Performance under all conditions for any machine. Meteorology completed the curriculum of theoretical studies which had to be completed before the pupil could enjoy more than a quarterly familiarisation flight in which he or she tried to apply the theory while an instructor piloted the machine and gave a running tutorial.

Graduation day came at last, and those who were still physically and psychologically fit were presented with The Ticket, a permit to commence flying training. Well do I remember the day. Lord Philip Woodbine in a splendid speech told of the mad, the suicidal old days; when enthusiasts were happy to potter around with broken-down machinery for days in order to enjoy a five-minute circuit; when a sixty-minute flight near the club field was a triumph; when to nibble at cloud, untutored in the science of blind flying, was to earn the awed respect of all in the movement.

We all laughed at the pointless folly of it. But the climax of the talk was a reminder that British Gliding is not subsidised by the State, and is not controlled by the State. "By constant effort and vigilance, by virtue of the high standards we have set," said the great man, "we have earned the freedom to rule gliding ourselves."

When I received my Ticket, his lordship said: "You will be itching to get up in the air now and go places."

"I don't know," I replied. "I really do not know. I have just bought a canoe."

* * * * *

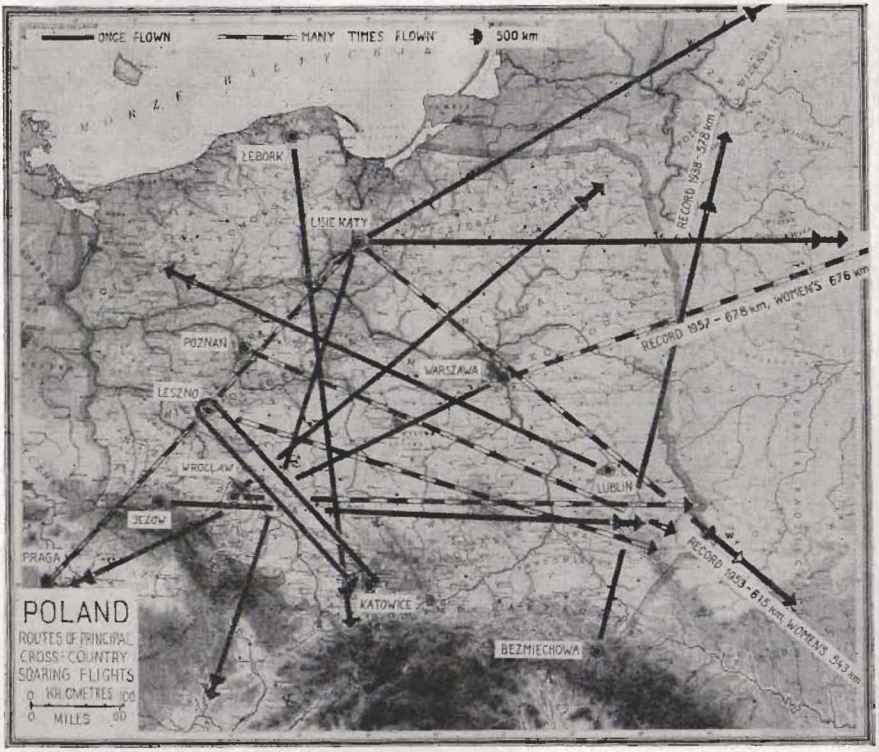
500 KILOMETRES FLOWN TO ORDER

by Adam Zientek

This description of long-distance soaring in Poland gives a foretaste of what is to be expected there during the next World Gliding Championships to be held at Leszno. On 5th May last, Poland's outstanding day of 1957, cross-country flights in Great Britain included a Scottish distance record by Charles Ross (170 miles), a 160-mile dog-leg by Derek Piggott from Lasham, and a flight from Dunstable to Lympne by John Furlong.

WHEN the Fédération Aéronautique Internationale created the Diamond Badge as the highest award for performance in soaring flight, it seemed at first to be hardly attainable—especially the 500 km. distance requirement. But, as time went on, it became evident that it might not be so difficult after all, and since then nearly 40 such flights have been achieved in Poland (see map for the most outstanding distances), and thereby much experience of flying tactics has naturally been gained.

There are various ways of covering 500 kms. Dr. Kuettner has used the famous Sierra Wave for the purpose. The Yugoslav soaring champion Mordej and the Swiss champion Nietlispach in their flights showed great skill in transferring from



The principal routes of Polish flights for the Diamond Badge. Outstanding are the eastward flights, following a cold front, although other courses have also been flown. Note the goal-and-return flight by Kopernok, which was not quite completed, though it earned the pilot a Diamond.

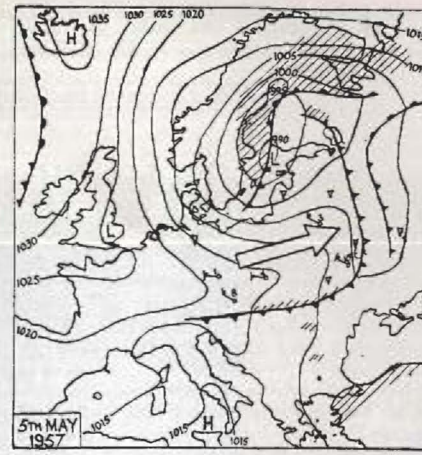
thermals to waves, which was made possible by carrying out the flight at a safe height of some thousands of metres. In France and Poland the "five-hundreders" were flown as a rule in thermals, when the wind was either in their favour or played no part. Thus, for instance, in June 1954, Kopernok flew from Katowice to Leszno and back, but failed to regain the starting-point by a few kilometres and thus missed the world's record for out-and-return, though he earned a diamond for covering 502 km.

But the great majority of Polish "five-hundreders" were flown according to the following well-tried "recipe". They wait patiently for a cold front, and when one has gone by and it has begun to rain, they go to the airfield and get everything ready. It is best when the front goes through in the night or early morning, for one then has a whole day of thermals to make use of.

Now, after the newly-blossoming thermals have shown themselves worthy of confidence, is the time to start. Six to eight hours of thermal flying will follow, during which, with a following wind of 30 km. per hour or more, one gives chase to the front. To begin with, cloud base is reached at about 1,000 metres, or in some cases less; but in time it rises to 2,000 m. (6,560 ft.). The clouds may be separate and irregular; but also in evidence are cloud streets, which are very welcome. Rain or (in spring) snow showers appear, and then one must go carefully so as not to get imprisoned in a dead region; for this reason cloud-flying is not recommended and is very seldom practised, as one is prevented from getting a good view of the situation. Moreover, the clouds are mostly flattened, and inside them nothing sensational will be seen on the variometer. Below the clouds one climbs at an average rate of 2 to 4 metres per second.

So far as possible, circling is avoided; on the contrary, it is an advantage to fly straight ahead under the cloud at minimum speed and "tank up" with height. Down-currents are flown through at 100-140 km./h. (62-87 m.p.h.), according to the characteristics of the sailplane. If there is a tailwind to be added in, one easily reaches an average cruising speed of 100 kms. an hour. And even if this does not hold throughout the course, six to eight hours are still enough for gaining the Diamond for distance.

So things went, more or less, on 5th May, 1957, when ten pilots of the Warsaw Aero



Weather chart of 5th May 1957, showing typical long-distance weather for Poland. The large arrow shows approximately the region where the ten Diamond flights were made on this day. Note the cold front, stretching from Leningrad across Kijew to Budapest, behind which the excellent "wind-thermal" weather was found.

Club flew on an easterly course far into U.S.S.R. territory before landing. Seven of them achieved more than 600 km. and only one failed by a few kilometres to reach 500. The longest flight was made by Makaruk with 678.5 km. (421.6 miles), closely followed by Mrs. Bajewska with 676.1 km. (420.1 miles). Besides the Warsaw pilots, a young pilot from Wroclaw went on a distance flight of 507 km. without crossing the frontier. The weather chart of 5th May shows that the courses of these flights lay in the rear of a long cold front which stretched in a great curve from Leningrad across Kijew to Budapest.

The pilots stated that the excellent "wind-thermal" conditions were not used to the full. In the early part of the flight they played for safety so as to avoid getting into critical situations. But if they had declared for a goal which would have given them a new record, then, according to their own account, 900 kms. would have been attainable.

It should be remarked that the sailplane

types used—Mucha, Jaskolka and A-9—are good standard machines; yet their gliding angles are below 1 in 30. If faster super-ships had been used, would not the coveted 1,000 kilometres have been within reach?

When Glider Pilots Went On Strike

by Walt H. Pratt

LET me tell you of an as yet unheard-of incident in soaring history—a soaring pilots' strike. That's how the soaring season in the Paris area started—or rather, did not start.

You will probably ask yourself what those few characters that cruise around in the air on those singular contraptions called gliders wanted to achieve with a strike, and especially in France, where soaring receives such many blessings unheard of in other countries.

Well, when the leaders of the Parisian clubs called a meeting early in March at the former National Soaring Centre of Beynes, near Versailles, it was in protest against a decision by the Public Transport Ministry to reorganise the commercial airline traffic lanes and radio-ranges to and from the Airports Le Bourget and Orly. This unilateral action, for which nobody in the soaring movement had been consulted, had the effect of completely closing three or four of the soaring centres, and limiting the other seven or eight fields in such a fashion that no real performances could be accomplished any more.

Now, when you consider that there are some 2,000 soaring pilots in or near Paris, that the Paris area has probably the greatest sailplane concentration anywhere in the world (some 200 sailplanes are stationed at the twelve soaring centres), that the Parisian soaring clubs fly 30 to 40% of all French soaring hours and distances, and that, after all, soaring is supposed to be a government supported sport, the decision taken by some 600 pilots and all club presidents who attended the meeting at Beynes—to refuse to open the soaring centres until the restrictive measures had been lifted or discussed with the responsible leaders of the soaring movement in order to find some way to arrange a peaceful co-existence between them and the needs of commercial air-transport—was in effect no slight threat. In support of this action, the light aircraft pilots joined the strike for one day, as they felt that this blow against soaring might well be a first step to eliminating also light aircraft, not equipped with radio, from the sky of Paris. Some soaring clubs, near big towns in the Provinces, also joined the strike, hoping to avert a similar fate in the future.

The strike was a success: negotiations between the Public Transport Ministry and the leaders of the soaring clubs had the effect of lifting some of the restrictive measures and giving back some liberty to soaring pilots. In the middle of April the flying fields were opened again. Some are still limited in altitude, others in direction, but there is hope for a yet better arrangement.

Another bombshell, this time aimed against all French soaring, which still threatens all existence of a government-supported soaring movement, exploded likewise in March. This bomb consisted of a few lines in the Government budget, authorising the Public Property Department to sell all sailplanes to the clubs for a nominal sum before July 1958. Again, none of the leaders of the soaring movement had been consulted, and as a similar decision had been taken a couple of years earlier for all light aircraft owned by the State, and the clubs had measured the folly of accepting this latter decision, when repair bills started to ruin their club budgets, they were not going to accept another decision of the same order without a shrill protest. (By the way, the Bréguet 901's were not included in the offer.)

However, only a formal protest, and a tacit understanding not to accept any offers made, was possible, since the budget decision had the force of law. In an extra-ordinary assembly of the French Aero-

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nautical Federation a decision not to buy any sailplanes was unanimously taken, and as the law could then not be enforced, it would be void at the expiration of the period set in the budget. This meeting also proclaimed the break between the clubs and the Sport Aviation Department of the Air Ministry, headed by M. Agesilas.

The main reason for this break was the refusal of this department to defend the interest of the soaring movement, a refusal clearly shown by the failure to inform the clubs of the Government's intention and to arrange for some sort of negotiations. Indeed, this department was only too willing to get rid of the sailplanes, and M. Agesilas sent special delegates by 'plane to the different clubs, ordering them to send in their requests for the sailplanes desired before the end of March 1957. However, only a few complied, and these cancelled their order after the Assembly.

An Unusual Observation of Wave Clouds

by Michael Garrod

(Meteorological Research Flight, R.A.E., Farnborough)



DURING the course of a routine meteorological research flight on 4th April, 1957, over the south coast, a series of wave clouds was observed in the region of the Isle of Wight at 14.45 G.M.T. These aroused particular interest as most of them did not appear to be down-wind of any surface irregularity which could be responsible for their formation.

Fig. 1 shows the position of four sets of wave clouds, as follows:—

(a) Five to the south of Barton cliffs.

(b) Three to the south of the Needles, the most marked one being furthest out.

(c) An apparent waterfall of cloud just off St. Catherine's Point.

(d) Three to the east of Cowes.

Almost all the sea was covered by fog, thinning out near the coast or just inland. A few miles inland there were only scattered cumulus clouds. During a descent to 100 ft. over the sea south of the Needles a close examination was made of the three wave clouds and the associated stratus cloud. The top of the stratus was 150 ft., and that of the waves 600 ft. A traverse across the wave tops, starting near the Needles, located the first wave about 1¼ miles from the cliffs, and the distance between waves was just under half a mile. On crossing each wave some turbulence was felt, in contrast with the smooth flying conditions elsewhere.

The temperatures from 200 ft. to 1,000 ft. were as follows:—

Height above sea level in ft.	200	300	400	500	750	1000
Temperature °C	11.8	12.5	12.9	12.5	12.0	11.6

The notable feature is an inversion below 400 ft., probably caused by a low sea temperature.

The prevailing wind was rather variable. Fig. 1 also includes observations of wind direction and speeds at 15.00 G.M.T. Smoke from a fire, as well as flags on a stationary pilot boat, indicated a surface wind direction of 140° true in close proximity to the waves.

Discussion

It seems probable that these waves were set up by the deflection of the airstream round the Isle of Wight, combined with a favourable temperature structure. The relatively heavy layer of foggy air at the

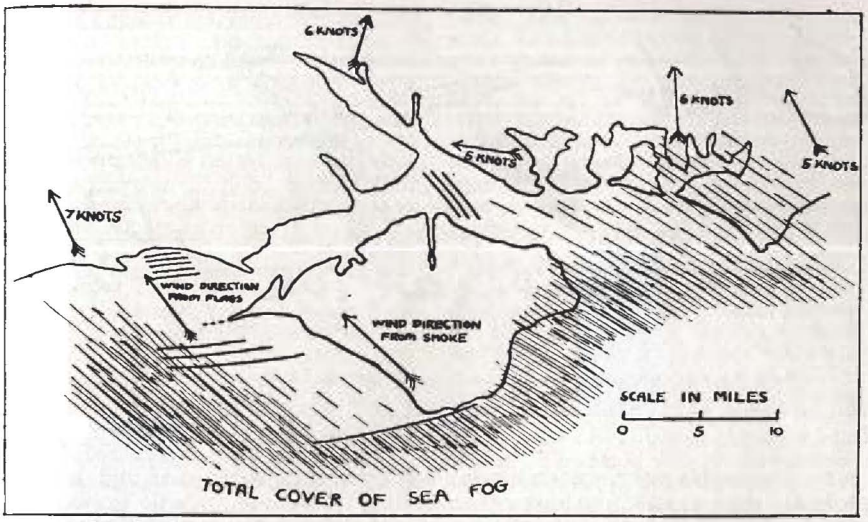


Fig. 1. *Clouds and winds around the Isle of Wight on 4th April. Parallel thick lines indicate wave clouds; shading shows sea fog; and the line extending westward from St. Catherine's Point, at the southern tip of the island, indicates the site of a cloud "waterfall".*

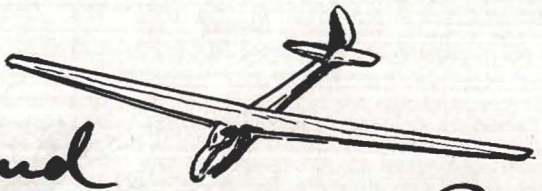
sea surface probably behaved in much the same way as would water flowing round a similar obstacle, and therefore one might expect to find systems of waves in the fog not unlike those which would occur in water. The waves shown in Fig. 1 fit quite well into this explanation, with the exception of the group of five to the south of Barton Cliffs, which could be a downwind type associated with the Isle of Wight.

However, there is one other possible means by which these cloud systems could have been formed. Sharp discontinuities of sea temperature occur near a coastline, which can also cause considerable horizontal gradients in the air temperature leading to formation of cloud. This appears to be a less likely mechanism in this case, as no similar clouds were observed at any other points along the coastline.

From the glider pilot's standpoint some thing may be learnt. Rising air is frequently found in most unexpected places, particularly at hill-soaring sites, and the waves illustrated in Fig. 1 suggest a line of practical research. If variations in the sea temperature are responsible, then there is some scope for soaring over the sea.



Club and Association News



My first task on taking over from Godfrey Harwood, I feel sure you will all agree, is to thank him for the valuable work he has done during the last two years as Editor of Club and Association News.

Under his guidance club news has continued to expand and is now probably read as much as any other section. This undoubtedly is the best that can happen to encourage inter-club activities and exchange of ideas.

During the last few months a competition has been running for a new heading for Club and Association News. The response has been very good and a number of different designs have been shown in earlier issues. As no further designs have been submitted the Magazine Committee has closed the competition and asked three well-known members of the gliding movement to act as judges and to submit, in their opinion, the best design for future use. The winner will be announced at a later date and will receive a small prize.

To those of you who have offered me good wishes in taking over the Editorial chair, may I through the medium of this column offer a humble thank you; and I do hope in the course of time to visit many of you "at home" and see for myself a little of your club activities.

I should like to remind all club Press Secretaries that it does help me considerably if you send copy typed double spaced and in good time.

Please note the last date for the February issue is first post 20th December to:—c/o S.E. Ambulance Station, New Cross Road, London, S.E.14.

COLIN MOORE,

Club and Association News Editor.

It is with great regret that we have to report the death of John Parry-Jones in the Britannia accident on 6th November. He was C.F.I. of the Bristol Gliding Club and their representative on the B.G.A. Council. An obituary will be published in the February Issue.

BRISTOL

Two noteworthy, but unsuccessful, attempts at Gold distance by Peter Scott represent the best club achievements since our last report appeared. Both flights were made at the beginning of September: 154 miles to Watton on the 8th, and 131 miles to Earls Colne on the 12th. Up to the end of September, Peter Scott had completed 940 cross-country miles as P1 in the Sea Eagle, and since he started gliding in May last year, he has also aggregated 174 hrs. in 380 launches.

Ken Brown and Laurie Hughes each tried for Lasham for their Silver C distances, and each landed 10 miles short, near Basingstoke, but nevertheless some 55 miles from home, and brought our total of Silver C's completed this year to nine. Finally, on 19th October, Dennis Corrick flew 60 miles to Reading in the Skylark II, with a maximum height of 3,000 ft. above Nympsfield.

Our records crew are still recovering from the effects of the Nationals and of holidays, but they have emerged with the statement that to the end of September we had completed 1,200 hrs. and 5,000 launches this year. This compares very nicely with our previous best annual total of 700 hrs. and 7,000 launches and suggests that even better returns will be possible when we really button up our organisation and launching facilities. In connection with the latter, prolonged studies of adequate winches are being made, backed up by experiments with our existing ones, and we would welcome comment from outside the club.

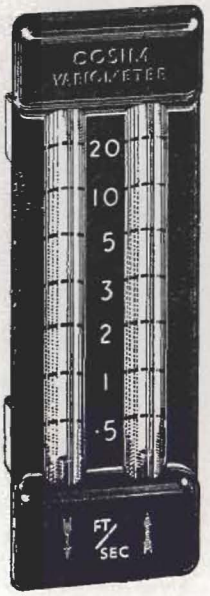
Both of our latest Canadian members—Wally Weir and Bernie Palfreeman, have now returned home, and the club has lost two very capable pilots. Bernie completed his Silver C before leaving, but Wally was less fortunate, as although he started his gliding career by getting his A, B and C on successive flights, the 50 kms. always proved too elusive.

Back in Winnipeg with no club in existence, his frustration can be imagined, but we now hear that he has managed to get a club formed with himself as C.F.I. A site has been obtained with aerotowing facilities, and they hope to make a start next spring with a German two-seater which is being

COSIM VARIOMETERS

were used by all countries competing in the **WORLD CHAMPIONSHIPS 1954** in England, and were also used on all British machines in the Championships in Spain which gained 1st, 3rd, 9th & 11th in a field of 39 single-seaters.

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imported in kit form to be made up for the club by the local authorities.

M.G.

CAMBRIDGE

THIS summer we held our first course primarily for "ab initio" new members, but at which Club members were also welcomed. We felt honoured at having a little bit of B.G.A. with us both weeks in the shape of Elizabeth Lowe—I have no doubt that she helped to keep us on the rails in the first of we hope many courses. The weather treated the course very well and a number of first solos were made, including the bit of B.G.A.

Soon after the course finished, the Club packed its trailers and fixed wings on its tractor and sallied forth Myndwise. After some eventful journeys, fully in keeping with C.U.G.C. tradition, all the equipment arrived at more or less the same time as the West wind, which carried on blowing for over a week continuously. During the three weeks camp at The Long Mynd, the C.U.G.C. machines flew 248 hrs. (mostly in the first ten days) and 268 launches. Nine 5 hr. Silver C legs were done and Pat Harris and Anthony Edwards thereby completed their Silver C's. Some waves were found, the best flight being by Bill Parr who reached over 7,000 ft.

As the Club year has just ended, Sigfrid Neumann has taken some time off from flying and prepared last year's statistics. 3,200 launches were carried out on 180 days, of which 93 were soaring days. 710 hrs. were flown and the cross-country mileage was a Club record—2,050 miles.

To complete the picture of our activities, 7 Silver C's were obtained and 4 Gold C legs (one distance—also the U.K. distance record by John Hulme, and three heights, including the Club height record of 18,000 ft. by Vin Pollard).

After the Open Meeting at the beginning of term we have had nearly forty new members, so we can certainly use our newest instructors—Pat Harris, John Griffiths and David Lowe.

B.H.S.

CRANWELL

GLIDING this year at Cranwell has been as active as ever. We started off, or rather did not start until May, because of the fuel shortage.

On the first weekend, 5th May, we had two cross-countries. Brian Rea finished his Silver C by flying 38 mls. to Peterborough in the Grunau, and John Delafield 74 mls. in the Prefect to Barton-in-the-Clay, a few miles short of Dunstable. Later in the term the latter and Flt. Lt. Dunn obtained their Silver C heights by flying to 5,500 and 5,000 ft. respectively in the Grunau. One remarkable event this year was in June when Perreaux on his first solo in a glider soared to over 5,000 ft. in the Tutor.

During the summer leave we held a two week camp at the Derby & Lancs. Gliding Club, taking our own equipment and aircraft and sleeping under canvas. Unfortunately the wind blew from every direction except West for 11 out of the 14 days we spent there. Nevertheless Flt. Lt. Taylor scraped along the ridge for 5 hrs. in the Tutor under exceptionally poor conditions. His was the only Silver C leg of the camp, whereas last year we obtained five.

Flt. Lt. Bridson of the London Gliding Club has recently been posted to Cranwell as an instructor on Vampires. In the gliding field he has taken on a large proportion of the instruction and has shown us that this part of Lincolnshire is really quite good for thermals, if only you know where to look for them!

The sad note this year has been the loss of the Grunau. No one "pranged" it, it was merely retired by the Technical authorities because of glue failure. This is the second machine to be taken from us within a year, because in 1956 the Kranich suffered the same fate. Fortunately the R.A.F.G.S.A. at Swinderby managed to rescue it from the scrap heap and, being comparatively free from Service restrictions were able to restore and fly it in this year's Nationals.

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There is talk about buying a Skylark ourselves, but with the bank rate as it is, this can only really be wishful thinking.

J.D.

DERBYSHIRE AND LANCASHIRE

THE best day's flying we have had since the end of August was on Sunday, the 15th September. In wave conditions two pilots, Midwood and Thomas, reached 10,700 ft. above take off. Ken Blake reached 10,500 ft. and Whittaker, Neumark and Johnston exceeded 9,000 ft. Congratulations to Harry Midwood on attaining Gold C height in the Olympia 403. A party including Harry, Ralph Maltby, Joe Cager and others from Bedford, had spent a long wet week at the Club which culminated in the wave of 15th September. Unfortunately Joe Cager took the Olympia back to Bedford the previous day so that only one machine was available.

On the same day, Dennis Ward reached 4,400 ft. for his Silver C height and Tina Mercer made a valiant attempt at five hours but had to land after 4 hrs. 33 mins. after reaching 3,100 ft.

Two cross-countries only have to be recorded. G. Larkin making two attempts at his distance, the second of which was a successful goal flight to Cranwell to complete his Silver C.

The social season opened on Saturday, 12th October with a Barn Dance attended by 45 members. The Christmas Party will be held on 21st December and the Annual Dance will be on Saturday, the 11th January.

It has been decided that flying activities will be suspended for a period in February for "Operation Refit". This should enable the Club to recondition winches and retrieving cars, build a new winch house and catch up with maintenance generally.

B.T.

KENT

WE are now the proud possessors of our own club Olympia purchased recently from Nick Howe and Bill Bridges who are keenly interested in a Skylark IIIb.

Also a Kirby Cadet Mk. 1 has been very kindly given to the club and we are now hoping to locate a pair of Mk. 2 wings for it. Roy Hubble, our Ground Engineer has already instigated work on the fuselage prior to renewal of C. of A.

Ted Day has sold the Sky to a private group in the Newcastle club, and he is also wanting a Skylark IIIb.

The latest addition to the private owner fleet is the syndicate Skylark II. With Micky Gilbert, Alan Chalkeley, Tug Burne, Jonah Jones, and Roger Neame.

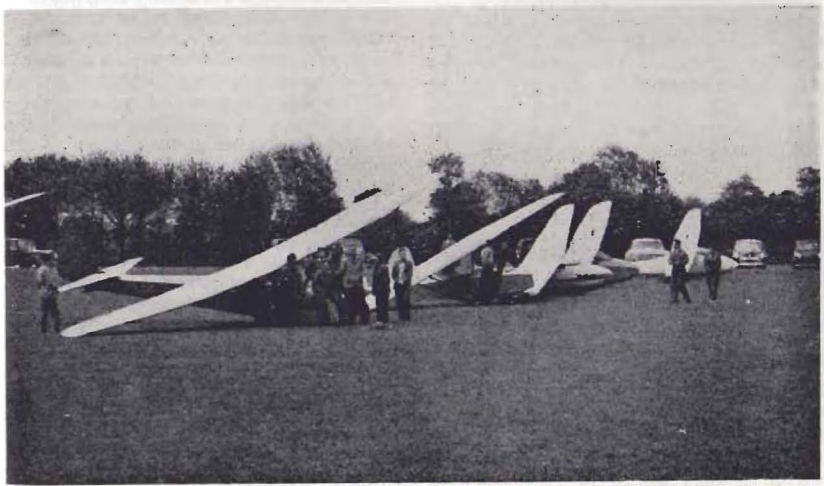


Photo by Pace of Sidcup

The four club aircraft and syndicate Skylark II lined up at Detling, the Kent Club's site.

The weather, being what it usually is, has not produced anything startling in the way of flying. However, 6th October was a day better than most and during a short spell of a couple of hours, Phillipa Buckley was lucky enough to find thermals to get to cloud base over 2,000 ft. in the Prefect to be joined by Jonah in the Skylark, and the T-21 also had the thermals for a time, also getting to cloud base.

One visitor we were very pleased to see at Detling on this particular day was Mr. F. Slingsby on his first visit since before the war. An all too brief visit, but he had the satisfaction of seeing all his aircraft soaring for the best part of the time with us.

Another interesting item of news is that the Air Ministry have agreed to us aero towing out of Detling. This had been refused in the past because of the close proximity of West Malling. Agreement has been reached that we co-operate closely with Air Traffic Control and we can now aero tow the weekends they are not flying. Final details have as yet to be settled but the Tiger Club based at Croydon "are ready, willing and able" to fly over to Detling when needed.

Work has started under the direction of clubhouse Chairman Dennis Monkton, on reorganising the bar which has now been moved to a larger room, so enabling more people to get to the bar; a popular move and is the first room to be redecorated.

The Christmas Party will once again be held in the clubhouse on Saturday, 14th December; our New Year's dance will be held on Saturday, 11th January at the Tudor House, Bearsted, and we look forward to seeing our friends from other clubs at these two events.

C.M.

KRONFELD CLUB

THE Annual General Meeting was held on Monday the 28th October, and was attended by about forty members. The Annual Accounts showed a deficit of £24, due almost entirely to the increase in the wholesale prices of beer and spirits. It was agreed that the Annual subscription of 15s. should remain unchanged.

The Committee was elected as follows:

H. Trotter, Hon. Secretary
Mrs. Y. Bonham (B.G.A. Representative)
M. O. Imray (P.F.A. Representative)
D. Carrow (Cambridge G.C.)
D. Monkton (Kent G.C.)
D. Smith (London G.C.)
R. Wilbie (Surrey G.C.)

It is hoped shortly to instal a table tennis table and darts board which have very kindly been donated to the Club.

Coming Events

December	4th	Films
„	11th	
„	18th	Christmas Party
„	31st	New Year's Eve Party.

LONDON

THE main item of news since our last notes has been the aerobatic contest for the Jack Hanks Trophy which is fully covered elsewhere in this issue.

The club has had a very good season this year, doing nearly 2,000 hrs. flying to the end of September, while the number of Silver C's completed and Gold C legs and Diamond legs is most encouraging for the future.

To date, then, there have been 3 Gold C distances—Dan Smith, Mike Garrod, Chuck Bentson; 2 Diamond goal's, Dan Smith, Mike Garrod. 15 completed Silver C's, 5,300 miles of cross-country flying.

There are now 28 sailplanes on the site with two Tiger Moths for aero tows, while we have just acquired an extension to our airfield, enabling the south-west, north-east winch launching runs to be considerably increased, and enabling very much greater heights to be reached on winch launches.

The holiday gliding courses were very fully booked this year and ran smoothly.

The Club Christmas Party will take place on 14th December and members of other gliding clubs will be most welcome.

P.F.

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MIDLAND

SINCE our last report, the T-42B Eagle has begun to earn its keep, and most of the regular members have had enjoyable flights.

The Eagle is quite easy to bungey, but the "stretch" required in light winds is prohibitive, and so in these conditions we use the winch. The penetration has proved remarkable, and outshines that of the Skylark II in quite a big way.

September proved an incredibly productive month for both hours and, for us, Silver C's completed. In the first place, our total hours jumped from 2,000 to 2,700, well over our previous best, in about six weeks, and this from only just over 4,500 launches, which gives an average flight time per launch of 36 mins. for the year. In the second place, we are pleased to report that Bob Swift and Peter Clay, both under 21 years old, completed their Silver C's by doing distance flights. Bob flew down to Staverton, 52 miles in an Olympia, on an average to bad day, and never bettered 1,800 ft. above Mynd-top, 3,000 ft. a.s.l. Peter flew to Ashborne in Derbyshire, 62 miles, also in an Olympia, but kept considerably further from the ground.

As can be seen from the new Club Advertisement, we have made some radical changes in our flying charges system—soaring will now cost 12s. per hour, regardless of type, and the launch fee an additional 3s., which means that a circuit in club aircraft will now cost 4s., as flying time is charged at 1s. for five minutes. The annual subscription includes Insurance, so that members are no longer liable for any damage to aircraft.

J.M.

MOONRAKERS R.A.F.G.S.A.

ALTHOUGH no mention has been made of the "Moonrakers" in SAILPLANE & GLIDING for some time, we are nevertheless very active. After a prolonged halt early in the year, due to change of site, we began flying again in late April. The club now operates from Upavon, a site more suited to our needs than our previous one at Lyneham.

We held our customary annual camp at Netheravon over the Whitsun period. This was a complete success. 494 launches were completed in seven days. Several members soloed for the first time, including Brian Eggins, who later in the week gained his C in the Cadet without the aid of a variometer. Phil Selby also won his C on the final day.

On 23rd June Robbie King made club history and no doubt established a record for the type of glider, when he took our Tutor to Great Torrington, a distance of 105 miles. The duration of the flight was 6 hrs. 7 mins. and the maximum height was 5,000 ft.; thus he qualified for two Silver C legs.

On 21st July Flg. Off. Dent hooked on to a cold front from a cable break at 400 ft. and was deposited with the Grunau some 37 mins. later at Hilltop Beaulieu, 36 miles away. This was his final Silver C leg.

Other flights of interest include two further C's by Barry Docker and Mac Maclean and a first solo by Penny Wilson our leading lady member.

In July Flt. Lt. Mann joined us as C.F.I. His first task was to fly the Gull IV in the Nationals where he gained 10th place in League 2.

Our club fleet now comprises two T-31's, Cadet Tutor, Grunau IIa, and the Gull IV.

Total hours to date this year amount to 220 hrs. completed from 2,425 launches.

M.J.M.

NEWCASTLE

THE summer weather has been its usual British self during the last couple of months, and the flying news is conspicuous by its comparative scarcity.

The main item of news is the addition to the private owners fleet of the Sky in which Ted Day did so well in the Championships. It was collected from Detling recently by its new owners Hetty White and Eric Vissenga and its first flight took place on Sunday, 6th October, with Allan Pratt our deputy C.F.I. at the controls. Later, he and Andy Coulson decided to do a comparative flight between the Sky and Skylark III which resulted in one of the neatest bits of formation glider flying I've seen and finished with a simultaneous landing. I don't know what conclusions they came to about performance, but the flying looked really great from where I was.

Flying has been mostly circuitry with some days when the T-21 and Olympia have been the only club machines out, but there have been enough soaring days to provide me with something to write about.

The most successful of these days was Sunday, 8th September, when the best per-

formance was put up by Dave Wilson with an out and return flight to Consett (a total of about 30 miles) in the Olympia, which lasted 3¼ hrs. On landing he told us that he had encountered a cloud street and had flown along it gaining height all the time, but that he had to use individual thermals on the way back. While Dave was away the T-21 was making use of the local thermals and clocked up 1½ hrs. in three flights in the hands of Allan Pratt and Ian Paul with two members of the club and one passenger. Andy Coulson logged 2 hrs. 10 mins. from two flights in the Skylark III, the first lasting 32 mins. and the second 1 hr. 38 mins., while Dave Wilson brought his total time for the day to 3¾ hrs. with another 35 mins. flight in the Olympia. Another 1½ hrs. were logged by the T-21, Olympia and Kite II in a further half-dozen flights of about 15 mins. each.

The following Sunday was also a good day, but although there was only one flight of just over 30 mins. by Denis Driver in the Olympia, the T-21, Skylark and Olympia all reached the 20 min. mark or over and a useful amount of soaring was done, the total flying time for the day being 6 hrs. 10 mins. for 35 launches.

L.A.C.

NORTHAMPTON

SIX months' training with the club's new T-21B has been successfully completed and 12 of our "ab initios" have passed out with their A and B certificates, also three members have gained C's.

The credit for this must go to our C.F.I., F./Lt. K. R. Pearson, who has worked hard to get the club going.

The clubhouse is beginning to look smart due to the keenness of members and we hope shortly to have electric light installed, for which we must thank Tony Wilson.

Social evenings are now being arranged and it is hoped that these will become weekly events.

We now look forward to a successful 1958; and send good wishes and season's greetings to all other clubs.

G.G.

SCOTTISH G.U.

IN the six weeks from the beginning of September to the middle of October, we have recorded almost 120 hrs. flying for 330 launches. These figures do not include flying on two Courses held during September. Of the 61 days, in fact, on which flying took place, since we moved to Portmoak, 32 have been soaring days, an enormously better proportion than some of our gloomier prophets had foretold.

Portmoak, in fact, is a tremendous success. Economically, it is a better proposition than Balado ever was, and flying there is a great deal more entertaining than the featureless circuiting that was all Balado very often had to offer. It is, in short, a genuine gliding site, not just an old airfield.

Hill-soaring from Portmoak is possible in any wind from north almost to south. Bishop Hill is easily reached, even with the Tutor, though Benarty, the N.-N.W. slope is not quite so accessible at present, as we are still operating on a short launching run.

Because of the many interruptions throughout the summer, we have not had much opportunity to thermal-fly on the site. From recent flights, however, wave possibilities seem very promising. Bob Porteous, on 16th September, climbed to 14,000 ft. but had to leave the lift, which was still giving him 6 f.p.s., because of cold and no oxygen. Several other flights of up to 10,000 ft. have also been made in wave, and on 30th September Jack Alcock and John Hendry, in Prefect and Olympia respectively, did cross-countries of 37 and 45

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miles using wave, and reached 9,600 and 10,500 ft.

Bitter controversy rages over the problem of Clubrooms. The original intention was to rebuild an old wooden structure which was once a school but present opinion seems to favour scrapping the school altogether and building a permanent brick Clubroom over the next two years, as finances permit. Meanwhile we continue to use the picturesque but very rightly condemned farmhouse two fields away from the site. This at least has running water, more than we had at Balado. The sanitary arrangements, however, are just as bad, and usually about as congested as the two-seater.

W.A.

SOUTHDOWN

EARLY October saw Ron Walker putting theory into practice by attempting the first triangle from Firle via Horam to the north-east, and Plumpton to the west. Unfortunately our air lane limited his height to 2,000 ft., although the first two arms of the triangle from Firle were explored successfully.

Our summer non-members' course was an outstanding success both from the enjoyment and flying points of view. Over 230 flights were completed by the course.

With Ian Agutter and Len Lennard, we now have six regular instructors to cope with a healthy increase in new members.

Our aircraft strength has also been increased by the conversion of the "Banana" from Cadet to spoilered Tutor.

We are now looking forward to the winter north-easterlies with the excellent hill-soaring which they give us.

R.M.

TAUNTON VALE

AUGUST 11th was our official opening day and in between heavy rain squalls most of the founder members had their first flights in the T-31. We were pleased to welcome Mr. and Mrs. Burns who brought along their Skylark IIIB. They flew out to the west ridge but were unable to contact the lift, nevertheless it is there.

The club is situated at Dunkerswell airfield, approximately half-way between Taunton and Exeter and is 800 ft. a.s.l. The main ridge faces West and is about half-a-mile from the end of the long runway. There are two other minor slopes which have given delayed sink whilst circuiting.

Membership is now 65 and we have done 210 launches during the first few weeks of operation. Mr. Hobkirk, our Chairman, is having his Tutor C. of A.'d and has kindly offered to let the club use it when airworthy. By this time we hope to have quite a number of members solo and able to take advantage of this Tutor flying. Mr. Sam Tolman, who has had considerable experience with the A.T.C. is our C.F.I.

The Ford V.8 launching car is now working perfectly, thanks to a few members who have spent uncountable hours working on it. With a little wind we are getting 1,200 ft. launches when on the long runway, and incidentally, on a clear day one can see Tor Bay to the south-west and the Bristol Channel to the north. Unfortunately our solid cable is wearing out far too quickly and a boom is being fitted to the towcar, so the cable can be retrieved along the grass, we hope this will help solve the problem.

At present, owing to the smallness of our hangarage we have to rig and de-rig, but eventually hope to use part of one of the large Ministry of Supply hangars.

Now the club has at last got going, we hope to do some hard training during the winter months and look forward to next year, when we should be able to do a great deal of soaring from this most promising site.

P.E.B.

ULSTER

SUNDAY, 29th September, brought our soaring season to a close. The beach gets too wet and unpleasant during the winter.

On 14th September we were "invaded" by 5 members of the Dublin Gliding Club who brought their own Blue Kite. Their main object was to round off two Silver C aspirants who had achieved height and distance. On Saturday, tides were not very helpful and the wind was 30 m.p.h. making rigging difficult. Harty and Bellew of Dublin alternately flew the Kite to 3,500 ft. for an hour each and Liddell reached slightly lower in Gull for 2½ hrs. On Sunday, Bellew went aloft at 8 a.m. just before the tide came in to fly his 5 hrs. After 4 hrs. he circled over Downhill, not having noticed that the wind had moved to S.W. and was forced down to the beach. When the tide went out around 5 p.m. Harty took off but was forced to land in the dark, so the honour of being first all-Ireland Silver C is

still open. We were delighted to welcome the very enthusiastic Dublin members.

On 29th September, Liddell flew to 3,200 ft. in a strong North wind while Rountree (40 mins.) and Heaslip (1 hr. 20 mins.) kept him company in the Tutor. Thus ended a good season with a total flying time of over 50 hrs. soaring.

W.L.

WESSEX R.A.F.

At the time of writing, the chief topic of conversation here is the recent flight of Corporal Ken Newholm. Sent up for the first time in the T-31, Ken duly qualified for the A Certificate; on his second solo, he not only performed the necessary antics for his B Certificate, but kept the T-31 up for 37 mins. while he soared to 3,000 ft.!

We cannot expect much more thermal weather in the immediate future, so Ken will have to remember how he did it until next spring when he will be able to prove that the good luck/good management coefficient was not as large as the other envious novices maintain.

Jim Lasenby and John Bradley have invested in a very trim Rhönbuzzard, which they took to the Long Mynd during September and did Silver C duration flights. They are most impressed by the Buzzard's capacity to stay up, as indeed is everyone else who has flown it. Roy Padgham also made a five-hour flight during September, at Inkpen Hill, thus completing his Silver badge. Denis Banting had a shot at it on the same day and suffered the cruel fate of having to land after four and a half hours. We assured him that it was good practice, but he was not noticeably consoled.

Andy Gough and Roy Padgham took part in the Aerobatic Contest at Dunstable and although they did not bring back the Trophy, they told us (as if we didn't know!) that it had been jolly good fun.

One correction to the club news, published in August. It was implied that Lt. Cdr. Dimock still had to pass height or duration tests for the Silver badge, whereas in fact, he is now fully qualified, and has been awarded the badge.

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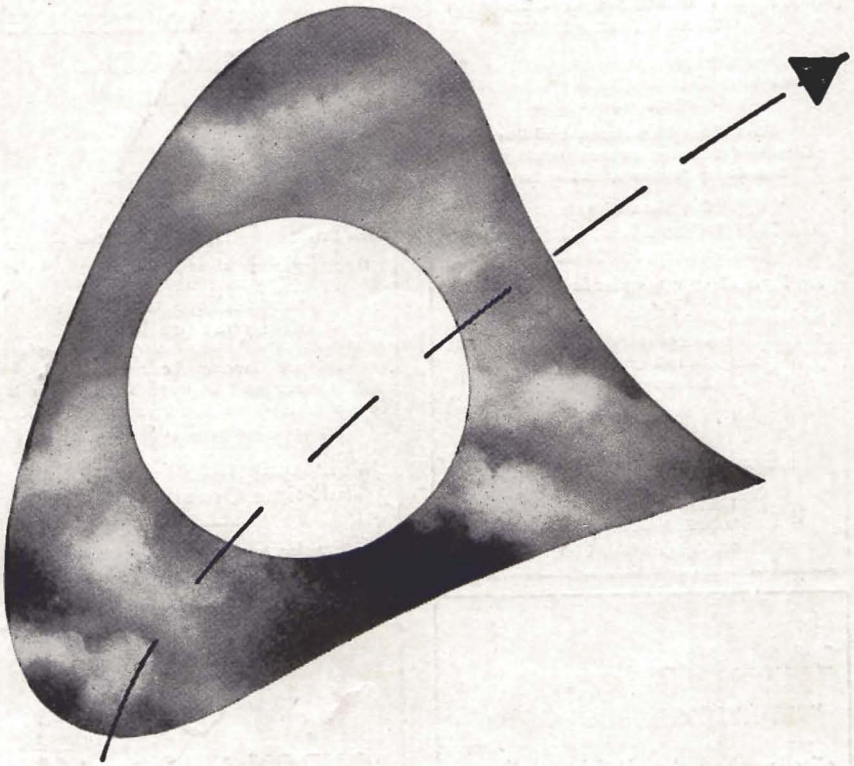
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