Sailplane and Gliding

2/6

October 1960

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: Yvonne Bonham, Godfrey Harwood, Rika Harwood, Walter Kahn
Peggy Mieville, Ann Welch, Philip Wills.

Vol. XI. No. 5. Bi-monthly
October 1960

Cover Photograph.—*B. B. Sharman, winner of last year's National Aerobatic Contest on Dunstable Downs, flying past the Chalk Lion at Whipsnade Zoo.—Photo by courtesy of "The Times".*

Printed by Young Myers & Co. Ltd. and F. A. Clements (Chatham) Ltd.
of Harrow and Chatham, for the British Gliding Association

Philip Wills

Courtesy of "Flight"

EVERY reader of this magazine will surely wish to congratulate Philip Wills most warmly on gaining his third Diamond. We all know how many times he has tried for the elusive "500 kms." and how often he has failed by only a few miles. Now at last he has done it and during the American Championships held in Texas he did it twice in two days to become Britain's third Diamond C.

To our readers abroad it may seem strange that we give so much space to this news. "Wills finished his Diamond badge" they might say. "It has been done before, it will be done again, what's the fuss?"

To look through the list of records and the results of the National Championships apart from the World Title which Philip has gained during nearly thirty years in our sport will quickly convince anyone of the fabulous success which he has achieved. He represented Britain in World Championships for over twenty years—a feat rarely equalled in any other sport. But these are not the reasons for this Editorial, for we hope that during the years to come we will produce many more pilots of Philip's calibre.

The real reason is that the British Gliding Movement has been able to produce a man like Philip Wills. Consider what he has done. In the thirties as Treasurer of the British Gliding Association he was one of the small band who laid the foundation stone and designed the structure which we now call British Gliding. From the time in the mid-forties when he became Chairman of the Association he has worked harder than anyone to expand and then consolidate the growing movement. He has been the ever-wakeful watchdog against the encroachment of control and interference. Under his Chairmanship the Association has built up Committees which administer all facets of gliding life to such a high degree of competence and self-control that officialdom delegates all gliding matters to them. This is always a source of wonder to pilots abroad whose Associations are not so fortunate and who are often ham-strung by controls.

Gliding, like every other sport or activity, depends on people who put back more than they take out. This frustrating game of ours has been called the finest Individual Team Sport in the world. Not all of us can match Philip's competence in the flying field but we can all try to emulate him in our own clubs. Given a few more people like Philip Wills and we will be able to combat successfully any future restrictions which over-zealous officials may try to inflict upon us.

Well done "Gaffer"! We know you will be livid when you read these lines, but look at it—as you always do—for the greater good of gliding, it had to be said.

More on World Championships

by Ann Welch

THE old platitude that "times change" and "progress marches on" are important only if they prevent one getting left behind. The 1960 World Championships at Butzweiler showed unmistakable evidence of changes which are taking place in these events, and of the organisational problems which are linked with these modifications. There is no doubt that Championships are becoming more sophisticated and at the same time an increasing technical and scientific exercise. For the Organisers they are a marathon of work, and no summer holiday, and for the pilots they are perhaps the most demanding sporting event in the world today, requiring courage, stamina, skill and maintained intellectual effort of a very high order. And they are getting more expensive.

The purpose of this article is to examine 1960 with an eye to future events, and our own participation in them.

Standard versus Open Class

At Butzweiler the Standard Class did just as well as the Open Class. They had the same tasks and the evidence shows that the span restriction appeared to be no disadvantage. This is theoretically inadmissible, and so other reasons must be found.

It was obvious from what one saw and heard that greater technical know-how, as well as enthusiasm, has been pumped into the Standard Class since Leszno. It is difficult to produce any comparisons of value between the pilots of each class; 30% of the Open Class were flying in World Championships for the first time, and 34% of the Standard Class. I do not know the average ages, except that the winner of the Standard Class was about 20 years older than the winner of the Open Class.

One interesting snippet of information, but of no comparative value, was that all the 8 National records broken at Butzweiler were done on Standard Class gliders.

Probably the most likely factor was the weather. In general this was only moderate, and there were few days when glider performance really came into its own. The characteristics which were most valuable were lightness and manoeuvrability, so that on marginal days every scrap of lift could be used. On the only two days in the Championships when the weather was good enough to allow a high proportion of the field to reach the goal, so that speeds could be compared, and not merely the ability to arrive, the average results show that the Open Class was appreciably faster than the Standard Class (see Table).

Compare this to the two days in which races were set in weather which was not up to that required for the task, so that pilots were forced to continue to use poor lift. In the Open Class, a total of 40 started and only 1 finished, and in the Standard Class of 70 starters, 5 finished—two and a half times as many. The respective average speeds, which cannot rightfully be compared, were 60.2 and 49 k.p.h.

The superiority of the Open Class in good weather was also borne out in the practice period flying, and there is no doubt that, had the soaring conditions been worthy of the Championships and not what is known as "English weather", it would have shown up prominently.

In the matter of aircraft and future British Teams, it has been obvious for some time that we could not seriously hope to win a World Championship if the weather was superb throughout, since the performance of our gliders does not come in the exotic category. But we may also find it increasingly difficult to win in future in marginal weather championships, since other countries are ahead of us in the lightness and manoeuvrability field. Our gliders are excellent compromise aircraft, but it will become harder for such gliders to win, however well flown.

Ideally, one would like to enter World Championships with an exotic for super weather, and a really lightweight manouevrable glider in case the weather is poor, in both Open and Standard Classes. This is only an ideal, since there is no home market for expensive exotics, although we will have to march with the times both performance and fashion-wise if we are to keep our overseas markets.

Classes in World Championships

There have been suggestions since Butzweiler that as the Standard Class appeared to be the equal of the Open Class,

TABLE

Average Speed Comparison between Open and Standard Classes

	Out-and-Return Koblenz		Race to Oerlinghausen	
	Open Class k.p.h.	Standard Class k.p.h.	Open Class k.p.h.	Standard Class k.p.h.
Contest Day Results ..	60.3 (17 of 20 finished	51.4 (32 of 35 finished)	96.4 (18 of 20 finished)	85.9 (33 of 35 finished)
Results by Glider Type ..	61.7	51.6	96.5	83.7
Fastest Man	75	73	126.4	128.7
Slowest Man	51.2	42	73.4	71.5

Combined Average ..Open Class: 78.7. Standard Class 67.6

the two classes should in future be run as one, with the main object of having a single World Champion.

I am sure that it would be a retrograde step to return to a huge one-class championship. With the increase in gliding all over the world, the problem we should be considering for the future is further suitable subdivisions. We know that World Championships of 100 gliders are practical if suitably divided, but this is only equivalent to 25 nations with 4 gliders each (or 33 with 3). Reducing teams to 3, as was done prematurely in Germany, makes it difficult to bring in untried new pilots.

The standard of flying at the top of a World Championship is now so high that the new pilot will have his hands full enough learning how to avoid making any of the mistakes which *lose* competitions, let alone seriously hoping to win them.

If any expansion in Championships is to take place, the principle of separate classes must remain.

There are several advantages in having more than one class, and incidentally the practical limit to a class would seem to be about 50 gliders. However, the right of the Organisers at their discretion to set separate tasks for each class must be established. This is most important, as not only does it allow a short spell of good weather to be used to get one class away, when it would be unsatisfactory to try to send the entire field, but it also affects safety. At present World Championships have an extraordinarily good record, but it would require only a couple of fatal collisions in one championship to cause consternation and restriction. It is one thing to send 100 gliders off on a 300-km. triangle in clear weather, and quite another to send them off on a 120-km. out-and-return in anticyclonic haze; and yet this task may be the most satisfactory from the met. and soaring point of view.

At present separation of the classes is not used, for the reason that it is interesting to obtain comparative results. This is, of course, desirable, but not at the cost of a reduction in safety, prevention of an increase in World Championship flying, or inability to make use of short spells of soaring weather—a very real problem in European Summers.

Organisation of Championships

Butzweiler high-lighted the difficulties of the organisation of present-day World Championships, because for various reasons it was not of the quality which the skill of the pilots and the cost of their equipment and entry warranted. This is not to say that the Organisation did not do their best under difficult circumstances, giving up their holidays to do a thankless and demanding job.

Perhaps the thing which was the most difficult for them to achieve was a focal point—a centre of gravity—for the championships. The long, thin shape of the airfield created this difficulty, but no effort

Some of the arrivals at Oerlinghausen after the race on 14th June in which fifty-one of the fifty-five competitors completed the course.

had been made to congregate even some of the various aspects, or to make any sort of obvious meeting place. As a result, several hundred individuals shut in their cars drove constantly from one end of the airfield to the other on the dreadful p.s.p., to look for people or to find something out, or to have a drink, or to rig, etc. It was almost impossible to meet and talk with other national teams, or get to know them and exchange ideas and information, as has been possible in the past.

There was less excuse for the early fumbles at the start point, as observers had been sent to England to watch the system in progress. The initial absence of a Distant Marshal at Butzweiler resulted in a mass of expensive plaiting at the launch point, which merely made people cross, since it was unnecessary. About the 3rd contest day he was introduced, and from then on it worked as it should—quickly and well.

The troubles over the rules were largely of the Organisers' making, not entirely because they hadn't been properly checked in advance, since the F.A.I. *Code Sportif* had the same wording, but because, having made a decision, the Organisers disagreed with it among themselves. The basic trouble, however, was because the task-setting was poor. When this happens, the day's contest may be so marginal, and the upset to the marks so drastic, that the slightest flaw in the rules flares into prominence.

There is no doubt that the fateful 11th of June would have destroyed the very real gliding spirit which makes World Championships such happy international events, if the friendship built up over the years had not been so strong.

Now that the standard of world gliding is so high, the C.V.S.M. have an increasing responsibility, when selecting the site of World Championships, to ensure as far as they are able that the organisation will be good enough, particularly in respect of the vital task-setting and its allied met. This is essentially a team job and one in which experience pays off. The met. man must have worked with glider pilots and understand what they want, even if he is not a pilot himself, and he and the task-setter must have operated as a team at least for a National Championship before tackling a World event. Selecting tasks in good weather is easy, but in poor weather it is a very highly skilled job which cannot be done successfully unless the problem is very fully understood.

It would indeed be ungrateful to leave the subject of the organisation at Butzweiler with criticism. The tugging was really excellent, as also was the turning-point observation, but above all there was the very real willingness to help and kindness of all the individuals who came together to run the Championships.

Nearly all of them glider pilots, they worked themselves, still cheerful, almost to a standstill.

Next article: World Championship flights in relation to weather and tasks.

"If at First You Don't Succeed"

by A. J. Stone

This account of A. J. Stone's record flight omits the drama and feverish back-stage activity of the occasion. In fact, this is the saga of two record-breaking flights, and therein lies a tale. On Sunday, 29th May, after a seven-hour flight to Bridgnorth and back, a tired but happy Stone gave me the camera with which he had recorded start, turning-point, and landing. Opening it later, I was baffled but not greatly surprised (for between ourselves Stone is just a little slap-happy about such matters) to find no film in it. Then followed telegrams and messages to all likely places containing strict order to do it all again next day, this time with camera loaded. So next day Stone astonished the natives by doing just that.—H.H.

DURING the last three days of May the conditions in Southern England were ideal for out-and-return or closed-circuit soaring flights. I was on leave during this period, and with our syndicate Skylark 3b at my disposal was in a position to take full advantage of the conditions. Below is a brief account of my three days' soaring.

(All heights above Lasham, 600 ft. a.s.l.)

Sunday, 29th May

DECLARATION.—Lasham - Bridgnorth - Lasham

DISTANCE.—222 miles.

FLIGHT TIME.—6 hrs. 50 mins.

AVERAGE GROUND SPEED.—32.5 m.p.h.

As usual, an 08.30 hrs. call at the Blackbushe Met. Office to obtain the weather situation.

Forecast 2,000 ft. wind, 040°/10-15 knots, becoming light and variable in the Birmingham area where a high pressure system was centred. Convection commencing at 11.00 hrs. to give 4/8 cu, base 3,500 ft., tops 6,000 ft.

I managed to get the first aero-tow of the day at 11.00 hrs. and released at 2,000 ft. to make a fairly quick climb under a developing cloud street to 2,500 ft. This was followed by a complete bungle on my part and 11.15 hrs. saw me firmly on the ground viewing a waiting line of sailplanes at the launch point. Luckily, however, no one seemed to think it was soarable, and I was able to get another tow immediately.

This time there was no question. With the whole contraption going up like a lift, I pulled off at 1,400 ft. and spiralled up to cloud base.

Conditions were excellent. With thermal cores 700-1,000 ft.p.m. I used a cruising height-band of 4,700-3,000 ft., and found that it was only necessary to circle at about every third cloud to gain a thousand feet or so; under the others it was sufficient to get the speed back and just keep going with some 700 ft.p.m. up on the Cook Variometer. My only problem was to keep the ground-speed up to the required flight-plan minimum of 30 kts., with the wind, as accurately as I could judge from the cloud shadows, 060°/12-15 kts. throughout the flight.

From over the Cotswolds the view was magnificent, and as I looked away to my left to the Bristol Channel, and further ahead to the Malverns, I wondered how many other sailplanes were at that moment sharing these truly continental conditions.

Thus the flight progressed, and at 15.00

"Rocky" Stone in his Skylark 3.
Photo by Hugh Hilditch.

hrs., within five minutes of my flight-plan E.T.A., I was over Bridgnorth practising my "photography".

The flight back was uneventful. The thermals retained a core strength of 700 ft.p.m. until Little Rissington, after which they slowly decreased to some 300 ft.p.m. Cloud base was by now nearly 5,000 ft., the cu being flat and about 2-3/8 in amount.

I arrived back at Lasham at 3,000 ft. and spent a minute or so in line astern with an Olympia, to my mind a fascinating pastime, before descending to land at 18.20 hrs.

It was truly a day of days, and an out-and-return to the Long Mynd would have been a reasonable declaration. When I left the airfield at 20.15 hrs., Hugh Hilditch had only just landed from local soaring in the Bocian.

Monday, 30th May

DECLARATION.—Lasham - Bridgnorth - Lasham.

DISTANCE.—222 miles: U.K. Out-and-Return Record.

FLIGHT TIME.—7 hrs. 35 mins.

AVERAGE GROUND SPEED.—29.25 m.p.h.

I did not arrive at Lasham until 10.25 hrs. With the vague thought of doing a 200-km. triangle in the afternoon, it was my intention to have an easy day.

Derek Piggott broke the news and a few minutes later it was confirmed by Hugh Hilditch that my trip of the previous day had been flown with an empty camera. I must admit that for a few moments I was ready to throw in the towel; however, Hugh brought me back to reality by suggesting that the flight should be repeated, and indeed what else was there to do?

So much for my views on pre-flight preparation and met. briefing. At 10.50 hrs. I was airborne with no idea of the met. situation, and the only certain piece of prepared equipment on board was the camera, this time duly loaded by Hugh.

Conditions were quite soarable, but whereas on the previous day thermal cores were 700+ ft.p.m., it was difficult to obtain a steady 300 ft.p.m. now. The inevitable result of this was that in order to keep the ground speed up to the minimum of 28 kts. it was necessary to take risks, and repeatedly I had to take the glides down to below 2,000 ft. The first two hours were spent below 2,500 ft., and not until just south of Little Rissington did conditions pick up, and a decent cruising height band was obtained.

Once again I bowled along, and at Pershore had some twenty minutes in hand over the previous day. Leaving a thermal at 4,700 ft., an area of industrial haze from Birmingham was entered, and not a peep of a thermal was felt until at 1,800 ft. I turned off track and headed for the nearest thermal source, the town of Droitwich, where from 1,200 ft. I finally found weak lift to 2,500 ft. So it became necessary to play safe, and time was lost as I crept through this area of poor lift. Just before Bridgnorth things improved, and from 5,000 ft., some two miles north-west of the town, the photographs were duly taken at 15.00 hrs.

In an effort to return through the haze belt in one glide, a climb was made to 6,000 ft. and course set for Pershore; 4,500 ft. slipped away without a smell of lift. At 1,500 ft. I made a final effort to get something and, heading off track for some ploughed fields, got the feeling that this was the end of the line. However, I think there must be truth in the song, "It takes a worried man". The Cook slowly returned to zero, and after some ten minutes of sweating at 900 ft., I was coring away to 4,500 ft., and off over the Cotswolds.

At Little Rissington the chances of getting back seemed slight, and when from Brize Norton I viewed a sky devoid of cloud, hope

was fading. Height was lost to 2,000 ft., and I scraped my way along, accepting anything that was better than zero.

Just south of Newbury I flew into a smooth, wide thermal, and in lazy circles climbed at some 500 ft.p.m. to 5,200 ft., from where a fast glide down to Lasham was made for a landing at 18.25 hrs.

Tuesday, 31st May

DECLARATION.—Lasham - Devizes - Witney-Lasham.
DISTANCE.—126 miles.
COURSE TIME.—3 hrs. 07 mins.
AVERAGE GROUND SPEED.—40.54 m.p.h.: U.K. 200-km. Triangle Speed Record.

The good weather of the previous two days was still holding, and by lunch time it was obvious that a fast, closed-circuit flight was possible.

I took a motor launch at 14.40 hrs., and proceeded to 3,500 ft. Conditions were nearly ideal, with well-spaced cu, base 4,500 ft., tops possibly 6,500 ft.

The starting line was crossed at 15.09 hrs., and my first thermal was shared with Anita Schmidt who had, I found out later, been waiting in her white Grunau to "bounce" me.

I pressed on as hard as possible, slowly increasing my cruising height band to 5,500-3,500 ft. It was with the utmost reluctance that I circled, trying at all times to take lift not by turning but by merely reducing speed. There were thermal cores in excess of 1,000 ft.p.m. in places, and on encountering lift of this strength I circled in it until the rate of climb fell below the achieved average.

Devizes was reached at 5,400 ft., having covered the 42 miles in 65 minutes. Shortly after leaving the first turning-point, conditions slowly declined. At Brize Norton it became necessary to come down to 2,000 ft. to obtain good lift, and there was an area of little cloud development and lower thermal strength around the Abingdon area where my ground speed dropped and I lost time.

Witney was rounded two hours after crossing the starting line, but at below 2,000 ft. Thus, whilst the achieved ground speed was nearly constant, I had "lost" 3,500 ft. on the second leg against a "gain" of 2,500 ft. on the first leg, this being some measure of the decline in conditions.

One strong thermal was badly needed to get me back to a reasonable height. At such a reduced ground speed I fumbled south to Wantage where conditions picked up again, and from a point just east of Newbury I commenced my final glide. This was the first time I had done one in earnest and, need I say, I took too much height.

However, there it was and I rushed across the finishing line at 17.16 hrs., having narrowly exceeded the record by the required minimum of 2 km./hr.

Horizontal Gusts and Sensitive Total-Energy Variometers — A simplified description of the effect of the former upon the latter

by Betsy Woodward

THE increasing number of pilots flying with sensitive electric variometers, notably the Crossfell, has brought forth an increasing number of comments such as: "wild fluctuations", "too sensitive", and "cannot sort the thing out".

Several pilots have deliberately decreased the sensitivity of the instrument (cancelling its great advantage); some say they "average out" the fluctuations (but in practice they probably fly on their old Horn or Cosim); a few enlightened souls have disconnected the total energy and have found that the rapid fluctuations cease.

The advantage of a total-energy variometer is that, if properly corrected, "stick thermals" are not recorded on the instrument. Let us take a simple case. Assume no wind so that the airspeed and ground speed are equal. The pilot wishes to change his speed. He changes his attitude, which thereby changes his airspeed and gives an identical change in his ground speed. He has now converted kinetic into potential energy or *vice versa*. The total-energy device takes this conversion of energy into account, and the rate of change of height due to the change in speed is not recorded on the instrument.

But what will happen if the pilot maintain-

the attitude of the glider and there is a change in airspeed due to rapid fluctuations of the horizontal wind? The total-energy device, which takes the change of airspeed into account, does not know whether this airspeed change is due to a change in attitude or whether it is due to a rapid increase or decrease in the horizontal wind. If it is the former, the resulting "stick thermal" will not be recorded on the total-energy variometer; if it is the latter, then an incorrect reading of vertical velocity will be given.

There are always rapid fluctuations of the horizontal wind, especially on days of good convection. They were of little concern before the advent of the sensitive electric variometer. The period of the fluctuations is only a few seconds, and their effect upon a total-energy variometer which has a long lag is negligible.

In the course of conducting research on convection*, traverses were made through thermals, and readings of vertical velocity, airspeed and attitude were recorded on 16-mm. cine film. Two Crossfell Variometers, one with a time constant of 0.5 seconds, the other with a time constant of about 0.7 seconds, were used. The Kelvin-Hughes Type 220/02 airspeed indicator had a time constant of 0.5-0.7 seconds. (To give an example of the meaning of "time constant": suppose an instrument which is correctly reading 0 is suddenly put into an environment where the correct reading should be 1.0. After a time equal to one-half the time constant, the instrument will read 0.39; after a time equal to the time constant, the instrument will read 0.63; and after twice the time constant, 0.86. That is, it will approach the correct reading exponentially.)

The thermals were traversed, in a T-42 Eagle, the attitude of the glider vs. ground being maintained reasonably accurately. The changes on the airspeed indicator were, therefore, nearly equal to the changes in the horizontal wind. (The acceleration of the glider over the ground is negligible compared with the changes of the horizontal wind.) It was found that, except when a "peak" of vertical velocity was experienced,

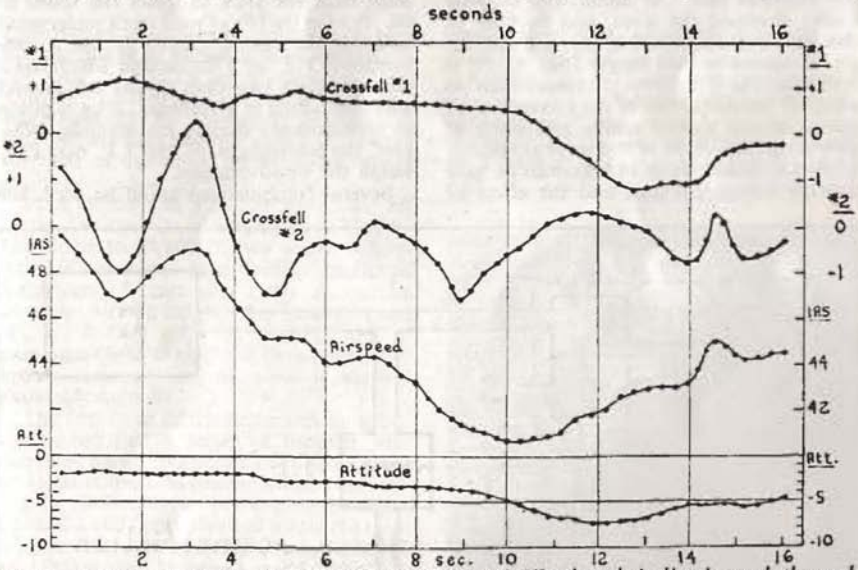


Fig. 1.—Lasham, 12th July 1960, T-42 Eagle, Piggott & Woodward circling in weak thermal. Crossfell No. 1 (metres per second) not on total energy. Crossfell No. 2 (m./sec.) on T.E. Both on rear static. Airspeed in knots (same scale as above since 2 knots = approx. 1 m./sec.). Arbitrary measurement of attitude (from artificial horizon), but when in level flight 5 units on the diagram scale is approximately equal to 5 degrees.

the magnitudes of the horizontal fluctuations of the air were equal to the vertical fluctuations, and they (the horizontal) were of a considerably shorter period.

I will not bore the reader here with numerous graphs, formulae, etc. These can be made available later to those who are interested. Figure 1 is included because it shows graphically the effect of airspeed changes and points out both the advantages and disadvantages of the total-energy. The measurements were taken when spiralling in a weak thermal; Derek Piggott, C.F.I. at Lasham, was flying. From 0 to 1½ seconds the airspeed dropped due to a horizontal gust (the attitude was constant), and Crossfell No. 2, which was on total-energy, went down in spite of the fact that the vertical velocity was actually increasing slightly (Crossfell No. 1—not on T.E.). There was then an increase in the horizontal wind and No. 2 jumped up, the total-energy being ignorant of the fact that the increase in airspeed was merely due to an increase in the horizontal wind. At 3.1 seconds the airspeed again dropped and the T.E. Crossfell followed suit. At about nine seconds Derek dropped the nose, and because of this the airspeed started to increase and the glider started to lose height (No. 1). It is here that the T.E. (No. 2) comes into its own. It takes account of the conversion of potential into kinetic energy and starts to give some indication of the vertical velocity of the air. However, at 14.5 seconds we have another horizontal gust and the effect of this is shown by Crossfell No. 2.

The example shown is typical of a weak thermal. If the thermal had been stronger we would have probably recorded greater fluctuations on the total-energy variometer. If No. 1 had been on T.E. instead of No. 2 it would have shown greater fluctuations because it (No. 1) has a shorter time-constant, i.e. more rapid response.

To give an idea of the magnitude of the false readings that can be given by a quick-response total-energy variometer: when flying at about 40 knots an increase in airspeed of 2 knots in 1 second (due to a 2-knot increase in the horizontal wind) will cause the variometer to jump up rapidly to 2 m./sec. (about 400 ft./min.). This 2-knot per second (or 1 m./sec.^{2}) acceleration of the horizontal wind appears to be a fairly typical value, lasts between about one-half and two seconds, and tends to be followed by a deceleration.

I certainly am not going to recommend that everyone disconnect their total-energy. The device comes in very handy when one enters a thermal at, say, 60 knots and then pulls back the stick to lower the speed to 40. But for the life of me I can't understand how anyone can satisfactorily use a conventional T.E. on a variometer which has a time constant less than 0.8 or 1.0 second when spiralling in a thermal. If he is going to continuously change his attitude, however, the advantages of the T.E. may outweigh the disadvantages.

Several combinations could be used, for

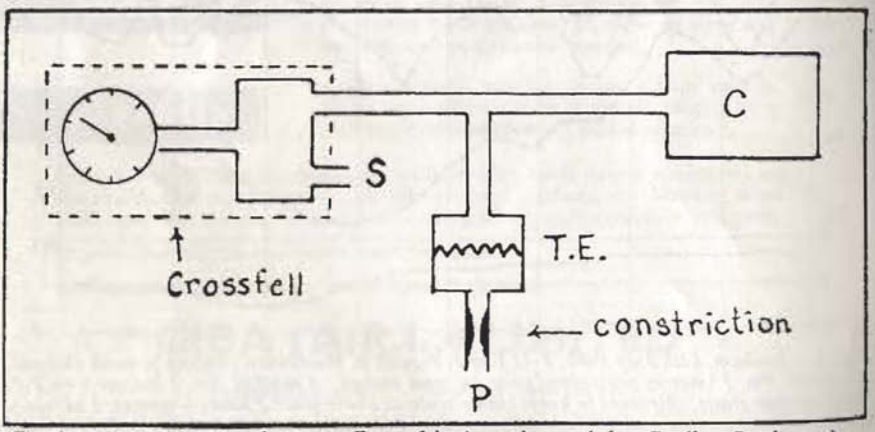


Fig. 2.—Constriction to dampen effect of horizontal gusts (after Geoffrey Stephenson).

example: variometer with time constant of 3.0-8.0 seconds (Horn, Cosim, etc.) on T.E. and Crossfell not on T.E.; Crossfell only with switch to connect or diconnect T.E. Geoffrey Stephenson however has come up with the most sensible solution. He has damped the effect of the total-energy by placing a constriction between the pitot and the T.E. (see Fig. 2). The time constant of this constriction and the diaphragm is about 4.0 seconds. Since the time required for the airspeed of the glider to increase or decrease after the attitude has been changed is longer than the average period of the horizontal gusts, the T.E. will take into account the changes of attitude, while the incorrect readings of vertical velocity due to the horizontal gusts will be damped. The constriction, so placed, will not increase the lag of the instrument to vertical velocities.

The time constant of 4 seconds is probably satisfactory; however, preliminary results indicate that the optimum would be closer to 3. We hope to make tests in still air to obtain the response time of the aircraft to attitude changes; the periods and amplitudes of the horizontal accelerations of the air must also be analysed more thoroughly before the optimum time constant of the constriction can be given.

I would like to thank Ken Bignell, Dept. of Meteorology, Imperial College, and Geoffrey Stephenson for helpful discussions on the above, and acknowledgements go to Peter Davey, designer of the Crossfell, who has brought out an extremely accurate and sensitive instrument—and one that is most helpful, provided it is used correctly.

* Sponsored by European Research Office, U.S. Department of the Army.

30,000 Feet in a Cu-Nim

by Flight Lieut. Gordon Rondel

SATURDAY the 18th of June was a very warm day at Marham with slight haze and one or two Oktas of cumulus, base 4,000 ft. Surface temperature at 14.00 hrs. was about 80° F. Instability in the local area was not very marked, although isolated thermals of the order of 300 f.p.m. could easily be worked up when found.

Pilot Officer Ian Strachan towed me off in the Olympia 2B, the machine which he had flown to 25,900 ft. two weeks before. At Hillborough, four miles south of Swaffham, I cast-off, 1,900 ft. above Marham airfield height. My intention was to soar locally with the possible aim of gaining a Gold C height if the opportunity arose, although at the time it seemed extremely unlikely.

The first hour of the flight was most unrewarding: just a series of fumbles with thermals barely worthy of the name. Then at 1,400 ft. near Marham, whilst considering the advisability of prolonging the flight, I found a 400 f.p.m. thermal under the most unpromising-looking cloud. I soon climbed to 4,000 ft. and looking around I was able to pick out, with the aid of polaroid sun glasses, a row of cumulus clouds breaking through the haze layer to the north. The wind was westerly, and the possibility of extensive cumulus growth in the Coastal convergence zone of the North Norfolk coast led me to fly in that direction.

At four o'clock I had reached Hunstanton. At this point it became obvious that the really big stuff was on the other side of the Wash, near Skegness. A further half-hour of fumbling and I managed a climb to 7,000 ft., a sufficient height from which to

Gordon Rondel (L), Ian Strachan (in cockpit) and Barry Gould (C.F.I.).

attempt a crossing of the water lying between me and the Cu-nim, which was obviously at least 20,000 ft. high, comprising many separate cells stretching from Boston to Skegness. In the ten-knot head-wind I set myself a minimum contact height of 4,000 ft. and headed towards the cloud.

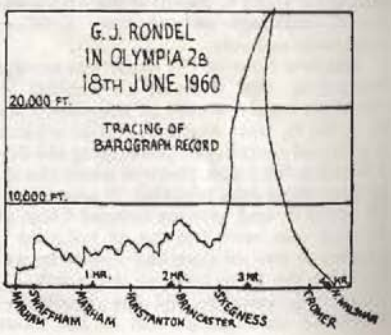
The coastline behind had disappeared from view in the haze when, at 4,100 ft., I saw the first very welcome flicker of green ball on the Total Energy Vario. In the next half hour I had ample time to ruminate on the advisability of the steps which I had so far taken. This was undoubtedly the most inactive Cu-nim base ever. Eventually I found the first decent updraught, about 120 f.p.m. I climbed laboriously to 7,000 ft. in torrential rain, which came into the cockpit through every chink, then set out to find the real core of the storm by flying towards the noise and the lightning. The artificial horizon was working perfectly, but already the Cook compass was feeling the effect of the heavy static discharge.

The Oly was behaving very nicely showing remarkable stability despite the turbulence. The only worry was a peculiar high-frequency vibration on the elevator control. This disappeared as the lift smoothed out and the climb continued through hail and lightning, at speeds in excess of 1,000 f.p.m. up to 12,000 ft. At that height I switched on the oxygen at the regulator and put on my mask. There was no more rain to stream into the cockpit and my clothes soon dried out; no doubt I was sweating sufficiently to assist this.

The rate of climb was by now completely off the clock: a fair guess would be 1,500 f.p.m. I started to fly race-track patterns, with 30-second legs. The rate of climb increased still further. By calculation the core of lift in excess of 1,000 f.p.m. measured 1,000 yds. by 300 yds. with its axis N.E. to S.W., although by now the compass was not too reliable, and it may have been nearer to N./S.

By now Diamond Height was in the bag, and I was intrigued by the possibility of beating Ian's Club Record. Still with the green balls in the top of the tubes I continued to climb. Very fine grains of rime ice blew into the cockpit in clouds now and then. The elevator control was becoming less and less effective, and soon the only method of reducing speed increases due to the turbulence was to take off bank and so utilise the control force, which had been used to maintain the turn, to raise the nose. This resulted in some rather gorblimey orbits.

At 27,000 ft. I remembered that Ian had just fallen short of John Williamson's record, so, as the climb was still a respectable thousand feet per minute I continued the climb up to nearly 30,000 ft. At this point I decided to leave cloud and head west. The forecast wind was 40 knots at this height and I must be well out over the sea by now. At first I lost a few feet, then I hit another upgust which stalled the Oly and carried me up another seven or eight hundred feet. After five minutes the air smoothed out and I realised that I was in



the clear. The direct vision panel was iced up and I had no visible proof of being out of cloud.

Relaxing once more, I looked around and saw that the ice which had begun to form on the cockpit walls and canopy at 20,000 ft. was now almost a quarter of an inch thick. I scratched some of it off and was relieved to see, when I had descended to 25,000 or so, that there was very little airframe icing on the wings. I had kept the controls free on the climb by exercising them to full travel every time a large change of attitude was called for.

The direct vision panel was still firmly iced up, partly due to the heavy rain at low level which had frozen during the climb. The ice on the wings was in the form of isolated water droplets which had frozen there. During the late stages of the climb it had been necessary to wipe the instrument glasses fairly frequently in order to keep them legible, and the T.E. head had blocked up. I was wearing barathea slacks, light shoes and socks, and a service issue parka which provided completely adequate protection in view of the short time I spent at altitude. Whilst wearing silk inner gloves and cape leather outers I had felt frequent slight electric shocks from the control column.

It seemed an awful shame to throw all this height away, but in view of the 40-knot headwind any flight to the west was strictly impossible and I had no map coverage for the North Sea. Subsequent calculations show that I could in fact have reached the West German border without any further gain of height.

I descended to the west at 60 to 70 knots, and when the canopy eventually cleared sufficiently I saw that I was flying down a valley between two forty-mile-long rows of Cu-nim. Beneath, there was complete cover of stratus at five or six thousand feet. After 30 minutes on a westerly heading my estimated position was near to Brancaster. I saw the only break in the cloud cover below. Through the gap I could see hazy patches of green and yellow: land at last. I put the airbrakes out and threw away 10,000 ft. as my oxygen supply ran out. As I went down into the break in the cloud a ship steamed into sight; I had no alternative, there were no more breaks in the cloud cover.

At 4,000 ft. I was clear of cloud and heading west once more, resolved to return to the ship if the shore did not soon show up by 3,000 ft. It very soon did, about six miles on the port side. I coasted in at Cromer and decided to try to make my way back to Marham. The rate of movement of that Cu-nim had been at least 60 knots.

I was baulked by flat air over the rain-drenched countryside. I was down to fifteen hundred feet skirting a storm over Coltishall when I saw a suitable field on the outskirts of North Walsham and I decided to land there. I was met by the local police constable and schoolmaster, an ex Flight Lieutenant. These gentlemen treated me with the utmost courtesy. The retrieve crew arrived at 9.30 and we were on the road home by 10 o'clock.

The journey home with the barograph was a greater nervous strain than the flight.

The Fenlands Olympia 2B was presented to the R.A.F.G.S.A. by the Nuffield Trust in 1958. Its equipment includes a suction-driven Artificial Horizon by Ottley Motors and an oxygen system capable of operation up to 42,000 ft. I installed these items last year in preparation for the Nationals, and excepting failures to top up the oxygen bottle and/or accumulators they have functioned perfectly ever since. The accumulator which drives the electric vacuum pump is provided with an in-situ charging plug, so that the accumulator is charged by the power supply to the trailer during the retrieve.

I would like to take this opportunity to thank all those people who helped me to make this flight, Ian Strachan particularly—he was Official Observer, Tug Pilot, and Retrieve Crew Chief—which didn't leave much else to be done!

National Gliding Week at Dunstable

We are indebted to Mr. R. M. Hitcham for much of the information on which this account is based. The daily results were produced by Mr. H. Ronald Watson, Clerk of the Course, and the meteorological briefings by Mr. Fred E. Dinsdale, of the Meteorological Office.

FEW competitors stayed to the end of the "Pally Gliding Dance" which the London Gliding Club had laid on for Saturday night, 23rd July, to welcome them. They wanted to be fit and fresh for next morning's 9 a.m. briefing, though it was actually postponed till noon.

Sunday 24th July

TASK: Free Distance. Release 2 miles upwind of site (on this and all subsequent days).

WEATHER: A weak warm front moving east at about 15 knots was expected near Dunstable by late afternoon, but with little or no rain; very stable air ahead and to rear of the front. Cloudbase rising from 2,000 to 3,000 ft.; surface wind S.S.W., light, veering westerly with height.

A low overcast covered the sky most of the time with a vague pattern of varying shades of grey. Only 3 pilots—less than a fifth—exceeded the minimum of 15 miles, so it was not a contest day. In order of increasing distance they were:

Dudley Hiscox in Chilton Olympia: launched 13.20; hung on to a piece of weak lift, sinking slowly from 2,000 to 1,500 ft. while it drifted him slowly 15 miles from the Club to Henlow; then got "the best thermal of the day" from Three Counties Hospital and reached Tempsford, 24 miles.

Peter Scott in Olympia 419: launched 13.53; got as far as Cambridge, where he was observed circling over the airfield and signalled down. But conditions were so poor that he didn't think he could have got more than a few miles further, anyhow. Landed 15.53: 39 miles in 2 hrs.

George Burton in Skylark 3b: launched 13.06 and left the site 13.20 to make a most remarkable flight of 95 miles to Little Snoring airfield, only 7 miles from the North Norfolk Coast, taking 4¾ hours till 17.50. He never once regained release height (2,000 ft.) and found the sky much the same all the way, except that later there was lift under little cumulus-like clouds beneath the overcast.

All three got away from their first launches.

Monday, 25th July

TASK: Free Distance.

WEATHER: A weak cold front to the east, which had passed over in the night, was expected to clear Great Britain by noon, leaving in its rear a shallow unstable layer below an inversion at 6,000 ft. (it actually lifted to 7,000 ft.). Surface winds W.S.W., 10-15 kts., veering to W. and increasing with height.

It turned out a good but not easy day, with many reaching or nearing the East Coast. Everybody got away, and only one didn't score. But the going was more difficult at first than further east, and there was much strato-cumulus spread out from cumulus even in mid-morning.

Dan Smith, with 110 miles to Great Yarmouth, beat everyone else by more than 15 miles, because the more one worked northwards across the wind the further one could go before hitting the coast.

Three others made about 94 miles each by reaching the coast around Leiston. Charles Ellis found a north-easterly sea breeze there; Mick Kaye, when out over the sea north of Felixstowe, found a thermal drifting out from land above the top of the sea breeze, circled in it, and then subsided into the sea breeze while gliding back to land; and Rika Harwood hit a proper sea breeze front at Colchester and soared along it north-eastwards, parallel to the coast, from 14.45 to 15.30.

Two pilots, caught out early, came back for a second launch and got well away after many others were already down at the coast: Peter Scott made 69 miles between 15.30 and 18.00 and Albert Warminger 83 miles between 16.00 and 18.55, starting with a thermal from Vauxhall's because Dunstable was overcast.

On looking at the landing-point pins on the map in the control tent, one saw a conspicuous gap between 42 and 64 miles; the nine which made 42 miles or less were *all* 15-metre machines, while the 13 making 64 miles or more were all of larger span except Bob Swift's Olympia 2, which made 67 miles.

Longest Distances, 25th July

Pilot	*Landing*	*Miles*	*Points*
Smith	Yarmouth	110.2	100
Ellis	Thornington	94.9	83.9
Kaye	Leiston	94.7	83.7
Harwood	Leiston	93.5	82.5
Burton	Peasenhall	90.1	78.9
Warminger	Thorpe Abb.	83.0	71.4
Mann	Roydon	77.9	66.1
Bentson	Lit. Stonham	73.6	61.6
Swift	Wattisham	66.9	60.0
Hands	Seawick	70.7	58.5
Stephenson	Shep. Cove	69.9	57.7
Scott	Capel St. M.	69.3	57.0
Fairman	Boxted	63.7	56.3

NOTE RE HANDICAPS:—15-metre machines (e.g. Swift's Olympia) had 10% bonus; Fairman's Ka-7 and Kaye's Eagle 10% bonus only when flown two up.

Tuesday, 26th July

TASK: Triangular Race via Steeple Morden and Podington, 72 miles.

WEATHER: A weak ridge over the country, but still unstable up to 10,000 ft. and very moist at low levels. Surface winds W.S.W., 5-10 kt.; 280° at greater heights, increasing to 20 kt. at 10,000 ft. Occasional light showers expected.

Nobody completed the task. Soon a sheet of strato-cumulus developed and persisted, spoiling the thermals. Of those who got away about noon, only Peter Scott passed the first turning-point; he identified it upon coming out of cloud at 6,500 ft.; in fact, he made the whole flight on one thermal which took him initially into this cloud and up to 9,000 ft. The rest was a slow descent to a landing near Bedford on the second leg.

Another batch had launches around 14.00 hrs. and six of them got round the first turning-point but did not go as far as Peter Scott, who consequently took the lead in the whole contest.

Rounded 1st Turning Point

Pilot	*Landing*	*Miles*	*Points*
Scott	Bedford	39.0	100.0
Kaye	Biggleswade	30.5	71.0
Mann	Biggleswade	30.5	64.6
Ellis	Gamlingay	29.6	60.8
Dodd	Biggleswade	28.8	57.5
Carrow	Mab's Hole	25.6	48.6

Leading Totals, 2 Contest Days

Scott ..	157.0	Dodd ..	116.0
Kaye ..	154.7	Burton ..	95.1
Ellis.. ..	144.7	Bentson ..	89.1
Smith ..	133.7	Harwood ..	82.5
Mann ..	130.7	Carrow ..	79.8

Wednesday, 27th July

TASK: Distance along a line through North Denes (Gt. Yarmouth Airport).

WEATHER: A warm front approaching from the west was expected to bring rain to Dunstable by the evening. Surface wind westerly, light, backing; upper winds 290° up to 10,000 ft., where the strength was 20 knots.

High clouds soon appeared over Dunstable, but there were very good thermals over East Anglia, though it meant getting away early to reach them. All 22 competitors were launched between 10.30 and 11.40 and all but three exceeded 50 miles.

George Burton was first to reach the coast, and landed by the dunes on Caister beach, just beyond the Airport, to make maximum distance. Eight other pilots followed his example, while two came down a mile shorter on the Airport.

Unfortunately for all the others on the beach, Mick Kaye was carrying a second pilot, so his 100 points included a 10% bonus, and the remaining eight had therefore to be content with 90.9 points each.

When the local Police Constable saw all this lot coming down, some with rather hair-raising evolutions, his mind was filled with thoughts of low-flying regulations and "endangered" holiday-makers, so he proceeded to the beach to fill his note-book with names and addresses. He secured two, and moved on to the third. Alfred Warminger?—the name seemed to ring a bell. "Yes," confirmed Alf, "I'm County Sheriff of Norwich." The policeman hurriedly moved on to the fourth glider in the hope of securing a name less in the

public eye. The pilot turned out to be Peter Scott.

Longest Distances, 27th July

Pilot	*Landing*	*Proj. Miles*	*Points*
Kaye	Caister	111.2	100.0
Ramsden	Yarmouth	110.2	99.0
Procter	Acle	107.8	96.5
Stephenson	Caister	111.2	90.9
Scott	,,	,,	,,
Mann	,,	,,	,,
Smith	,,	,,	,,
Warminger	,,	,,	,,
Mettam	,,	,,	,,
Burton	,,	,,	,,
Bentson	,,	,,	,,
Hiscox	Reedham	103.0	90.2
Ellis	Yarmouth	110.2	90.0

Leading Totals, 3 Contest Days

Kaye ..	254.7	Mann ..	221.6
Scott ..	247.9	Burton ..	186.0
Ellis.. ..	234.7	Bentson ..	180.0
Smith ..	224.6	Hands ..	179.2

Friday, 29th July

TASK: Goal Race to Swanton Morley, 87½ miles.

WEATHER: A cold front with small waves on it, moving slowly east, was expected to clear Dunstable by 13.00 hrs. Winds (behind front) S.W. on surface, 5-10 kt.; 26°/15-20 kt. at 3,000 ft., backing and increasing with height.

The front duly went through and was followed by cumulus in well-marked streets, 4/8 in amount.

Pilots were in good form after a rest day; everybody scored and 12 of them reached the goal. Leading among the others were G. A. Kerr, A. MacDonald and Rika Harwood.

Goal achieved, 29th July

Pilot	*Sailplane*	*m.p.h.*	*Points*
Scott	Olympia 419	55.9	100.0
Jeffery	Skylark 2	48.2	94.6
Burton	Skylark 3b	49.5	89.4
Mann	Skylark 3	48.6	86.5
Stephenson	Skylark 3f	47.7	85.3
Kaye	Eagle	46.9	83.9
Ellis	Skylark 3	42.3	76.8
Smith	Skylark 3	42.3	76.8
Bentson	Skylark 3f	40.7	74.4
Lee	Olympia	33.4	71.5
Warminger	Skylark 3	37.8	70.4
Hiscox	Olympia	32.4	70.2

Leading Totals, 4 Contest Days

Scott ..	347.9	Smith ..	301.4
Kaye ..	338.6	Burton ..	275.4
Ellis.. ..	311.5	Bentson ..	254.4
Mann ..	308.4	Warminger ..	241.4

Saturday, 30th July

TASK: Race to Desborough (N.N.W.) and Return, 86 miles.

WEATHER: A stationary cold front off the East Coast and extensive high and medium cloud covering the Midlands and East Anglia. Surface wind southerly, light, veering with height.

The upper cloud sheet persisted till 18.00 hrs.; some cu built up rapidly by midday with local showers, but there were no general "workable" thermals. Alf Warminger and the Ka-7 eventually crossed the 15-mile minimum and Peter Scott reached Benefield near Oundle, but this was not enough to make it a contest day.

Sunday, 31st July

TASK: Race to Peterborough (N.N.E.) and Return, 102.6 miles.

WEATHER: Moderately deep Polar air over Eastern England. Surface wind S.W., 5-10 kts.; at 3,000 ft., 240°/12 kts.; at 5,000 and 7,000 ft., 230°/15 kts.; at 10,000 ft., 220°/20-25 kts.

Cumulus started over high ground as early as 8.30. Later, showers built up, and there was spreading-out into strato-cu in places. All but three competitors reached the turning-point, but only four got back, landing within a 15-minute period between 14.17 and 14.31, though Kaye approached from a shower to the west, while the other three came in from north. Warminger missed it by less than a mile, being unable to cross the rising ground between the town and the club; he had to put down on a school playing-ground. He took 3 hrs. 36 mins. Forced by storms to deviate, Mann got back to Luton after 7 hours' flying, and Bentson nearly there after 8¼ hours.

Completed Course, 31st July

Pilot	*Duration*	*m.p.h.*	*Points*
Kaye	3 h. 38 m.	28.2	100.0
Scott	2 h. 47 m.	36.9	99.1
Burton	2 h. 53 m.	35.6	97.7
Stephenson	3 h. 01 m.	34.0	96.2

Leading Totals, 5 Contest Days

Scott ..	390.1	Stephenson..	330.1
Kaye ..	367.6	Mann ..	321.1
Burton ..	356.9	Ellis ..	318.9
Smith ..	342.6	Warminger	310.6

Monday, 1st August

TASK: Free Distance.

WEATHER: Unstable air over the whole country, with a light southerly wind in the South, becoming south-easterly in the North. The air was originally of "Polar" origin, having circulated round a depression which was now filling up. Cumulus and showers, with risk of thunder.

With the comparatively unusual situation of unstable air moving up the whole length of Great Britain from south to north, there were exciting possibilities, and some pilots gave Lossiemouth (420 miles) as a goal "just in case". Peter Scott's goal was Perth.

The cu-nims started early, and some good heights were obtained in them further north; "Chuck" Bentson, for instance, got 14,000 ft. But those near the start could be frustrating; Rika Harwood was twice unable to get away because the upcurrent under a cu-nim disappeared before the cloud drifted out of the airway.

As on the first contest day, there was a conspicuous gap on the map between two main groups—8 who went to Yorkshire, with distances between 146 and 194 miles, and the rest, of whom Mick Kaye went

John Westhorpe sticks landing pins in the map, watched by Elizabeth Hargreaves who was in charge of telephones.

Photo by Tony Marshall.

furthest with 81 miles to a point between Nottingham and Newark. Roger Mann just trickled over the border into County Durham, one-third of a mile further than Peter Scott.

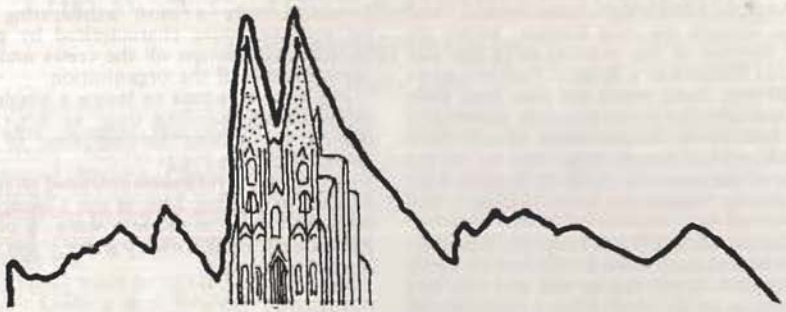
These eight included one 15-metre machine, David Carrow's Mucha Standart from Poland.

Longest Distances, 1st August

Pilot	*Landing*	*Miles*	*Points*
Mann	Aycliffe	194.3	100.0
Scott	Bowes Moor	194.0	99.8
Bentson	Low Dinsdale	184.2	94.4
Burton	Leeming	173.7	88.5
Carrow	Boroughbridge	157.0	87.1
Ellis	Skipton on Sw.	167.6	85.1
Smith	Bolton Abbey	156.7	79.0
Riddell	Yeadon	146.0	73.1

DUNSTABLE; FINAL RESULTS

Pilot(s)	*Sailplane*	*Points*
1. P. Scott	Olympia 419	489.8
2. G. E. Burton	Skylark 3b	445.4
3. D. M. Kaye	Eagle	438.6
4. D. A. Smith	Skylark 3	421.6
5. R. A. Mann	Skylark 3	421.1
6. C. A. P. Ellis	Skylark 3	404.0
7. C. W. Bentson	Skylark 3	395.2
8. G. H. Stephenson	Skylark 3f	330.1
9. A. H. Warminger	Skylark 3	320.0
10. H. S. Mettam, H.McKinnon, Rika Harwood	Skylark 3b	294.2
11. D. D. Carrow	Mucha Std.	273.5
12. D. G. O. Hiscox	Olympia	258.9
13. G. H. Lee, P.Ramsden	Olympia	254.0
14. S. R. Dodds, J. M. Hands	Skylark	244.8
15. D. M. R. Riddell, M. Fairman, P. A. Hearne	Ka-7	241.9
16. C. P. A. Jeffery, T. A. McMullin	Skylark 2	239.7
17. R. B. Swift, T. W. E. Corbet	Olympia 2	230.1
18. J. Torode, R. G. Procter, L. Pike	Olympia 2b	200.6
19. M. Bird, G. A. Kerr	Olympia	136.9
20. R. D. Ruffet, S. Fursman	Olympia 2b	136.7
21. P. Pozerskis	Olympia 2b	111.4
22. A. MacDonald, S. Soames	Olympia	71.1



Cologne Cathedral

or How to Lose Marks at 8 Metres a Second

by Tony Goodhart

FROM the tactful and cagey remarks produced at briefings it was obvious that the organisation did not want to prohibit cloud-flying, although the rule in Germany is that all gliders must maintain V.M.C.—i.e. 1,000 feet below cloud (amongst other conditions), and each morning we were reminded that the Visual Flight Rules were to be found on the notice board.

On this particular morning, 6th June, the distance along a line through Kiel, quite an argument had developed in which the organisation, however, refused to be absolutely pinned down.

Getting an early take-off I unfortunately went away about 10 minutes too early and ground to earth at Langenfeld Gliding Club only 20 miles out. Here I was quickly taken to a telephone and then unrigged by willing helpers to whom for once one didn't have to say "No—please do not lift by that piece—it is fragile and is called the aileron". A speedy rush back by my able crew, George Burton and Toby Harrison, who warned "Control" so that, as we drew to a halt on the airfield, the trailer was set upon by a horde of keen British glider types and, by the time I had got myself organised and strapped in, the Skylark was being rushed (backwards) to the take-off position where a Dornier 27 was idling. From trailer stop to glider airborne was timed at 4 minutes 40 seconds—and only one washer was missing at the subsequent de-rig!

However, I had lost a couple of hours or more, and the rest of the field were a long way ahead and, what was worse, I soon found, about 40 miles out, that a large area of cu-nimb had built up across the route. So here was the moment of decision. Either land after 50-odd miles, or put the organisation to the test over cloud-flying.

While I was considering this little problem I found good lift under a good black bit of the cu-nimb, and by the time I was getting near cloud base found I was being whistled upwards at 8 metres a second. I was not in, or even very near, an airway, so my natural instincts made the decision for me and in a matter of minutes I was in the turbulence near the top of my cloud at over 20,000 feet. Setting course on track (or roughly so) took me into some remarkably powerful downdraught which brought me quickly back to 14,000 feet odd, but another cloud took me almost as quickly back to 20,000.

When I came out of this one and managed to scrape away some of the ice inside the canopy, I found I was under a huge anvil from another and much larger cu-nimb which had effectively cut off insolation as far as the eye could see.

I therefore settled down to what looked like being a final glide, though there were some minute cumuli to be seen roughly on track but an awful long way away. When I got to them over half an hour later I was delighted to find I had caught up with some of the others; I was also delighted to find that they too were treating V.M.C. fairly liberally.

Another what might have been a final glide brought me over Bremen, where the last thermal of the evening took me and Daniel Barbara in a Bréguet Fauvette up to 5,000 feet, from where the *final* final glide put me amongst some potatoes growing in the peat of the Bremervorde Moor. Incidentally, I was happy to get this far, as the map of the area just north of Bremen kept on saying "numerous small ditches", and the terrain certainly looked like it.

Getting back to a late lunch the next day, I found that quite a few people had correctly deduced that, starting as late as I did, and getting as far as I had, I must undoubtedly have made use of the cu-nimb which blocked my route.

My barograph chart, reproduced here and providing the title of this article, produced ample proof of what I certainly had no desire to try to conceal. My flight rapidly became a major issue amongst the various teams; some taking the view "What glider pilot would throw away 8 metres a second lift?" whilst others were saying "We never expected it of a British pilot". My own point of view, having seen several pilots go into cloud and having heard that virtually none had even thought of staying 1,000 feet below, was that "a mile is no worse than a metre," to misquote an old adage.

However, it rapidly became apparent that in order to preserve the good name of British Sportsmanship it was necessary to make a gesture, and accordingly the next morning Ann Welch, our team manager, handed in a letter which admitted that I had entered cloud contrary to the rules and that accordingly I asked that I be given no marks for the day's task. So there went 850-odd marks!

Incidentally, 900 or so marks also "went" a few days later when I failed by 3 kilometres to reach 50 kilometres and so make a contest day for Standard Class on the day. Heinz Huth made about 60 kilometres and brother Nick in Open Class made over 70.

It is easy to be wise afterwards, and thereafter I had the 50-kilometre line marked on all maps. Having pulled up from 300 feet, slope-soaring in the rain along the hills opposite Bonn, to over 2,000 feet, 47 kilometres out, I couldn't have helped making 50 if not 60 km.; but instead went chasing a non-existent thermal under a dirty cloud downwind and at right angles to track.

Despite these setbacks, the 1960 Championships were a most exhilarating experience and were characterised by great friendliness amongst all the crews and the various staffs of the organisation.

If I were to admit to losing a whole lot more marks spending over an hour *not* finding the second turning-point of the 300-km. triangle . . . !

All this is by no means intended to make excuse for coming 24th in the Championships, but more to act as a warning of the pitfalls into which unwary glider pilots may inadvertently spin.

THIS GLIDING

No Change

" 'Gliding? Strictly for the birds,' pronounced a friend when I aired my intention of exploring the pleasures of this fascinating pastime".—*Aberdeen "Evening Express", 7th July, 1960.*

"May I suggest that soaring flight be left to the inherent instincts of the natural inhabitants of the air, and its place be taken by a determined effort to soar by one's own power".—*Letter to "Flight", 14th February, 1930.*

Dual Purpose

Comment from intelligent onlooker to club winch driver:—"I see you have two winches, one to tow them up, the other to tow them down."—*P.B., Kent Gliding Club.*

Dilemma

"One of our more experienced lady pilots was heard to say 'It was so rough that I was dropping both wings and didn't know which one to pick up!' "—*London Gliding Club Gazette.*

Never Again

After his experience in building a machine with a butterfly tail, Bob Stanley said he would never build another. This was not from any aerodynamic consideration, but because he had to waste so much time explaining it to people.—*Ralph Barnaby at Butzweiler.*

Occupational Disease

Once a German pilot did his 5 hours for Silver C in the smoke thermal from the power station at Cologne, but afterwards he had a long stay in hospital with lung trouble.—*Told to Willem Toutenhoofd at Butzweiler.*

The R.A.F. Inter-Command Soaring Championships

by Wally Kahn

ALTHOUGH no long or outstanding flights were possible due to the very unfavourable weather, the R.A.F. Inter-Command Soaring Championships were extremely successful. With an entry of twenty-seven gliders, it must have been the largest Service Contest ever held anywhere in the world.

All credit must go to the members of the R.A.F. Gliding and Soaring Association who, under the leadership of their Chairman, Group Captain Roy Goodbody, arranged a Contest well up to Nationals standard. Sqdn./Ldr. Norman Maygothling ran the "Ops" Room with clockwork precision, and even dealt effectively with the pilot who flew off with his retrieving car's keys in his pocket. The Admin. side, under Sqn./Ldrs. Barrett and Bob Lawson, looked after our "earthy" needs most efficiently, even to the extent of a 24-hour meal service and a NAAFI tea wagon during the day. The Chipmunk tugs and their pilots were organised by Flt./Lts. Hitchins and Taylor to excellent effect.

This was an Inter-Command Contest and its purpose was not only to produce an Individual R.A.F. Soaring Champion and Command Soaring Team but also to select the R.A.F. team for the Inter-Service Championship which was to follow.

Task-setting proved to be very difficult due to the extremely complex pattern of controlled air space in South-Eastern England. In addition to this virtual "iron curtain", Farnborough had imposed a semicircle of prohibited air space which restricted flying in all but westerly directions within five miles of Odiham. As the winds blew from the west on all but one day, this meant that gliders had to be dropped over Lasham and then make their way south before turning east towards Kent.

1st Contest Day, Saturday, 16th July

The task set was Distance along a line from Odiham to Benson and then through Ely Cathedral. The first leg proved to be much easier than forecast, and all pilots reached Benson. Unfortunately, the marker party arrived at the turning-point some time after the first gliders, and four pilots spent too long looking for the letters and had to land at Benson. One of them, Tony Morgan, added insult to injury by helping the party to lay out the letters. Five pilots reached the coast near Cromer, a distance of 140 n. miles. Williamson, Coatesworth and Mann scored 100 points and Jeffery (of Dunstable fame) and Kahn scored 98. John Delafield, flying *hors concours* in a T-21, flew 57 miles and scored 35 points!

Monday, 18th July

This was to be the first of the "Race to Shoreham" days. No one scored!

Lady McEvoy hands the medal and trophy to John Williamson, winner of the R.A.F. Championships.

Photo by Anne Ince.

Joe Croshaw and Andy Gough, winners of the Inter-Command Championship, receive their trophies from Lady McEvoy.

Photo by Anne Ince.

Tuesday, 19th July

Yet again "Race to Shoreham". Coatesworth climbed to 9,000 feet over Lasham and reached Shoreham in a straight glide. Dunn in the new Olympia 460 also climbed high over Lasham, but landed at Worthing just two miles short of the goal. No one else scored, so it was a No Contest day.

2nd Contest Day, Wednesday, 20th July

The task was Free Distance. The wind was a light northerly and the going was very difficult. John Williamson flew brilliantly and reached Crediton in Devon, 117 nautical miles away. For part of the time he was scraping at only 200 feet. Mann landed at Henstridge, 66 miles, and Gough was third with 62 miles.

3rd Contest Day, Thursday, 21st July

To loud laughter—"Race to Shoreham". Soaring conditions were anything but good, but it brightened up for a short time and four people got away. Joe Croshaw landed north of the goal and George Coatesworth was second. Paddy Kearon started his tradition of going away long after everyone else, remaining airborne until nearly eight o'clock and making us all wonder just how on earth he managed to stay up. He was to do this several times during the next few days. Five people scored to make it a Contest Day.

4th Contest Day, Friday, 22nd July

Task: Free Distance. At briefing, Jock Findlater gave us what sounded the perfect "500 kms. plus" forecast into Europe. However, due to the proximity of the Inter-Service Championships, no pilot was allowed to cross the Channel because of retrieving difficulties. As it turned out, a series of very large and unpleasant thunderstorms arrived in quick succession along the route and made going very difficult, and as cloud flying was virtually impossible on the route to Kent due to controlled air space, most pilots landed within fifty miles of Odiham.

David Cretney reached North Foreland and scored 100 points. Croshaw, who found a cloud not in the airway, climbed to 16,000 feet and might have been able to cross the Channel, was second. Williamson was third.

So finished the R.A.F. Contest. Sgt. John Williamson became the new Champion, having flown extremely well. The Inter-Command Team Trophy was won by R.A.F. Germany, whose pilots, Wg./Cdr. Joe Croshaw and Sgt. Andy Gough, gained 2nd and 5th places. Runners-up were the Technical Training Command Team of Sgt. John Williamson and Flt/Lt. Don Spottiswood. Third was the Maintenance Command Team consisting of Flt./Lt. David Cretney and Group Captain N. W. "Paddy" Kearon.

It was an excellent competition, only marred by bad weather. The high standard achieved in pilots, crews and officials, as well as the equipment, does very great credit to Roy Goodbody and his Committee. This contest has shown that the R.A.F.G.S.A. is a force to be reckoned with in gliding circles, and their pilots are undoubtedly going to take some very high places in the 1961 National Championships.

R.A.F. INTER-COMMAND CHAMPIONSHIP RESULTS

Final Place	Pilot or Pilots	Contest Day 1	2	3	4	Final Points	Sailplane
1.	Sgt. J. Williamson (TT)	100	100	0	96½	296½	Olympia 419
2.	W./C. J. Croshaw (G)	61	6½	100	98½	266	Skylark 3f
3.	F./Lt. D. Cretney (M)	90	6½	0	100	196½	Skylark 3
4.	F./Lt. G. Coatesworth (B)	100	7	60½	18	185½	Olympia 401
H.C.	F./Lt. W. Kahn	98	19	0	47	164	Skylark 3
5.	Sgt. A. Gough (G)	29½	42½	0	85½	157½	Skylark 3
H.C.	F./Lt. R. Mann	100	47	0	4½	151½	Skylark 3
6.	G./C. N. Kearon (M)	23	0	47½	76	146½	Skylark 3
7.	F./Lt. A. Loveland (B)	27½	12	0	94	133½	Olympia 2b
8.	P./O. G. Barrell (FT)	93½	—	0	5	98½	Olympia 2b
9.=	F./Lt. D. Spottiswood (TT)	50½	2	0	45½	98	Olympia 2b
9.=	Cpl. P. Jeffery	98	—	0	—	98	Olympia 2b
11.	S./L. T. Ware (B)	37½	2½	2½	44	86½	Olympia 2b
12.	F./Lt. R. Dunn (FT)	21½	6	23½	33	84	Olympia 460
13.	J./T. Chandler	—	—	—	67½	67½	Olympia 2b
14.	F./Lt. E. Clarke (F)	—	—	0	67	67	Olympia 2b
H.C.	F./Lt. D. Ince	36½	—	—	28	64½	Olympia 419
15.	F./Lt. B. Sharman (TT)	31	10	0	22	63	Eagle T-42
16.	F./Lt. A. Morgan (F)	10	8	0	32	50	Skylark 2
17.	F./Lt. M. Bacon (F)	42	2	—	—	44	Olympia 2b
18.	M./E. Eldridge (T)	23	1½	0	19	43½	Olympia 2b
19.=	F./Lt. Kurylowicz (B)	33½	0	0	6	39½	Bocian
19.=	S./L. R. Kendall (M)	39½	—	0	—	39½	Olympia 2b
21.	F./O. D. Davis	—	9½	—	22	31½	Olympia 2b
22.	Sgt. Brown (B)	20½	5½	0	0	26	Gull 4
23.=	S./L. J. Brownlow (M)	22	—	0	—	22	Olympia 2b
23.=	F./Lt. B. Gould	—	—	0	22	22	Olympia 2b
25.=	F./Lt. P. Lane (F)	14	1	0	4	19	Skylark 2
25.=	F./Lt. Reeves (T)	10	9	0	—	19	Olympia 2b
27.	F./Lt. G. Rondel (B)	10	7½	—	—	17½	Olympia 2b
28.	Cpl. Newholme (M)	—	2	—	13½	15½	Olympia 2b
29.	Cpl. J. Ramsden	10	0	—	—	10	Olympia 2b

30. Cpl. R. Jeffrey, F./O. Bradley (M), F./Lt. Johnson (FT), G./C. Smales (F). scored no points.

H.C.—Pilots formerly in the R.A.F. flying *hors concours*.

Commands: (B) Bomber, (F) Fighter, (T) Transport, (FT) Flying Training, (TT) Technical Training, (M) Maintenance, (G) R.A.F. Germany.

Inter-Service Soaring Championships

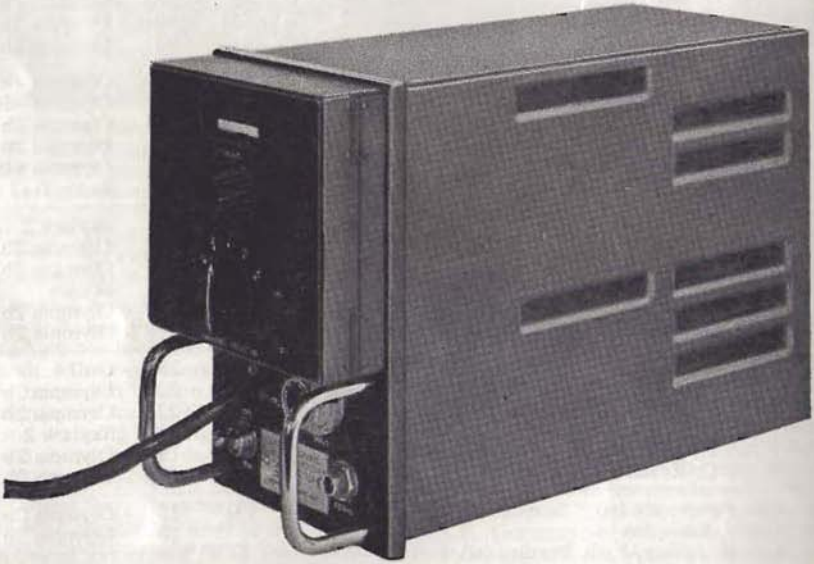
by Wally Kahn

THE Royal Air Force acted as hosts to the other Services at Odiham for what proved to be a most interesting meeting. As during the R.A.F. contest, the weather was distinctly unkind. The R.A.F.G.S.A. provided all the officials for the meeting with the exception of John Dyas, who performed very well and amusingly at the launching point. Sqn./Ldr. Trevor Ware acted as Chief Marshal, but all other key jobs were done by the same people who did them during the previous week. A Contest Committee was formed consisting of the three flying Captains of the Teams, namely:

A reliable multi-channel VHF transmitter-receiver

COMPACT · LIGHTWEIGHT · LOW POWER CONSUMPTION

Designed and produced to the highest standards — yet offered at a price which will appeal to the private or Club operator.



BE. 255 TRANSMITTER RECEIVER

1. 117-134 m/cs.
2. 5 channels pre-set. Additional channels available by changing crystals (whilst airborne).
3. Accessories: BE.255 Control Box; Connector Kit; Aerial Assembly; Mic./Tel. Headset; Crystals for 5 channels. PRICE approximately £140

SPECIFICATION:

Dimensions 11" × 4¾" × 7¼". Weight: 8lbs. RX sensitivity: Better than 10μv for 50mW. Transistorised Power Supply. Consumption: 40 watts. Aerial impedance: 50 ohms. Double Superhet Receiver. Transistorised Power Supply: 12 or 24 v.

ARB Approved — Fully tropicalised.

Enquiries welcome:

CONTRACT SALES DEPT | · BURNDEPT LIMITED · ERITH · KENT

Telephone: ERITH 33080

Group Captain "Paddy" Kearon, Commander Tony Goodhart and Major Sir Charles Dorman. Chris Paul had to return to his Air League desk and his place was efficiently taken by David Ince, who with Wally Kahn battled with more "useless westerlies".

It became apparent towards the end of the R.A.F. Contest that the task-setters would have to pull something fairly drastic out of the bag to overcome the unending westerlies. A leaf was taken from the Cornish Club's book to "up-sticks" and move the whole contest to an aerodrome away from the South-East. After a number of "shall we, shan't we" days, Friday, 29th July saw the first launch take place at Bicester soon after mid-day. This proved to be an excellent scheme, and apart from Kathie Shephard arriving in Bicester market-square on market day complete with trailer, nothing else untoward happened. (That is, other than Paddy Kearon—but more of that later). As we looked at the three teams, we could not help wondering what a sorry state Naval Gliding was in. As will be seen in the results column, they fielded a motley collection of gliders, two of which—Martin Setti-Smith's Skylark 2 and Humphry Dimock's Eagle—were privately owned. It seems strange to see the Navy so badly placed when we recall how much post-war gliding owes to the Goodhart brothers.

The Army team was well equipped, although Charles Dorman's Skylark 3 is privately owned.

1st Contest Day, Monday, 25th July

The task was a distance along a line Lasham-Firle Beacon-Deal Castle. Cretney, Shephard, Stark, Williamson and Ince landed near Deal and scored 100 points. At Goodhart's suggestion the World Championship idea of a four-miles-wide channel served as the line to prevent pilots having to land in unsuitable fields.

Paddy Kearon, having played "boardmanship" (the take-off board as most people know is a fine piece of ulcer-making machinery whereby the pilot selects his own take-off time—I hope that someone, Cambridge Club perhaps, will write a funny about it one day), eventually took off after everyone else and anded well up at 20.15 hrs. Major John Evans produced the highlight for this day, as on landing in a field he caused the local prize bull to take

Ted Shephard, Individual Champion in the Inter-Services Championships.
Photo by B. B. Sharman.

fright. The beast then took a header into a near-by stream and it took two fire engines four hours to get it out again. Once back on terra firma it charged the firemen, which explains why the firemen were very brute-faced on being stopped by John's crew who asked them whether they had seen a glider!

2nd Contest Day, Wednesday, 27th July

The task set was Free Distance. This day proved that, when flying as a team, radio might not always be an advantage. The first R.A.F. pilot off radioed that conditions were fair to the south-east and all his teammates followed. Most of the other pilots tried going notth round the London-controlled air mess, and Ince and Shephard reached the Norfolk coast. Although Ince went one mile further than Shephard, the latter scored 100 points as David Ince was flying *hors concours*. He was given 101 points to avoid producing two separate sets of marks. Cretney and Williamson both reached the Kent coast and scored 63 marks. Paddy Kearon did it again and eventually landed near Firle Beacon almost at night to score 54.

3rd Contest Day, Friday, 29th July

Task was a race from Bicester to Great Yarmouth Aerodrome. The weather was unfriendly, due to a cold front which sat

near Yarmouth and waved forwards and backwards, helped by a sea breeze which prevented anyone from getting there. The day was further complicated by a string of gliders from Dunstable who were busy flying across our course on their way to Swanton Morley. Story has it that one Army pilot, Peter Goldney, must have mistaken this procession and followed them to Swanton Morley where, on landing, he was much surprised.

Andy Gough took advantage of the better conditions to the north and struck the coast some ten miles north of Yarmouth. He then proceeded to slope-soar the sand dunes at a height of 3-400 feet. After some miles, when he thought that he would be able to reach Yarmouth, he found to his horror a little man on a bulldozer busily engaged in removing the dunes. When he reached him, there being no more lift, he had to land. History does not relate what Andy said to the little man! However, Andy Gough scored 100, as did David Ince, who landed the same distance short of the goal.

Paddy Kearon had the misfortune to break the trailer tow-bar on the way to Bicester and did not take-off until nearly four o'clock. Once again he landed in the small wee hours and scored 72 points.

John Evans again produced the day's highlight. Kathie Shephard was driving car and trailer up Wolverton High Street when to her amazement she saw the Army Eagle coming down the High Street at 100 feet. By the time she had stopped and leapt out of the car, John was safely down on the local cricket pitch.

4th Contest Day, Saturday, 30th July

Distance along a line through Benson was the task set. The weather improved for a short while and Joe (Crowbar) Croshaw got away. We heard that he had reached Benson, and this made everyone try again and again. At last some others got away and the heat was on. David Cretney was next to report back just north of Benson, and this meant that if two others scored David would be the Inter-Service Champion, as Shephard had failed to score. Some mathematical wizard then decided that if one pilot reached Bicester this would knock Cretney down far enough to leave Ted Shephard in the lead. Charles Dorman, the Army Team Captain, proved to be that man by landing just short of Bicester. As usual, Paddy Kearon did not land until eight o'clock and scored 89 points, which lifted him into third place.

So finished the Inter-Services Championship. The Individual Title and Trophy went to Captain Ted Shephard, who is the C.F.I. of the Army Gliding Club. He was awarded a beautiful model glider on a plinth, donated by Mr. Jack Emmett, who has also donated the National Aerobatic Contest prize. The R.A.F. team, consisting of Paddy Kearon, David Cretney and John Williamson, won the Salmon Trophy with a score of 709 points. The Army were second with 519 points, and the Navy third with 121 points. David Ince, who was the overall winner, was, of course, flying *hors concours*.

The prize-giving ceremony was quite delightful, and it took place after a splendid aerobatic display by various pilots. Air Chief Marshal Sir Theodore McEvoy, who is the very active President of the R.A.F.G.S.A., thanked everyone for working so hard to make the Contest the success it was. Lady McEvoy presented the prizes to the winners.

Everyone agreed that the Contest had been a great success, and it is hoped that it will be held again in the future when the Army might be the hosts to the other Services.

INTER-SERVICE CHAMPIONSHIP RESULTS

Final Place	*Pilot or Pilots*	*Contest Day* 1	2	3	4	*Final Points*	*Sailplane*
H.C.	D. Ince	100	101	100	0	301	Olympia 419
1.	Capt. Shephard	100	100	73	0	273	Olympia 419
2.	F./Lt. Cretney	100	63	75	31	269	Skylark 3
3.	G./C. Kearon	10	54	72	89	225	Skylark 3
4.	Sgt. Williamson	100	63	52½	0	215½	Olympia 419
5.	Sgt. Gough	58	0	100	0	158	Skylark 3
6.	W./C. Croshaw	6	12½	97½	26½	142½	Skylark 3
7.	W./O. Stark	100	5	20	0	125	Skylark 3
8.	Maj. Dorman	7½	3½	0	100	121	Skylark 3
H.C.	W. Kahn	47	2½	55	0	104½	Skylark 2
9.	F./Lt. Coatesworth	70½	½	13½	0	84½	Olympia 401
10.	Cdr. Goodhart	0	0	83	0	83	Skylark 2
11.	Lt. Goldney	0		63		63	Skylark 2
	Capt. Stacey			0	0		
12.	F./Lt. Dunn	29½	15½	1½	0	46½	Olympia 460
13.	Lt. Robinson	0	0	38	0	38	Grunau Baby
14.	F./Lt. Loveland	0	7½	8½	4	20	Olympia 2b
15.	Maj. Welsh	17	0	0	0	17	Olympia 2b
16.	Col. Deane-Drummond				0		
	Maj. Evans	4	0	0		4	T-42 Eagle
17.	L./Cdr. Seth-Smith	0	0	0	0	0	Skylark 2
18.	L./Cdr. Hayes,	0		0			
	C.P.O. Burgess,		0		0	0	T-42 Eagle
19.	Smith					0	Prefect

H.C.—Pilots, formerly in the Services, flying *hors concours*.

John Williamson, David Cretney and "Paddy" Kearon, the team who won the Inter-Services Championship for the Royal Air Force.

Photo by Anne Ince.

British Gliding Association News

Records Homologated

UNITED KINGDOM GOAL-AND-RETURN: 222 miles by A. J. Stone in Skylark 3B, Lasham-Bridgnorth-Lasham, 30th May.

UNITED KINGDOM SPEED ROUND A 200-KM. TRIANGLE: 40.54 m.p.h. by A. J. Stone in Skylark 3B, Lasham-Devizes-Witney-Lasham, 31st May.

UNITED KINGDOM ABSOLUTE ALTITUDE AND BRITISH NATIONAL AND UNITED KINGDOM GAIN OF HEIGHT: 30,580 ft. absolute, 29,100 ft. gain by Flt. Lieut. G. J. Rondel in Olympia 2B from R.A.F. Marham, 18th June.

WOMEN'S BRITISH NATIONAL AND UNITED KINGDOM SPEED ROUND A 300-KM. TRIANGLE: 27.6 m.p.h. by Mrs. Anne Burns in Skylark 3B, Lasham-Frome-Banbury-Lasham, 1st June.

Wire Hazard

There is a new field landing hazard. Thin, almost invisible electrified wire is being used by farmers for the new method of strip-grazing pasture land. The Farmers' Union believes that this method is economical and will be adopted by most farmers in the future. If there is no live-stock in the strip, there seems to be no way of telling from the air that this wire is being used.

Landing Fees

Pilots are reminded that landing fees are due from any aircraft landing on aerodromes. On Service airfields it is entirely at the discretion of the Officer Commanding as to whether these fees will be charged or not.

Championships Radio Sets

The B.G.A. were given new Pye radio sets for the World Championships, and it was decided in Council that these sets should be preserved for the 1962 Championships, and not be loaned out during the intervening time. The only exception will be for seeded pilots who are practising for the World Championships.

Inverted Flying of Gliders

THE Technical Committee wishes to remind pilots that no British glider has full certification in the aerobatic category. The semi-aerobatic category does not permit inverted flying or manoeuvres such as slow rolls, barrel rolls or inverted loops. If such manoeuvres are performed in gliders with semi-aerobatic certification then, formally, the Certificate of Airworthiness is invalidated. If an insurance claim were to arise as a consequence of an accident occurring whilst such manoeuvres were being performed, or even due to a failure of a machine which had previously performed such manoeuvres, an insurance company might well be within its rights in refusing to meet such a claim.

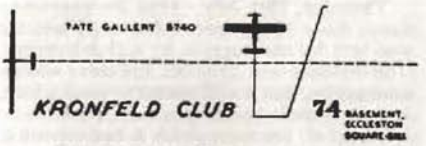
It should not be thought that, since the flight envelope of semi-aerobatic gliders extends to a negative load factor of 2.5, they are automatically strong enough for inverted flight. This is only one of several stressing cases to be taken into account.

Investigations of both the handling properties and the stressing for inverted manoeuvres are being carried out on the

Skylark II and Swallow. The outcome of these investigations is not yet known and, in the meantime, pilots must not exceed the limitations of the semi-aerobatic Certificate of Airworthiness. In the past, permits have been granted to a few individuals of acknowledged competence to perform certain inverted manoeuvres in these types. No more such permits will be issued, pending the outcome of the testing, save for those relating to the tests themselves.

Pilots, owners and, above all, instructors are requested to ensure that these limitations are observed.

F. G. IRVING,
Chairman, Technical Committee.
A. C. WELCH,
Chaiman, Instructors' Panel.



AIR Chief Marshal Sir Theodore and Lady McEvoy, President of the R.A.F. Gliding and Soaring Association and Mr. and Mrs. Fred Slingsby will be the guests of honour at the Club's Third Annual Dinner and Dance to be held at the Eccleston Hotel, on Friday 7th October. A few tickets (50s. double or 30s. single) are still available from the Club Bar or the Hon. Sec., Hugo Trotter (Tel.: VICtoria 6056). But please apply without delay as this is a very popular function.

The Third Annual Exhibition and Competition of Aviation Paintings and Drawings will be officially opened at the Club at 8 p.m. on Wednesday the 2nd November. Thereafter the Exhibition will be open each evening until the 9th November 6.30-10 p.m. We hope as many people as possible will call in during this period and you may be interested to know that many of the exhibits, some by professional aviation artists, are offered for sale.

Entry forms for the Exhibition and Competition which have to be in by the 25th October are available from the Club.

In conjunction with the University of London Department of Extra-Mural Studies two courses of lectures by C. E. Wallington will begin in October and January. The first entitled "Meteorology of Soaring Flight" and the second "Evolution of Navigation".

Both courses will take place fortnightly on Thursday evenings and the charges will be 10s. per course or 15s. for the two courses booked simultaneously or 2s. 6d. per single lecture. Further details and booking forms are available from the Club or H. Tarnow, 55 South Parade, Bedford Park, W.4.

Diary of Lectures and Film Shows
Wednesdays at 8 p.m.

Sept. 28th	METEOROLOGICAL ROUND TABLE—with Wally Wallington and other forecasters and Ann Welch and other pundits.
Oct. 5th	See Posters.
12th	FLYING THE FUCHS ANTARCTIC EXPEDITIONS — by Sqd./Ldr. John Lewis.
19th	Kronfeld Club Annual General Meeting—8 p.m.
26th	CRUISING ON THE CHESHIRE AND LLANGOLLEN CANALS—by John Furlong, with slides.
Nov. 3rd	Opening of the Painting Exhibition and Competition. Entry Form and details from H. Trotter, Secretary.
9th	Last day of Painting Exhibition. It will however be open each evening during the period 3rd-9th from 6.30 to 11 p.m.
16th/23rd	B.O.A.C. Film: THE FLIGHT OF FASHION—to Australia and back by Comet 4, in colour. Rootes Film PROUD HERITAGE —about the Montague Motor Museum *or* Lecture on Civil Defence by Mr. Fraser.

National Gliding Week at Sutton Bank

by J. C. Riddell

WHILE the entries were not numerous, there were four of them in the Week. Launching was by two-drum Ford V8 winch an the Meteorological Office attached Mr. Paul Emery to give us advice on the weather.

Sunday, 24th July—gave a fair west wind of 20 kts. without any convection. The Task was Pilots' Selected Goal, but only the hill provided any lift. No one got away until at 5.50 p.m. Stewart Waller of the Cambridge Syndicate took off having re-declared Ingleby Cross as his Goal, and got there after skilful use of hill lift. He was the only one to score, but as 25% of competitors had got away, it was a competition day.

Monday, 25th July.—Again we had a good west wind and the task set was a flight along a line through Cambridge. Unfortunately the thermals did not develop as expected, and nobody got away. However, a great deal of time was spent in the air; Godfrey Harwood was there for almost six hours in two flights.

Tuesday, 26th July.—Here a sheet of alto-stratus confused the day. When gaps appeared, the thermals were good, but these gaps were few and far between. The best conditions occurred in the morning. Chris Riddell and Paul Emery on the Weather Check in the T-21A climbed to 2,500 feet very quickly, but this height was not bettered all day. While all competitors got away, only Stuart Waller of Cambridge qualified with a flight of 12½ miles to Kirbymoorside. The total mileage was 44 in six flights. A competition day. The Task was Free Distance.

Wednesday, 27th July.—Good convection was evident early, and a light south-westerly wind prevented any soaring on the hill. It was not until one o'clock that the first aircraft was away to the Task for the day, an Out and Return to Sherburn-in-Elmet, some 30 miles away. Unfortunately, high cover and a layer of tired cumulus prevented any pilot reaching Sherburn. John Griffiths of Cambridge landed at Rufforth Airfield, while Henry Doktor did not get above 2,500 feet and landed at Green Mammerton; John Griffiths rose to 5,000 feet in cloud.

Chris Riddell and Paul Emery took the Club T-21b to Scarborough and soared a sea-breeze front on the way. Their best height was 4,700 feet a.s.l., and the 34-mile flight lasted two hours.

Thursday, 28th July.—The Task set was a Goal Race to Redcar. The field selected was lent for the purpose by a club member. The distance was 21 miles, for there was no convection, but a stiff westerly wind which, it was hoped, would make it possible to hill-soar all the way. After a bad morning, the conditions improved and Stewart Waller went away and landed at Carlton village beneath the new site of the Newcastle Gliding Club. He was the only one to score. No other away landings were made.

Friday, 29th July.—Although the weather was expected to produce some thermals there was considerable high cover to retard convection. The Task set was Free Distance. Convection was slight over the hill, and John Griffiths took advantage of it to get to Kepwick, six miles. He re-rigged and finally got to Ingleby Cross, 12½ miles. David Hill in the Swift went to land at Kepwick in the field adjacent to that which John Griffiths had used in the morning. A contest day, with only Cambridge scoring.

Saturday, 30th July.—The forecast was good for convection with a light S.W. to S.E. wind, but while thermals existed at Sutton Bank, they did not extend very far west and high cover again spoilt the day. Only three aircraft landed away and the furthest was Stuart Waller with 15 miles. His projected distance was insufficient to score. Late in the day Henry Doktor, with remarkable timing, landed the T-21b, leapt into the Swallow and took off. He caught the cu-nim, rose to 4,500 feet, but when he came out of cloud he was in rain and landed at Skipton-on-Swale, having mistaken it for Leeming airfield. Leeming was on track for the Lakes Gliding Club; an Out and Return there was the Task for the day, but Henry hadn't gone far enough and so did not score. A no-contest day.

Sunday, 31st July.—This was the best day of the meeting. A good forecast was given

but conditions turned out to be better than expected. The Task set was a Goal Race to Thornaby, and Waller, Griffiths, Hill and Harwood all got there. Griffiths made the best time of the day at 46.5 m.p.h. for the 21 miles, and Hill did well at 25 m.p.h. He came back to the site and took off again to land at Usworth Airfield near Sunderland. Unfortunately he did not recognise the sea-breeze front coming in, and so when he arrived in the vicinity of Usworth, conditions were dead.

The T-21c was being test-flown at Sutton Bank this day, by Alan Pratt of the Newcastle Gliding Club, and he took it into cloud to 7,000 feet with John Reussner, the Club Chairman, as observer. Howard Greenaway of Coventry and Ian Paul of Newcastle were observed over the site, on their way to their respective goals.

Monday, 1st August.—The convection promised was better than Sunday, but unfortunately it was too good and stifled itself. Only one cross-country was made, and this by a non-competitor David Rennison, a club instructor, in his own Kite 2b. He got away on a shaft of sunlight, and after a very good flight he landed at the Lakes Gliding Club at Tebay, 58 miles. The Task set had been a Free Distance, but no competitors got away. However, Stuart Waller in the Cambridge Swallow contacted a cu-nim and got to 10,000 feet, but landed at the site. Garlick, in the pre-war Kite I, went up to cloud base under the same cloud and flew to the Newcastle site at Carlton Bank, 15 miles away, in 15 minutes—not bad for a 25-year-old aircraft.

This brought the Gliding Week to a close. The prizes awarded were as follows:

1st PRIZE: John Griffiths and Stuart Waller in the Swallow, 600 points.

2ND PRIZE: Henry Doktor and Ron Hellewell in the Y.G.C. Swallow, 87.4 points.

3RD PRIZE: David Hill in the Syndicate Swift, 50.25 points.

Souvenir ash trays were also presented to G. Harwood, P. Emery, S. Waller, R. Hellewell, J. Rovins, J. Riddell, M. Beaumont and R. Stothard, whose excellent work on the winch and in the two-seater, as well as the help given by his sons Christopher and Owen on the retrieving vehicles, deserves very special mention and thanks.

SUTTON BANK: FINAL RESULTS

	Pilot or Pilots	*Sailplane*	*Date of Contest Day* 24	26	27	28	29	31	*Total Points*
1	R. S. Waller and J. P. Griffiths	Swallow	100	100	100	100	100	100	600
2	R. A. Hellewell H. Doktor Provins	Swallow	—	—	60	—	—	27.4	87.4
3	A. D. Hill	Swift	—	—	—	—	—	50.25	50.25
4	J. E. G. Harwood	Swallow	—	—	—	—	—	38.7	38.7

by Ann Welch

OCT 1960

National Gliding Week at Edgehill

by M. J. Smith

Sunday, 24th July

NINE o'clock saw the briefing tent full to overflowing as Dr. Gregg, President of the Club, welcomed pilots and crews of 14 sailplanes to Edgehill for the first competition to be organised by the Coventry Gliding Club.

The weather precluded any possibility of a task being set in spite of two briefings, so a spot-landing competition was organised, and this was won by Paul Minton—slight compensation only for the damage sustained by the Imperial College Eagle while trailering to Edgehill. The P. Hampton and partners' Skylark 2 was also put out of the competition by damage during an abortive winch launch.

Monday, 25th July

TASK: Out and Return, South Marston.

The weather did not come up to expectation, and the day was declared void. The longest flight was by Redshaw (Skylark 3f) to Oakley airfield west of Oxford. Howard Greenway managed 10 miles on course.

Tuesday, 26th July

TASK: Free distance.

This was the first competition day. The forecast was for cumulus with bases at 3,000 ft. and tops rising to perhaps 12,000 ft., with convection retarded and severely weakened by layer cloud at 5,000 ft. The wind was light and westerly.

Redshaw made the best distance with 105 miles to Finningham, Suffolk. He found conditions very difficult, and made progress only by keeping to the few sunlit areas. Near Cambridge he could see nothing but murk ahead, so he diverted to a big cloud about 10 miles off track and climbed from 1,000 to 10,800 ft. He found severe icing above 6,000 ft. and thinks it would probably have been more profitable to do a laminar-flow glide from that height.

Wednesday, 27th July

TASK: Pilot Selected Goal.

Once again the medium cloud layer limited convection. The wind was light, just south of west.

The outstanding flight of the day was Davey's successful goal flight to Yarmouth. He reached 9,000 ft. within five miles of Edgehill and carried on using cloud lift all the way. He tried to get centred a few hundred feet below any cloud he intended using. After getting away from 1,000 ft. over Feltwell (10 miles N.E. of Ely) to 8,500 ft., Yarmouth was just reached, flying against the sea breeze all the way. The time for the flight was 3 hours, 50 mins. making an average speed of 36.5 m.p.h. for the 140 miles.

Second for the day was Doug Cunningham in the Coventry Club Olympia. He declared Bury St. Edmunds, but followed better conditions to the north and landed at Bardney airfield, 12 miles east of Lincoln. Doug has a certain reputation which was not diminished by Control hearing the spelt message over the telephone that Doug was at the B-A-R . . . The rest was drowned with laughter. The crew, 80 road miles east of Edgehill, at St. Neots, did not see the joke.

Docherty, Olympia, came third for the day, but ripped his tailplane off in corn three feet high.

Redshaw had his Skylark trailing edge damaged by a wayward sheep.

Thursday, 28th July

No Contest.

This was a day of rest for most, It was a day of hard work for Docherty, Redshaw, and their helpers. They were both ready for Friday.

Friday, 29th July

TASK: Distance along a line through Tollerton.

Redshaw gained 100 points and Davey was a close second with 94.

Davey found it quite difficult, never getting above 3,000 ft. Redshaw turned

"quarter right" at Tollerton, where Davey landed, and gained six points on Davey by flying to the coast four miles north of Mablethorpe. Redshaw found it possible to cruise for miles at one ft./sec. down on, not in, the sunny side of the clouds.

Snodgrass reached Church Lawford by two o'clock, went back to Edgehill, and had a second launch at 5.40. This time he reached Leicester to score double his previous points. He found it possible to cruise for miles over woods. This late attempt put him third for the day.

Saturday, 30th July

TASK: Free Distance.

Once again conditions were far from easy, although when Paul Minton set course from 5,000 ft. well before anyone else, the sky looked quite good. There was a gentle S.S.W. wind.

Paul Minton didn't see any more lift, and his straight glide to Bramcote, from what appeared such a good start, brought him only 13 points. Redshaw was first for the day, landing at Elsham airfield, 10 miles east of Scunthorpe. He managed to get into cloud early in the flight, reaching 7,500 ft. quite near Edgehill.

Docherty was second for the day with 58 points; Tarver and Darbishire were equal third with 36 points. Redshaw, Docherty and Tarver left Edgehill within a few minutes of each other, after climbing in the same thermal. Redshaw and Docherty got well into cloud, but Tarver only found one cloud that would take him, and as he knew Redshaw was already inside, he didn't go in.

Sunday, 31st July

TASK: Race to Cranwell North.

The weather was superb. Cumulus filled the sky by nine o'clock. There was a light south-westerly wind.

Most pilots declared Usworth, hoping to overfly Cranwell for Gold distances and Diamond goals.

The race was won by Davey at a speed of 47 m.p.h. Howard Greenway came second with 75 points. The Lawson and Thorburn Eagle was third with 72 points. Greenway was the only pilot to reach Usworth. He got there with 900 ft. after climbing in successive clouds to 9,000, 9,000, 10,000 and 11,000 ft.

Davey reached 5,000 and 7,000 ft. before diving at Cranwell from Grantham with the brakes out. He thought 500 kms. should have been possible in a Skylark 3.

Monday, 1st August

TASK: Out and Return Race, Podington (Northampton Gliding Club).

The cumulus built very rapidly into large showers, and only a lucky few were launched in the right place at the right time to contact the lift. Six competitors failed to get away at all. These included Davey and Redshaw, now in 2nd and 1st places. Redshaw found himself caught out by very severe down-currents and bad visibility. He made an

L. R. Redshaw, winner of National Gliding Week at Edgehill, receives his trophy from H. M. Woodhams, Chairman of Armstrong Whitworth Aircraft (centre). Also in the group (L. to R.): Bernard Davey, Howard Greenway and Don Snodgrass.
Courtesy "Coventry Evening Telegraph".

Advertisements with remittance should be sent to Cheiron Press Ltd., 3, Cork St., London, W.1. (Regent 5301) Rate 9d. per word. Minimum 10/-. Box numbers 2/- extra. Replies to Box numbers should be sent to the same address.

PUBLICATIONS

"AUSTRALIAN GLIDING" — monthly journal of the Gliding Federation of Australia. Editor, Allan Ash. Subscription 30 shillings Australian, 24 shillings Sterling or 3.50 dollars U.S. and Canada. Write for free sample copy. "Australian Gliding", 121, George Street, Liverpool, New South Wales, Australia.

"MODEL AIRCRAFT"—Official Journal of the Society of Model Aeronautical Engineers. Features contest winning model designs, constructional articles, photographs and reports of international and national contests. 1/6 monthly from any newsagent. Send for specimen copy free from "Model Aircraft", 19-20 Noel Street, London, W.1.

SLOPE SOARING with a radio control model sailplane is a fascinating pastime and a typical phase of aeromodelling. Read about this and other aeromodelling subjects in AEROMODELLER, the world's leading model magazine, published monthly, price 2/- MODEL AERONAUTICAL PRESS LTD., 38 Clarendon Road, Watford, Herts.

"SOARING"—Official organ of the Soaring Society of America. Edited by Lloyd M. Licher. Obtainable from Soaring Society of America, Inc. Box 66071, Los Angeles 66, California. Subscription $4.00 in North America and $5.00 elsewhere, apply to your Post Office for a form.

FOR SALE

EAGLE 3B sailplane, in perfect condition, complete with equipment and trailer. Holds two-seater 300-km. speed record. 212 flying hours. Box No. 69.

DON'T look like a Toy Drum Major! Wear a miniature Gold C badge in 9 carat gold, ½" diameter £5 5s. each. Small pieces of crystallised carbon set as required 30/- each, lapel or brooch fitting. Similar *real* Silver C 15/-. Replica bracelet charms in gold £2 10s., Silver 10/6. Post and packing 1/-. Charles Green, Retail Jewellers, 78 Regent Street, Leamington, Warwickshire.

When ordering, please give Badge No. and date of completion.

FOR SALE (contd.)

COMPLETE LIBRARY on Gliding, including several bound pre-war copies of Sailplane. Collection over 30 years, giving record of Gliding since it started. Offered at £100 for the lot. Duckworth, 31 Middleton Drive, Bury, Lancashire.

EAGLE 2-seater glider for sale with trailer and full equipment. 12 months C. of A. Very special attractive features. Would consider syndicate offers based Lasham. Write Humphry Dimock, 26 Beechcroft Road, Alverstoke, Hants.

H.17 With C. of A. and new fabric, dive brakes, wheel and instruments. This machine passed A.R.B. handling trials. Price £275 Ex Hungerford. D. Campbell, BM/Glider Doctor, London, W.C.1.

2 KRANICHS. Very well-kept. Well suited to instrument-training and ab-initio-training. £400 each. Mu-13d. High-performance single-seater. Steel-tube fuselage. Gliding angle 1 : 28. Extremely low rate of sink. £425. Weihe. High-performance glider in very good condition. £425. Grunau Baby IIb, with air-brakes. Bubble canopy. Very good condition. £250. Possibly one or two more gliders of these or other types. Located abroad. Transport to Great Britain about £60 per machine. All machines fully instrumented with C. of A. Further information on request. Box No. 68.

OLYMPIA MARK II, August 1956. 400 flights, 200 hours. Prang free, superb condition, 3 instruments, C. of A. till April 1961. £700 or near offer. Collins, 31 Boscawen Street, Truro.

PLYWOOD, Spec. 6V3, off-cuts from sheets. Ideal for repair work. Sizes 1′ 6″ × 3′ and many others. Thickness 1/6″, 5/64″, 3/32″, 1/8″, 1/4″. Write your requirements. D. Campbell, BM/Glider Doctor, London, W.C.1.

RHOENBUSSARD, a good soaring aircraft in excellent condition. Requires a 10 year C. of A., selling cheap. Offers to the C.F.I. Suffolk Gliding Club, Royal Air Force, Wattisham, Suffolk.

emergency landing at the bottom of the ridge with slight damage to the Skylark nose. Davey left his Skylark on the field until 6.30, hoping for the weather to clear sufficiently for him to attempt to score the 45 points he needed for victory. The rain never stopped.

Blake and Tarver were 1st and 2nd with 100 and 99 points. They both rounded the turning point and covered five miles on the way back. Tarver was down to 400 ft. at one point before he found the lift under Cu-nim which he had glided several miles to reach. He found severe icing and plenty of thunder. He reached 14,500 ft. before two near-by claps of thunder and the Podington turning-point pursuaded him to leave.

At eight o'clock in the evening Mr. Woodhams presented the cups to their winners, and the week closed with a very enjoyable party.

Altogether, 4,200 cross-country miles were covered in six competition days.

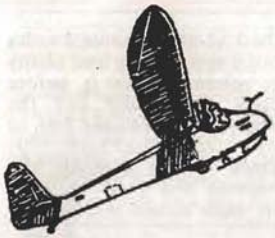
EDGEHILL: FINAL RESULTS

	Pilot or Pilots	*Sailplane*	*Contest Days*						*Total Points*
			26	27	29	30	31	1	
1.	L. S. Redshaw	Skylark 3f	100	4	100	100	67	0	371
2.	B. J. Davey	Skylark 3f	20	100	94	13	100	0	327
3.	D. C. Snodgrass	Skylark 3b	72	41	38	26	65	67	283
4.	R. I. Tarver	Olympia	15	25	13	36	64	99	239
5.	A. H. Baynes & K. W. Blake	Skylark 3b	0	39	27	0	64	100	230
6.	T. P. Docherty	Olympia	4	46	20	58	62	33	219
7.	L. Glover, H. J. Greenway & V. C. Carr	Olympia	37	21	20	30	75	0	183
8.	R. M. F. Parkinson	Olympia	4	35	24	19	71	0	153
9.	G. Turner & P. Berthelsen	Olympia	0	54	0	14	56	0	124
10.	S. B. Wills & B. H. Darbishire	Olympia	6	15	2	36	0	35	94
11.	W. Lawson & A. J. Thorburn	Eagle 3	0	11	4	5	72	0	92
12.	R. C. Vaile & D. H. Ashford	Skylark 2	0	9	0	5	17	18	49

In Parliament

In the House of Commons on 4th July SIR W. WAKEFIELD asked the Minister of Aviation: Is he aware that now that the Kemsley Flying Trust, which did so much for gliding and light aeroplane flying, has been wound up, there is a great need for the formation of a trust of this sort? Will he do his utmost to expedite the formation and development of this flying trust as an urgent necessity as soon as possible?

MR. SANDYS: Yes, Sir. I have every sympathy with this idea. The disappearance of the Kemsley Flying Trust has created a gap, and I am seeing what can be done to fill it.



ITS - ALL - YOURS

For and About Instructors

It is with great regret that I start these notes with the report of Mickey Gilbert's death in a collision between gliders in Austria. Both aircraft were approaching to land from opposite courses and hit head on. The other glider was flown by two instructors, who were also killed. The visibility was good and the two aircraft, which had only just been launched, were the only ones in the air at the time. It is understood that previous collisions have occurred at this site, also in good weather, and it would be valuable to learn whether the near-by broken-surfaced hill-soaring slope is found to act as an effective, but hazardous, camouflage, when gliders of the colour used sink below the skyline.

Mickey Gilbert started gliding in 1948 and was a member of the W.R.A.F.V.R. She had a Silver C and was an A.T.C. and B.G.A. categorised instructor. She was also vice-chairman of the British Women Pilots' Association, and she and her tremendous enthusiasm will be very much missed.

NEW BRITISH TWO-SEATER

In a letter in the last issue, Charles Ellis asks why I stress the need for a new British training two-seater. Surely it is important that we support our own industry? A glance at other countries shows that the training two-seater is the basic equipment for ensuring a flourishing market. There are two reasons for this. A country which buys its gliders from outside tends to start with two-seaters for its clubs and schools, and then logically continues, if possible, to buy single-seaters from the same source, because the spares problem is easier and there are fewer unknowns.

In the country of manufacture, the steady market is for a basic school aircraft which does not need to be frequently modernised, and which provides the manufacturer with some bread and butter, giving him time and opportunity to develop more exotic single-seaters.

I am all for the occasional import of foreign aircraft. They enable practical comparisons to be made, provide new ideas and keep our industry healthy. But if we expect British manufacturers to give us what we want, it is up to us to support them by buying their products, and help them by indicating our wishes. Do we want to be in the same position as such countries as Switzerland, Sweden, or Holland, with no home production, who are forced to buy everything from abroad?

The wonderful T-21b is now an old lady, and a new British aero-towable training/soaring two-seater will be more than welcome at home, and will enable this country to offer a full range of gliders abroad.

BROKEN GLIDERS

Bodged-up winches, inadequate clubhouses and broken gliders are three big problems that are still with us. Winches and clubhouses can be improved with money, but this is not necessarily so with gliders. The accent on breakages is now on medium-performance solo aircraft, and no longer in the early stages of training. This shows that instruction is adequate, and while pupils are still under close supervision they are on the whole accident-free. It is when the leash is loosened, usually because of a shortage of supervisory instructors and facilities to follow up training, combined with growing confidence, that trouble starts.

It would be valuable to hear what C.F.I.s think and do about this problem of dealing with the solo club pilot, and what they consider to be the fault which could eventually lead to expensive trouble.

Could C.F.I.s please send me their ideas and experiences of this problem so that they can be published together in the next issue? In the meantime the following, which has

already been written for the Cornish Gliding Club's newsletter by the C.F.I., George Collins, is reproduced to show the steps one club is taking.

ANN WELCH.

* * *

C.F.I.'s CORNER

From the Cornish Gliding Club's Newsletter

THIS month there are two items of general flying interest that could well do with some thoughtful examination. The first is the execution of correct sideslips and the second is the old problem of turning near the ground. Both have been causing comment on the airfield recently and hence this emphasis.

SIDESLIPPING.—The sideslip as a method of losing height quickly is useful only if executed very accurately, as any faults quickly become dangerous when near the ground. With gliders equipped with modern airbrakes it is doubtful if sideslips are ever absolutely necessary, but this of course does not mean that pilots should not practise them. Remember, however, that a poor sideslip, especially a sideslipping turn, looks simply horrible from the ground if poorly continued, and in a strong wind, or turbulence, care must be taken not to overdo it.

A SIDESLIPPING TURN is initiated by applying bank for the turn and then using opposite rudder, the two controls then being adjusted to continue the rate of turn required with the required loss of height. In this flying attitude, speed must be kept well above the stalling speed, otherwise any sudden loss of speed might start an incipient spin and this is especially liable to occur in strong winds and turbulence.

A STRAIGHT SIDESLIP is initiated by applying bank in one direction together with rudder in the opposite sense, which should be just enough to keep the glider on a straight course. Speed is kept at the normal approach speed by slight backward pressure on the stick to prevent the nose from dropping. The same care is necessary to keep the speed well above the stalling point, as is necessary in the sideslipping turn, and not to continue the slip too near the ground.

With practice on the same machine you will soon get to know the amount of control to use; but remember, if you then fly another machine it is very unlikely that it will respond in exactly the same way, so always err on the side of caution.

If you intend to practise sideslipping, then, first make sure of exactly what you want to do, ensure that you are happy about the weather conditions in relation to your own experience, and tell your instructor so that he may watch carefully and discuss it after the flight.

TURNING NEAR THE GROUND.—*It is impossible to over-emphasise the dangers of this fault.* It has happened at our Club this year with far-reaching results in spite of constant and repeated warnings in gliding literature everywhere. In our case the necessary repair work completely disrupted the work schedule in the hangar and consequently the major part of the soaring season has been lost to members at all stages of flying ability. This has inevitably led to some frustration and loss of cross-country flying opportunites and leads me to my next point, which is—

SHARING THE PLUMS.—Remember always that when you want to use a high-performance machine there is almost always someone else of the same mind. Only by team-work is anything really worth while, and the "good days" do not belong to just one pilot. By "sharing the plums" the right spirit prevails and the cable drops on the runway; no-one climbs too steeply,

no one stays up just that little bit too long when others want the same machine, and there are no murmurings on the side-lines, of which I can assure you the C.F.I. is all too well aware!

* * *

ALLAN PRATT
C. F. I. NEWCASTLE G.C.

WHEN Andy Coulson became Chairman of the Newcastle Gliding Club after 10 years as C.F.I., there was no doubt as to who his successor would be. Allan Pratt, who had been assistant C.F.I., was immediately appointed. Allan, who joined the club in 1954, has put a tremendous amount of patient work into his instructing and studying the problems connected with Club flying. His experience has been a great asset, and that experience includes test flying, when he held the post of Draughtsman/Test Pilot for Slingsby Sailplanes from 1949 to 1954. He was responsible for extensive testing of the Gull II, Sky and Skylark I sailplanes, as well as the other products of the Kirbymoorside factory. He was also C.F.I. for a short time to the Yorkshire Gliding Club.

Allan first commenced gliding in 1945 in the A.T.C., and after joining the Royal Air Force he was posted to Germany and, of course, continued gliding. He gained his Height and Distance in Germany and completed the Silver C requirements with a flight of 5 hours at Sutton Bank in 1948. Allan can now show over 900 hours, 6,000 launches and 40 types in his logbook, With his wife, Sylvia and small son Michael, Allan lives in Sunderland and is connected with one of the North-East's biggest shipbuilding companies.

When we began negotiations for the new site at Carlton, Allan was invited to take his Kite I, which he shares with our oldest flying member, S. C. O'Grady, to try the Carlton slopes. He was enthusiastic from the start, and knowing full well that we could rely upon Allan to promote full confidence in our flying on a new site, we completed negotiations. We are now fully operational at Carlton, and Allan's vast experience is proving its worth. One of these days we hope to get him away from the T-21 or from some new type which he is testing (he still does testing when time permits), and into a single-seater for his Gold C.

Allan Pratt and the (late) Gull 2.
Courtesy Central Office of Information.

Gliding Certificates

DIAMOND FOR GOAL FLIGHT

No.	*Name*	*Club*	*Date*
242	F. A. O. Gaze	Bristol Gliding Club	16.7.59
244	B. Masters	Lasham Gliding Centre	31.5.60
245	C. P. A. Jeffrey	London Gliding Club	31.5.60
246	A. J. Stone	Surrey Gliding Club	25.5.60

DIAMOND FOR HEIGHT

No.	*Name*	*Club*	*Date*
313	P. M. Scott	Bristol Gliding Club	14.5.60

GOLD C CERTIFICATES

No.	*Name*	*Club*	*Date of Completion*
60	B. Masters	Lasham Gliding Centre	31.5.60
61	C. P. A. Jeffrey	London Gliding Club	31.5.60
62	A. J. Stone	Surrey Gliding Club	14.6.60
63	K. W. Blake	Derbyshire & Lancashire Gliding Club	29.5.60

SILVER C CERTIFICATES

No.	*Name*	*Club*	*Completed*
900	G. A. Kerr	London Gliding Club	10.4.60
901	J. D. Cardiff	London Gliding Club	11.4.60
902	J. M. Holbrook	Avro Gliding Club	17.4.60
903	G. Collinsplatt	London Gliding Club	20.4.60
904	D. Ellis	Moonrakers R.A.F. Gliding Club	24.4.60
905	T. W. E. Corbett	Midland Gliding Club	9.4.60
906	H. R. Browning	Imperial College Gliding Club	21.4.60
907	J. D. Spottiswood	East Anglian R.A.F. Gliding Club	23.10.59
908	K. Hamilton	Surrey Gliding Club	6.5.60
909	R. A. C. Kendall	Wessex R.A.F. Gliding Club	24.4.60
910	Anthea E. C. Russell	Wessex R.A.F. Gliding Club	18.4.60
911	L. W. Redding	Surrey Gliding Club	10.5.60
912	R. E. Vanson	Southdown Gliding Club	24.5.60
913	J. S. Thorne	Wessex R.A.F. Gliding Club	29.5.60
914	J. B. Ramsden	Army Gliding Club	24.5.60
915	H. A. Brunt	London Gliding Club	10.6.60
916	S. N. Hart	Four Counties R.A.F. Gliding Club	7.6.60
917	V. Biske	Midland Gliding Club	28.5.60
918	D. J. Brooke	Four Counties R.A.F. Gliding Club	17.4.60
919	D. W. Braham	Cambridge University Gliding Club	7.5.60
920	C. J. Pennycuick	Cambridge University Gliding Club	28.5.60
921	D. A. O'Clarey	Coventry Gliding Club	28.5.60
922	S. J. Warwick Fleming	Headquarters 2nd T.A.F. Gliding Club	4.6.60
923	P. W. James	Cambridge University Gliding Club	22.4.60
924	J. C. Merfield	Surrey Gliding Club	7.5.60
925	P. G. Kelly	Home Command G.C., Kirton in Lindsay	30.5.60
926	G. A. Brown	Windrushers R.A.F. Gliding Club	28.5.60
927	R. V. Goodspeed	Royal Aircraft Establishment Gliding Club	4.6.60
928	E. F. R. Smith	Surrey Gliding Club	19.6.60
929	J. V. Thorne	Windrushers R.A.F. Gliding Club	19.6.60
930	W. B. Reekie	Norfolk and Norwich Aero Club Gliding Section	19.6.60

SILVER C CERTIFICATES (continued)

No.	*Name*	*Club*	*Completed*
931	P. Chick	Southdown Gliding Club	19.6.60
932	C. C. Donald	Cambridge University Gliding Club	13.6.60
933	G. L. Pratt	Cambridge University Gliding Club	13.6.60
934	J. M. Neumark	Derbyshire & Lancashire Gliding Club	7.6.60
935	C. J. Sellick	Surrey Gliding Club	30.6.60
936	T. S. Hood	Midland Gliding Club	7.6.60
937	D. G. Stephens	East Anglian R.A.F. Gliding Club	29.5.60
938	C. Barker	London Gliding Club	4.6.60
939	S. T. Soames	London Gliding Club	6.7.60
940	P. Newmark	Derbyshire & Lancashire Gliding Club	9.7.60
941	R. Barnett	Bristol Gliding Club	19.7.60
942	J. P. Mackenzie	Derbyshire & Lancashire Gliding Club	28.5.60
943	W. E. Negibotham	Derbyshire & Lancashire Gliding Club	7.6.60
944	P. R. Philpot	Bristol Gliding Club	29.5.60
945	T. J. Kraystek	Polish Air Force Association G.C.	4.6.60
946	P. L. M. Buckley	Kent Gliding Club	17.7.60
947	D. V. Zotov	Cranwell Gliding Club	27.5.60
948	R. W. Tull	London Gliding Club	19.6.60
949	H. Nouldey	Bristol Gliding Club	21.7.60

C CERTIFICATES

Name	*Gliding Club or A.T.C. School*
W. D. Harris	H.Q. 2nd T.A.F.
F. J. Clack	Fenland
A. S. H. Fisher	London
L. L. C. Denny	Fenland
E. G. Wood	H.Q. 2nd T.A.F.
J. H. Dalrymple-Smith	Condor
A. Best	Cambridge
M. F. Higginson	Norfolk & Norwich
C. L. Ryan	London
N. W. Woodward	Oxford
J. K. Williamson	Condor
G. M. Farquar	Condor
J. B. Hardie	Condor
D. G. Alty	Condor
E. Lyall	Oxford
N. L. Mason	Midland
D. R. Mason	Midland
W. H. W. Inman	Midland
G. H. Parkinson	Surrey
N. Brett	Norwich & Norfolk
M. Thomas	Moonrakers
W. G. Lydiard	Army G.A.
W. Ritchie	H.Q. 2nd T.A.F.
P. W. James	Cambridge
A. T. Wilson	London
C. S. Wallis	H.Q. 2nd T.A.F.
R. A. C. Kendall	Wessex
J. Connor	643 G.S.
N. J. Sayer	614 G.S.
D. R. Slade	643 G.S.
N. D. Sutherland	614 G.S.
P. E. N. Smith	Coventry
J. W. Hawkins	Surrey
W. E. Dench	644 G.S.
G. L. Pratt	Cambridge
B. J. Edwards	Cambridge
R. H. S. Cooper	Midland
M. T. I. Gunby	Cambridge
P. Holmes	London
V. W. Hargreaves	Army
H. C. Stringer	Norfolk & Norwich Ac. C.
C. W. Wilks	Surrey
D. Beichat	614 G.S.
R. P. Saundby	East Midlands
C. J. Pennycuick	Cambridge
I. T. Dickson	Doncaster & District
J. H. Odell	614 G.S.
E. P. Pearson	Midland
S. F. Beck	London
P. G. Shoosmith	612 G.S.
D. G. Murphy	Imperial Coll.
J. D. Pickett-Heaps	Cambridge
R. J. Wheelwright	Cambridge
C. D. Street	Midland
A. E. C. Russell	Wessex
S. J. Redman	Cambridge
L. Jankowski	Wessex
W. C. Walker	662 G.S.
D. C. Austin	Moonrakers
P. Morris	Windrushers
G. Bailey-Woods	Yorkshire
D. S. Jackson	No. 631 G.S.
H. J. A. F. De Salis	Bristol
D. W. Gott	Northants
R. D. Lightfoot	Cranwell
D. M. Holliday	Scottish
T. Wilson	H.Q. 2nd T.A.F.
E. M. Neal	Coventry
D. R. Gebbels	H.Q. 2nd T.A.F.
J. L. W. Jarred	Windrushers
C. Williams	Red Dragon
J. M. Sleeman	Windrushers
J. Lee	H.Q. 2nd T.A.F.
B. A. Antley	Windrushers
A. Somerville	H.Q. 2nd T.A.F.
G. Mackie	Ulster
D. Wilson	Midland
A. W. Williamson	No. 130 G.S.
W. A. Bird	Midland
L. T. Dorrance	Midland
E. T. W. Parke	Midland
R. Jefferies	Bristol
R. S. Allen	Derbyshire & Lancashire
B. R. Waters	H.Q. 2nd T.A.F.
D. G. Hayhurst	Surrey
C. B. Golding	No. 617 G.S.
B. C. Kemp	No. 615 G.S.
T. J. Bradley	No. 635 G.S.
W. S. Hoy	No. 671 G.S.
J. A. Stirk	Doncaster & District
J. J. Goddard	Army
C. Duggan	Oxford
H. W. Dixon	No. 643 G.S.
F. F. Robertson	Aberdeen
B. Fisher	Doncaster & District
D. J. Minson	Taunton Vale
L. R. Cook	Midland
G. J. Foster	No. 617 G.S.
D. C. Voice	No. 616 G.S.
G. W. Camp	London
K. W. Morton	Portsmouth Naval
A. Hardie	Midland
G. St.Q. Crockett	Cornish

C CERTIFICATES (continued)

Name	*Gliding Club or A.T.C. School*
L. W. S. Manley	East Yorkshire
P. N. Kingwill	Wessex
B. W. Cumins	Clevelands
B. J. K. Tricker	Cambridge
J. F. J. Delany	Wessex
M. R. Flint	Oxford
H. Worton	Midland
F. Wosewooka	Lasham G.C.
D. N. Washer	644 G.S.
R. W. Watson	644 G.S.
D. J. Westerside	Halifax
T. G. Creffield	Southdown
R. Wilson	Midland
J. M. Denman-Till	Surrey
S. M. Hands	Coventry
M. G. R. Thomson	Cambridge
P. J. Benest	621 G.S.
W. K. Coni	Army
A. G. V. Blackburn	Bristol
W. R. C. Foyle	London
L. S. Hood	Lasham
E. A. G. Hall	Moonrakers
J. Lee	Southdown
M. F. Hawkins	East Anglian
R. J. Goode	East Yorkshire
P. J. Hayward	Wessex
D. F. Parry	Windrushers
V. E. Berger	Army
H. E. K. Poole	Windrushers
A. A. Bowen	Norfolk
R. H. Taverner	Windrushers
E. L. Wilkes	Four Counties
P. J. Combes	Cambridge
K. F. Warton	East Yorkshire
J. C. Brown	Perak
J. R. Ford	Scottish
A. W. Machin	No. 642 G.S.
M. E. Sharman	Wessex
I. M. Barlass	Wessex
J. W. Smallthwaite	No. 631 G.S.
W. Dodds	Blackpool and Flyde
R. W. Curwen	Fenland
J. M. Buckley	Portsmouth Naval
J. W. Hayes	Midland
R. L. Clarkson	H.Q. 2nd T.A.F.
H. M. Russell	Bristol
W. McRaith	Scottish
D. A. Stangroom	Windrushers
D. L. J. Jennings	London
M. Hanbidge	Derbyshire & Lancashire
J. L. Fitton	Midland
W. H. Hirst	No. 671 G.S.
J. A. Jacobs	Scottish
R. W. S. Hewett	East Yorkshire
J. M. Brown	No. 642 G.S.
W. F. Ott	East Yorkshire
A. Klinge	Army
R. Coleman	Four Counties
R. Turrell	Four Counties
J. C. Fisher	Bristol
R. C. Sutton	Windrushers
J. S. Vickers	H.Q. 2nd T.A.F.
W. May	Coventry
R. A. Perrin	Suffolk
N. I. K. Allen	No. 614 G.S.
G. Graham	No. 663 G.S.
M. A. F. Gorely	Four Counties
G. H. Ropp	East Yorkshire
D. J. Lewis	H.Q. 2nd T.A.F.
H. F. Hamer	Suffolk
S. Usher	No. 643 G.S.
L. M. Barlow	Bristol
W. M. Burton	Swindon
B. Potter	Wessex
T. K. Hood	Midland
J. Cullens	Army
R. C. James	Cambridge
K. Rylands	Midland
E. L. Vaughan	Midland
L. F. Patrick	Home Command, Newton
A. R. Caveen	Midland
A. E. Wathen	London
J. Paley	Lakes
F. B. Suter	Windrushers
E. C. Hargrave	London
J. D. Smith	Midland
J. B. Brenner	Cambridge
D. V. Zotov	Cranwell
R. D. Osborn	Surrey
J. D. Munro	Midland
I. R. Taylor	Midland

The Certification of Foreign Gliders

1. General

The object of an airworthiness system is to ensure that the design, construction and flying qualities of the aircraft concerned conform to certain standards which, on the basis of current techniques and practices, are accepted as ensuring adequate margins of safety.

Any such conception implies a background of training and operational experience, since safety is a function not only of the machine but also of the way in which it is used. So far as British gliders are concerned requirements and procedures are defined by the Air Registration Board and the B.G.A.: whilst quite complicated in detail, their application is straightforward and generally well-understood.

When the B.G.A. is asked to consider the certification of a glider of foreign manufacture, these requirements cannot be applied in such a simple fashion. In general, the strength will not conform to B.G.A.R. and the handling qualities, implicitly based on a different piloting background, may differ markedly from those normally deemed acceptable in the U.K.

2. Relevant considerations

a. The duty of the Technical Committee is to ensure safety, from the airworthiness point of view, having regard to current British training and operational methods. In performing this duty, however, the Committee does not wish to act in an unduly restrictive fashion.

b. Based on the evidence of Mr. Vernon's investigations, it seems likely that gliders designed to the strength requirements of most major foreign manufacturing nations would meet the revised B.G.A.R. for gliders sufficiently closely to be acceptable on this score.

In considering a foreign glider, the Technical Committee will therefore be mainly concerned in ensuring that the flying qualities are not such as to make the aircraft unsafe in a British context.

c. If a person proposes to import a foreign glider he will wish to be reasonably certain that it will be granted a C. of A. and he will require this information before setting all the formalities of payment, Customs, etc., in motion. It follows that, in fairness to potential importers, the Technical Committee will have to express an opinion before the glider arrives in the U.K. *This would not preclude subsequent modifications to the flight limitations.*

In general, therefore, the Technical Committee will have to rely on:

i. Primarily paper evidence.
ii. Whatever knowledge is available about numbers built and countries using the machine.
iii. Any other evidence (perhaps based on individual knowledge) of the general competence prevailing in the country of origin, or the characteristics of the machine in question.

3. Evidence

In so far as the strength of the aircraft is concerned, this will depend on:

a. The requirements to which it is designed.
b. The assumed strength of the materials.
c. The procedures used by the designers in making the calculations (e.g. stressing assumptions, thoroughness of investigations, etc.).

Generally speaking, only part of this information will be available. (*a*) may be quite accessible, although details of any exceptions would also be required. Part (*b*) and some of (*c*) may or may not be indicated by the Type Record, but this document may not be available, or may be so sketchy as to be of little value.

The only paper evidence likely to relate to the flying characteristics is contained in:

a. The Flight Requirements.
b. The Flight Test Report on the prototype.

The latter is clearly the more important, but may not be very informative. For example, it would be very difficult to translate into British terms some qualitative assessment. There may, of course, be additional opinions from individuals who have flown the type abroad.

Having considered the available evidence on Flying Qualities, the Technical Committee will then have to express an opinion for the guidance of the potential importer. In general this is unlikely to be a categorical "Yes" or "No," but is more likely to be either:

i. It seems likely that this type will be granted a C. of A., but we will re-

quire some more tests by a B.G.A. approved test pilot.

ii. It seems unlikely that this type will be granted a C. of A. If the potential importer wishes to take the risk of importing it and submitting it for flight tests, or can arrange for it to be flown abroad by a B.G.A. test pilot, he is clearly at liberty to do so, but may well be wasting his money.

iii. There is insufficient evidence for the Technical Committee to express an opinion. Again, the potential importer can arrange tests either here or abroad, entirely at his own risk.

4. Procedure

(a) If the glider is the first example of the type to be imported.

When a person wishes to apply for certification of a foreign glider, the Technical Committee would require the following:

i. A statement of the Design Requirements to which the glider has been designed. This should be in the form of a Design Certificate from the manufacturer, carefully noting any exceptions to or departures from the requirements.

ii. A statement that the type is properly certificated in its country of manufacture, with full details of the flight and loading limitations.

iii. If possible, a copy of the Type Record.

iv. A copy of the Flight Test Report.

v. The certificate of airworthiness of the country of manufacture.

It shall be the applicant's responsibility to furnish suitable translations. In his own interest, the applicant should provide (i), (ii), (iii) and (iv) before importing the machine so as to obtain the opinion of the Technical Committee at a sufficiently early stage. The Committee would always reserve the right to check any of the handling characteristics, to impose modified flight and/or loading limitations and to require minor modifications to the aircraft. Item (v) would be required when the machine was imported.

(b) If the glider is not the first example of the type to be imported.

Since the Technical Committee would wish to be satisfied that the machine is substantially the same as that first certificated by the B.G.A., it would require:

i. A statement from the manufacturer

that it does not differ in any important respect from the example first certificated by the B.G.A. and

ii. The C. of A. of the country of manufacture.

5. Practical Aspects

The Technical Committee will insist on the following:

a. Releases. Knob to be yellow. Both hooks to be operated by the same knob. If certificated for winch launching, the hook so used must be of the back-releasing type. If the standard Ottfur rings can possibly be fitted into the release, this release must be perfectly efficient with these rings.

b. All placards to be comprehensible to an Englishman who knows no foreign language.

c. Cockpit must have a clear-vision panel.

F. G. IRVING,
Chairman Technical Committee.

STANDARD AUSTRIA

THE Standard Austria, which won the 1960 OSTIV prize for the best Standard Class sailplane, was commissioned by the Austrian Aero Club, and in order to fulfil the requirements for a Standard Class machine the designer, Rudiger Kunz, had to devise completely new methods.

In the design of the wings and control surfaces, the greatest possible proportion of the loads are taken up by the wooden skin. Epoxy resin glue is used.

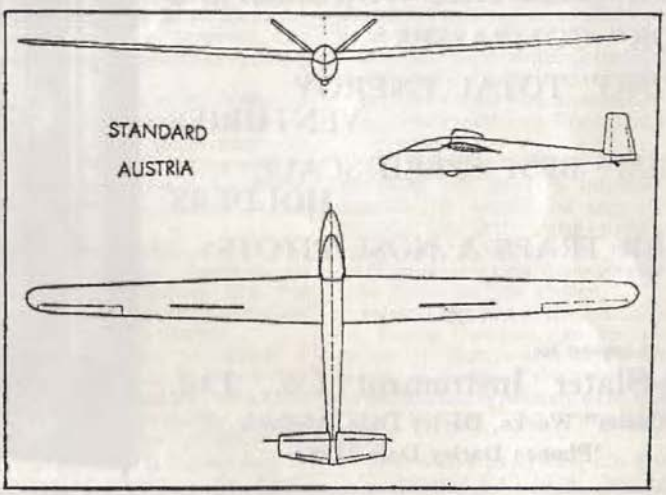
The forward part of the fuselage, including the pilot's seat, is produced in glass-fibre polyester material in a negative mould, resulting in an unsurpassable precision of shape and surface. It is of the greatest significance for the safety of the pilot that the elasticity of the polyester material enables it to achieve, on distortion, twelve times the breaking strength of a plywood structure of equal weight, and there are no splinters if it breaks.

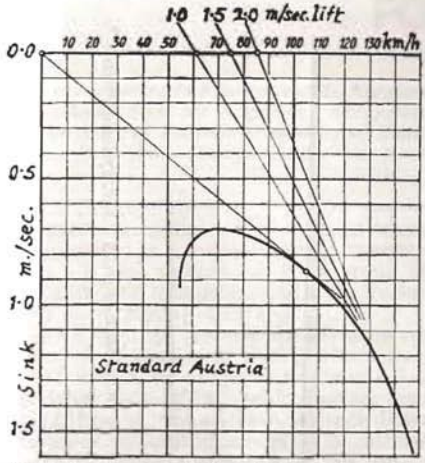
The canopy is blown in one piece. The pilot's seat is adjustable so as to provide comfort for long duration flights for pilots of 1.60 m. to 1.90 m. (5 ft. 3 in. to 6 ft. 3 in.) height.

A large wheel, with a disc brake, is situated in front of the centre of gravity.

The tail is of V form with all-moving surfaces, including tabs.

Except for the forward part and rear end





of the fuselage and the wing margins, the machine is built entirely of wood.

The great strength of this high-performance sailplane, together with provision for installing all blind-flying equipment, makes the Standard Austria specially suited for cloud-flying.

The above description is translated from the prospectus. We were informed at Butzweiler that the wing is built up round a metal structure—first the ribs and then the skin—and the metal is then withdrawn.

Dimensions

	Metres	*ft.*	*ins.*
Wing span	15.0	49	2½
Wing root chord	1.2	3	11¼
Wing tip chord	0.6	1	11.6
Mean aerodyn chord	0.95	3	1.4
Max. fuselage width	0.62	1	0.4
Overall fus. length	6.20	20	4
Tail arm	3.8	12	5½
Wheel diameter	0.38	1	3

Aspect ratio 16.7

Areas

	Sq. m.	*Sq. ft.*
Wing area	13.5	145.3
Tail surfaces	2.0	21.53
Fuselage "wetted" surface	8.8	94.72

Weights

	kg.	*lb.*
Empty weight	205	452
Equipped weight	208	459
Max. load	115	254
Max. permissible flying weight	323	712

Wing loading 22.0 kg/sq.m. = 4.506 lb/sq.ft.

Speeds	*k.p.h.*	*m.p.h.*
Max., smooth air	250	155.3
Max., gusty air	140	87.0
Max., aero-tow	140	87.0
Max., winch launch	95	59.0
At 300 kg. flying weight:		
Speed for min. sink	70	43.5
Speed for best gliding angle (1 in 34)	105	65.2
Stalling speed	55	34.2
Terminal dive, brakes open, max. all-up weight	250	155.3

Sinking Rates per Second

	metres	*ft.*	*in.*
Min. sink	0.70	2	3.6
Sink at best gliding angle	0.86	2	9.9
Sink at 100 k.p.h.	0.83	2	8.7
Sink at 140 k.p.h.	1.40	4	9.1

FLYING THE AUSTRIA AND FOKA

AN article by Tony Goodhart, describing his impressions of flying the Austria Standard and the Polish Foka immediately after the World Championships, has had to be held over but we hope to publish it in our next issue.

CHAMPIONSHIPS ACKNOWLEDGEMENTS

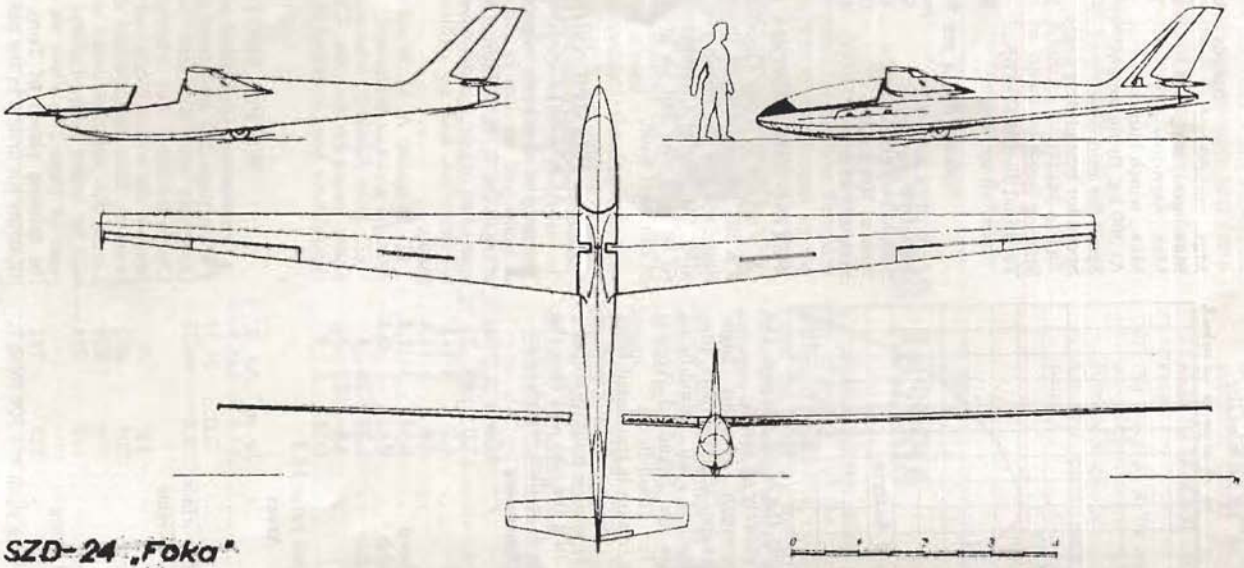
IN our list of acknowledgements for gifts, loans and services in aid of the British entry in the World Gliding Championships, published in our August issue on page 232, a correction and an addition should be made.

(1) Brigadier A. M. Whistler's name was wrongly given as Wilkinson.

(2) John Edwards, who was in charge of home publicity for the Championships, should have been included in the list.

WRONG PHOTO

A PHOTOGRAPH published in our last issue on page 202 purported to show Tony Goodhart and his crew at the World Championships, but obviously did not, because the wrong block had been inserted in error. This photo, which showed Flight-Lieuts. Ian Strachan and Gordon Rondel, will be found in its rightful place in this issue on page 277, while we expect to use the missing photo of Tony Goodhart to illustrate his article in the next issue.



Reproduced from "Skrzydlata Polska"

FOKA

by Wladyslaw Okarmus and Piotr Mynarski

We are indebted to Flight Lieut. L. Kurylowicz, D.F.C., for translating this article, which is reproduced from the magazine "Skrzydlata Polska". The SZD-24 Foka, produced by the Polish Soaring Institute (Szybowcowy Zaklad Doswiadczalny) at Bielsko in time to compete in the 1960 Word Championships, was flown to third place in the Standard Class by Adam Witek after winning four of the six contests.

THE design of the Foka (SZD-24) was the practical application of a design which was entered in a sailplane design competition. It was worked out by a group of designers and technicians under the leadership of Wladyslaw Okarmus.

As a result of numerous analyses in respect of parameters of a wing with a span of 15 metres, to comply with OSTIV rules, an aspect ratio of 18.5, with a surface area of 12.16 sq. m., was adopted. As regards the choice of an aerofoil, a number of calculations of laminar aerofoils of the group NACA 65 and 64 was carried out, and finally an aerofoil 63A-618 was adopted as a basic one. In the aileron section of the wing the NACA-4415 aerofoil was utilised as being less sensitive to variation of Re (Reynolds No.) value with the same angle of "zero lift" but higher Cz max. (maximum lift coefficient) than the basic aerofoil. By using this combination a geometrical twist ("washout") was avoided.

For reasons of aerodynamic stresses, the plan-form of the wings was designed as a rhomboid with a slight forward sweep so that the leading edges form a straight line at 90° to the plane of symmetry of the fuselage. A laminar aerofoil of 18% thickness allows a light and very rigid structure. The double-skinned "sandwich" torsion box is closed at the front and rear by auxiliary spars and it is formed on special jigs, which also serve as an assembly bench. A simple vacuum method devised by S.Z.D. was used in its formation, and a very great degree of accuracy was achieved (0.04 mm. of waviness on the raw wing surface). The leading edge is formed of drilled wood strip which is attached to the front spar with 0.6 mm. ply skin. The rear portion of the wing behind the rear spar is covered with 1 mm. ply on closely spaced ribs, which prevents buckling.

Special attention was paid to the design of the slotted ailerons, which in spite of their very small size gave excellent results. "In-flight" tests proved that the achieved rate of roll through 90° (—45° to +45°) wa 3 seconds, which was previously impossible.

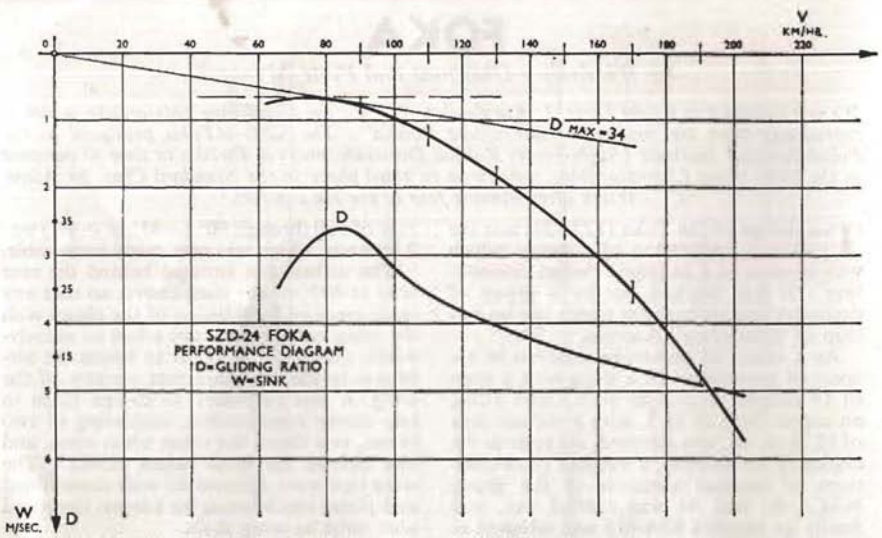
The airbrake is situated behind the rear spar at 60% of the wing chord, so that any inaccuracy of flush fitting of the plates with the wing surface does not affect its aerodynamic qualities. In order to house the airbrakes in the very thin rear portion of the wing, it was necessary to design them in two storey combination, consisting of two plates, one above the other when open, and one behind the other when closed. The wing-tips were terminated with streamlined end-plates which house the aileron hinge and also serve as wing skids.

The wings are attached to the fuselage by sliding them on to two cone-shaped attachment brackets on the fuselage, and locking both spars by means of one central pin with an expansion screw.

In an effort to achieve the highest possible degree of aerodynamic efficiency, the shape and cross-section of the fuselage were carefully designed and so any protrusions that could spoil the perfect aerofoil shape of the fuselage and cause unnecessary drag were avoided; thus the only protrusions left were the skid and the wheel.

The front of the cockpit has a somewhat modified laminar aerofoil shape; its maximum chord is not in the vicinity of the pilot's seat but at about 40% of the wing chord at the fuselage. The maximum width of the cockpit, thanks to certain modifications of the aerofoil in the transitional section of the wing-fuselage junction, is placed at about 85% of the wing chord at the fuselage.

The fuselage is of wood; the front portion covering is laminated, the rear portion is covered with ply. The fin is of sandwich construction. The cockpit, modelled from laminations, gives an aesthetic line and a very comfortable semi-reclined pilot's position. Back and head rests are adjustable on the ground and in flight, thanks to which the adjustment of pedals and shifting of the C. of G. with changes of size and weight of pilots



was avoided. Behind the back-rest are two luggage compartments, the upper for a barograph and tool kit and the lower one, enormous for a glider (325 × 400 × 730 mm.), for personal luggage.

All cables are hidden, and only the attractive operating knobs are visible. The canopy, very large with a gentle curve, gives good visibility. It slides forward semi-freely (roller and guide rail at the front and sides slide on the cockpit wall). It can be locked in a partly open position. It is easily detachable by turning the stopper on the guide rail and sliding off forward. A small air-scoop is situated at the very nose of the cabin and is operated by a Bowden cable. The canopy is jettisonable.

The aero-towing hook is totally enclosed in the fuselage and situated 40 cm. in front of the C. of G. The bungy hook is of pendulum type and returns automatically into the fuselage when the bungy is detached.

The wheel is just behind the C. of G. of the empty glider, in line with the main skid, and is enclosed in fairings. The main skid is replaceable, sprung with foam rubber and covered with a special rubberised canvas.

The one-piece tailplane is situated behind the fin and, although very small, gives sufficient stability and control. It is simply attached by a single bolt. The fin and tail-plane have laminar aerofoil NACA 631-012/009 and are of sandwich construction. Rudder and elevator are of conventional structure, covered with fabric. The elevator has a trim-tab.

Because of its competition role, the instrument panel is well equipped and consists of: A.S.I., altimeter, variometer ±5 m./sec., variometer ±30 m./sec., compass, turn-and-slip indicator, inclinometer and oxygen indicators. Normal and emergency canopy locks are situated on the instrument console.

In general the Foka, by S.Z.D., presents modern ideas of design which should put it in the lead within its field.

Technical Data

Span: 14.98 m. (49 ft. 1¾ in.).
Length: 7.0 m. (22 ft. 11½ in.).
Height: 1.4 m. (4 ft. 7 in.).
Lifting area: 12.16 sq. m. (130.9 sq. ft.).
Aspect ratio: 18.5.
Flying weight: 300 kg. (661 lb.).
Wing loading: 24.70 kg./sq. m. (5.061 lb./sq. ft.).

Performance

Best gliding angle: 1 in 34.00 at 86 km./h. (46.5 knots).
Minimum sink: 0.66 m./sec. at 75.00 km./h. (2 ft. 2 in./sec. at 40.5 knots).
Minimum speed: 62.00 km./h. (33.5 knots.)
Maximum speed: 240.0 km./h. (130 knots).
Permissible *g*: +6, —3.

OBITUARY

DR. MIRIAM GILBERT

All who knew her, and especially members of the Kent Gliding Club, will have been shocked and sorry to hear of the tragic death of "Mickey" Gilbert in a gliding accident in Austria.

Mickey was one of the most experienced women pilots in the country. She started gliding in 1948, gaining her A and B Certificates in September of that year. In less than a year after this she completed her Silver C—a remarkably short time. She soon took up power flying and was one of the few women to pilot a jet aircraft. Among her many flying qualifications she held A.T.C. and B.G.A. Instructors' Categories. In 1956 Mickey was awarded the California Trophy for the best glider flight by a woman during that year for a cross-country flight of 98 miles from Lasham to Castle Bromwich. She joined the Kent G.C. in 1956, soon after its formation, and in 1957 helped to form a Skylark II syndicate.

Mickey loved flying and all the other activities of a gliding club. She was never afraid of hard or tedious work and was always ready to help others. One remembers Mickey at Detling getting up early and driving the winch in her pyjamas in order to send someone off on a 5-hour attempt, before returning to the clubhouse for a late breakfast. Only a few members, I think, realised that she was the holder of a degree, which she took at Imperial College, London University, and was entitled to be called Dr. Gilbert.

One of the things which gave her most pleasure, and at which she was particularly good, was teaching other people to fly. She brought to the task of instruction, and indeed to all her flying activities, a zest and drive which made light of all the duties which fall to the lot of club instructors, however arduous or dull they might be. She somehow managed to meet all situations, even the most depressing, with unfailing cheerfulness.

During her flying career Mickey met practically everyone who was notable in private flying or gliding, and she had a very wide circle of acquaintance. It was only necessary to mention a name for her to produce some amusing anecdote.

With Mickey's death the Club has lost one of its most loyal and staunchest supporters, and those who knew her a sincere friend who will not be forgotten. We offer our deepest sympathy to her family.

R.F.N. AND P.B.

BOOK REVIEWS

Photographers' Map: No. 1, SOUTH-EAST ENGLAND. Published by Kodak Ltd. Price 3s. 9d.

This map, sent to us for review, covers an area from Dover to Stratford-on-Avon, and marks numerous photogenic sites, many of which are described on the back, together with hints on photography. "Sporting or popular centres" are indictated with red rings; but we can only find six, all racecourses—three for horses and three for cars. For future editions the firm would do well to employ somebody whose sporting interests are less circumscribed.

•

Go Gliding, by ANN WELCH, with photographs by GABOR DENES. Published 1960 by Faber & Faber, London. Price 30s.

Ann Welch's books are usually directed at a fairly specific spectrum of readers, and usually hit the target. "Go Gliding" is no exception: it is exactly what is needed by the earnest seeker after truth in the 14 to 18-year waveband.

It consists of a large number of pictures telling a story—or a series of consecutive stories, interwoven with a number of chapters covering various facets of gliding ranging from the moment of joining a club up to Championship gliding.

Both pictures and verbal narratives are excellent, and the chapter on Bob's first cross-country flight includes some evocative writing. It is perhaps my individual misfortune to be mildly interested by this particular format (becoming increasingly fashionable at present), where the stories told in photographs and in words keep vaguely in step but out of focus with each other, so that often, trying to start off on page one, turn to page two and so in in the usual way, one soon finds the only thing to do is to go through all the photographs in turn, ignoring the text, then go back to the beginning and take on the text alone.

But Faber & Faber presumably know what is wanted, and no-one could have done it better than Ann Welch and Gabor Denes.

P.A.W.

★ ★ ★

Correspondence

NATIONAL GLIDING WEEKS

Dear Sir,

Now that the National Gliding Weeks have been concluded, I put forward one or two ideas that have occurred in conversation, and as a result of my experience in running the National Gliding Week at Sutton Bank.

As a competition pilot myself, and now that I have had a taste of running a Week, it seems to me that recent experience has shown that the point of the N.G.W. has been missed. When this idea was first put forward, it was with the intention of building up a series of meetings to provide opportunities for competition-minded pilots to develop their skill, and to give a wider opportunity to fly in conditions up and down the country. These N.G. Weeks were intended to act as qualifying rounds for the Nationals.

The National Gliding Weeks have been run twice so far, and two rather disturbing facts have emerged:

1. The National Entry gets bigger every time. Next year there is a possibility of an even larger meeting, perhaps 120 entries.

2. The National Gliding Weeks are not supported adequately. At Yorkshire we had only four entries, although the meeting was very enjoyable. In total, the entry for the four weeks run this year was approximately half the number in the Nationals last year. This resulted in three clubs who had offered to run a meeting cancelling their offer.

In view of this experience, I think the purpose of the whole set-up wants re-thinking. If you feel that the Nationals are too big, as I do, then some form of qualification is necessary. The Silver C is so common nowadays that it no longer acts as an effective limitation. Gold C has been suggested, but this is too arbitary at the moment, and will still prevent some very competent pilots from taking part. This type of limitation does not assist the problem of the National Gliding Week support.

The problem is more profound. A system should be devised to discriminate between those who go along to the Nationals as a very pleasant jamboree, and those who are serious competition pilots with an eye on the National team. In the past some nine Gliding Clubs have run successful meetings. I am putting forward the following suggestion for discussion.

If the Nationals are run every two years at Whitsuntide, then there are five times when a qualifying competition could be run: August following, Easter, Whitsuntide, August Bank Holiday, and Easter in the year of the Nationals. Each meeting would be declared by the B.G.A. as a qualifying meeting for the Nationals, and would have a B.G.A. appointed official at each meeting to ensure continuity of task-setting and marking. As no two meetings overlap, this should not present any difficulty.

For a pilot to qualify for the Nationals, then he would have to score above, say, half the total points available. Once a pilot had done this, say he had won three meetings out of the five, there would be no need for him to go to any other meeting and this would leave room for others to score top marks.

In conclusion, it seems to me that the National entry should be limited to serious competition pilots, and some form of qualification is required along the lines suggested to

sort the men from the boys. The National Gliding Weeks must be assured of adequate support and given a better status by the B.G.A.

Yorkshire Gliding Club J. C. RIDDELL.

IF . . . OR WHO IS WORLD CHAMPION?

Dear Sir,

Partly inspired by Tony Deane-Drummond's letter in the last SAILPLANE & GLIDING, and with sufficient information available in the magazine *Flugwelt* (8th August 1960), a rather surprising result emerges if the Internationals are marked as one class.

Place	*Pilot*	*Nation*	*Aircraft*	*Revised Marks*	*Class and Official Place*
1	Huth	Germany	Ka 6 BR	5,608	Standard 1st
2	Munch	Brazil	Ka 6 B	5,256	Standard 2nd
3	Witek	Poland	Foka	5,158	Standard 3rd
4	Hossinger	Argentine	Skylark 3	5,031	Open 1st
5	Makula	Poland	Zefir	5,015	Open 2nd
6	Sejstrup	Denmark	Ka 6 BR	5,010	Standard 4th
7	Popiel	Poland	Zefir	4,956	Open 3rd
8	Juez	Spain	Ka 6	4,846	Standard 5th
9	N. Goodhart	Gt. Britain	Olympia 419	4,799	Open 4th
10	Toutenhoofd	Holland	Ka 6	4,514	Standard 6th
11	Jonsson	Sweden	Zugvogel IV	4,380	Open 5th
12	Ortner	Argentine	Skylark 3	4,345	Open 6th

One assumption has been made: that four pilots must reach the goal in order that the task can count as a goal flight. The last two competition days, 300 and 200 km. triangles respectively, have therefore been marked as a distance flight along a fixed line.

NOTE:—These two days marked as goal flights, i.e., with speed marks, would place Makula fourth, with Hossinger and Sejstrup equal fifth.

London Gliding Club P. J. LANGFORD.

BRITISH NATIONAL CHAMPIONSHIPS

Dear Sir,

We would like to endorse Deane-Drummond's views regarding the British Nationals as expressed in the last paragraph of his letter in the August SAILPLANE & GLIDING, i.e., that the competition should be divided into "Open" and "Standard" Class, the two classes flying and being marked as one, the British Champion being the winner regardless of Class, with a Champion of the other Class.

We also consider that a considerably higher standard should be required of entrants and a definite limit to the number of entries to be accepted—say 40 to 50 regardless of Class, all entries being "vetted" by a committee (the seeding committee?) to eliminate entries down to a fixed number. There can be little doubt that many entrants in recent nationals have not been up to the standard that should be required for entry into competitions of this calibre.

Now that "Gliding Weeks" are held in "non-National" years, pilots can and should gain their initial competition experience in these and similar contests and their entry in the Nationals should only be accepted when they have shown by their performances that they have reached the necessary standard.

We also consider that the Nationals should be confined to individual pilots and that "team" entries should not be accepted.

Unless something on these lines is adopted, entries for the Nationals will continue to increase until they become almost if not quite unmanageable.

In other sports and games a very stiff standard is required for championships in order to confine entries to reasonable limits and to ensure the high standard of entrants. Something on similar lines is necessary in our Gliding Championships.

C. GREEN
G. BENSON

Midland Gliding Club.

WHO INVENTED THERMALS?

Dear Sir,

The fame of the Wright brothers in developing the first successful aeroplane has largely overshadowed their pioneering achievements in the field of motorless flight. A paper presented by Wilbur to the Western Society of Engineers as early as September, 1901, contains a passage on soaring flight which shows that they clearly understood the principles involved and foresaw the possibilities of using thermals for cross-country flying. After explaining the theory of hill-soaring and noting that in their glider (for which they qoute a sinking speed of 6 ft./sec.) they had experienced short periods of soaring, Wilbur continues "... when gliding operators have attained greater skill, they can, with comparative safety, maintain themselves in the air for hours at a time in this way, and thus by constant practice so increase their knowledge and skill that they can rise into the higher air and search out the currents which enable the soaring birds to transport themselves to any desired point by first rising in a circle and then sailing off at a descending angle."

In September and October 1902 they made nearly 1,000 flights in a glider controllable in all three axes, and in the autumn of 1903 a number of flights were made which lasted over a minute. After some years spent perfecting and demonstrating their aeroplane, the Wrights made a brief return to gliding in 1911 and on 24th October Orville made a soaring flight of 9 mins. 45 secs., a record which stood for the next ten years.

Wickwar, Glos. JOHN COCHRANE.

OUR THIRTIETH ANNIVERSARY

ON the opposite page is a reproduction of the first cover of the first issue of THE SAILPLANE AND GLIDER. It was founded as a weekly, with eight pages, by Thurstan James, then on the editorial staff of *The Aeroplane* (of which he became editor in 1946). *The Aeroplane* gave it to the British Gliding Association in late 1931, when it had become a fortnightly, and it was edited during 1932 by F. Entwistle of the Meteorological Office, and then by the present editor fron 1933 to 1940. After several changes of ownership, it was amalgamated with the magazine GLIDING (founded in 1950 by Jacques Cochemé) in 1955 to become SAILPLANE AND GLIDING.

Sept. 6, 1930. Vol. 1. No. 1.

THE SAILPLANE AND GLIDER

Price 3d.

THE PRETTIEST YET.—The "Fafnir," which has been designed by Herr Lippisch to replace the "Wien." This machine piloted by Groenhoff tied with the "Wien" piloted by Kronfeld in the difficult out and return flight round the Kreuzberg.

AT THE WASSERKUPPE.—The starting place in the foreground. In the background to the left is the school, with the hangars to the right.

CLUB AND ASSOCIATION NEWS

In spite of the indifferent weather all over the country, Club activities do not appear to have been affected all that much and a more than average crop of Silver and Gold C heights are reported in August. Again we ask forgiveness for the amount of cutting that has been necessary.

This issue we welcome for the first time the new R.A.F.G.S.A. White Rose Gliding Club who operate at R.A.F. Finningley.

The Blackpool & Fylde Gliding Club have revived the series on Club Emblems and we print a photograph of their tie, car, blazer and lapel badge on page 321.

The final date for copy (typed double spaced on foolscap) and photos to reach me for inclusion in the December issue is first post Wednesday, 19th October.

YVONNE BONHAM,
Hon Club & Association News Editor.

B.E.A.

We were deeply shocked to hear of the death of Mickey Gilbert in a gliding accident at Aigen. Mickey was an honorary member of our Club and helped us greatly by instructing for us in our early days. Her infectious enthusiasm for all things aeronautical will be missed by all of us.

A change has occurred in the hierarchy of the Club. Peter Ross has vacated the chair to take up a position in Brussels. He has already sent us an account of Belgian club with a magnificent range of high-performance sailplanes all launched by aerotow and with no pupils, all training being done at a national centre.

Peter's place has been taken by Ken Wilkinson who used to be a member of the London Club. Our treasurer Ken Liversage was married recently and we are hoping to see his wife at Booker regularly.

Our Olympia has at last arrived, resplendent in flame and silver. It has been well utilised and when the trailer is complete we will start going away. Our CFI celebrated with his long awaited five hours

Although the weather has been kind to us lately we have not had a great deal of soaring, due mostly to the lack of aero-tows, winch launches providing only 800 feet or so. Tom Mason managed to connect in the Tutor for a C and Ian Eyers did the same in the T-21.

R.A.N.

BLACKPOOL and FYLDE

Our very worthy President, Herbert J. Liver, has just instructed us to place an order for a brand new Olympia IIb. Needless to say, his financial assistance with the larger portion of the purchase price of this addition to our Club fleet is appreciated beyond all measure.

Considerable effort has been made during the last year or so to raise the necessary additional revenue to maintain a further aircraft. It would be most remiss to omit mention of the invaluable and willingly

given help by our exponents of Hot Pot Suppers and, more recently, turkey and ham and salad suppers on our monthly bar-extension Saturday nights. Our thanks to Tony Russell, Barbara Freshwater, Helen Torrence, Shirley Clapham, Sandra Mackinnon and Geoff Walker; also our small washing-up gang.

It is a pleasure to report Bill Dodds's C Certificate gained in a useful thermal and also Geoff Walker's and Pat Chessey's B Certificates.

J.S.A.

BRISTOL

JULY 31st looked a good distance day, so Pete Collier declared Speeton, near Flamborough Head for 300-km. goal. He got there and then flew up and down the coast in the sea breeze front before landing.

Ian Paul of Newcastle, who had been sampling Nympsfield, reached his goal at his home site, Carlton, also 300-km. plus. Clubmate Frank Rodwell tried also in the Swallow, getting Gold height but only Silver distance.

The following day boiled up well and John Cochrane reached 13,000 ft. in the yellow Skylark for Gold height. Joe Derritt got to 7,000 ft. in the Olympia for Silver height. Tony Gaze had an interesting moment in the Eagle when all his instruments stopped working at 14,000 ft. in a cu.-nim. Doug Jones got his Gold height at Lasham and also achieved the best distance in the daily task.

On 6th and 7th August things boiled up even more and Derek Stowe shattered the Club height record by climbing to 24,500 ft. in his Skylark 2. Bob Perrott in the Yellow Skylark reached 19,500 ft. to gain his second Diamond. Other climbs were made by Pete Collier, 14,000 ft., Alwyn Sutcliffe 13,000 ft. and Ted Chubb 13,000 ft., all in Skylark 2's, and Tim Bradbury, 13,000 ft. in the Olympia.

Reverting to a slightly lower plane of activity, two Silver C's have been completed recently. Tony Pentelow got his with five hours and height on 29th June, and Howard Houlday with five hours on 27th July. We now have yet another female soloist in the Club with Betty Williams getting her B on 2nd August.

Bristol Gliding Club's hangar and clubhouse, and the new garden laid out in memory of the late John Parry Jones.

The hangar drainage scheme has been almost completed under the able direction of Gordon Mealing and has already demonstrated its ability to prevent flooding.

The Parry-Jones memorial garden is now finished and we have obtained a motor mower to keep the grass in order.

A.L.S.

CORNISH

PERMISSION to use Davidstow airfield on an occasional basis was negotiated just in time for the June National Gliding Week and good use was made of it on two occasions during the Competitions. The site has considerable potentialities for thermal soaring in addition to the wave that is known to exist in the area in East or North-east winds. Several expeditions have already been made there with the Olympia and Meise, but at the moment there is a lack of permanent accommodation for aircraft or tow-cars.

Summer courses are in full swing, with John Harris as resident instructor. On 14th July they set up a Club record by starting flying at 05.29, with a 23-minute flight in the T-31, and finished the day at 22.00 with a total of 110 launches logged, using only T-31 and Tutor.

On 22nd July the Olympia achieved maximum utilisation with two five hour legs in the one day, Bill Lewis and John Young being the pilots. Recent C's include Richard Martyn and Ernie Hayman.

The Ladies' Committee Hut on the airfield has been completed, and water laid on and is a pleasant spot to sit in for a brew-up and something to eat. The ladies staff it on a roster basis, while the children have twelve tons of beach sand outside to burrow in.

We have had numerous visitors from other clubs and are always glad to see them. One recent visitor was a beautiful blue Olympia and trailer/caravan owned by Soaring Holidays, Ltd. and a very impressive outfit it is. Peter Scott was with us in the first half of August, too, doing a little diamond-prospecting.

P.V.P.

CROWN AGENTS

THE 1960 season started with a "Wine and Cheese" Party on 18th January, at which Lawrence Wright's film cartoon "Cloud Cuckoo" was shown. Our Patrons, Sir Stephen Luke and Sir George Seel attended this and the former, accompanied by Lady Luke and daughter, was present at the Lasham "At Home" on 18th May.

Members from overseas include Bryan Fuller from Nyasaland, "Sandy" Keay from Nigeria and Brian Hopkins from Kenya. A considerable amount of flying has been put in on the Swallow as it was also entered in the two National Gliding Weeks, first at Whitsun in Cornwall and secondly in Yorkshire at the end of July.

In both events the met. conditions were not ideal for a 13-metre machine, but the experience was both enjoyable and of great value.

J.E.G.H.

DERBY. and LANCS.

FIVE Silver Cs since our last news. On the 6th June Wilf Heginbotham took his Olympia to Barton on Humber and Jose Newmark landed the Club Olympia at Garthorpe, 51 and 49 miles respectively. On the 9th July, Paul Newmark landed the Club Skylark II at his goal at R.A.F. Cranwell, 56 miles. Don Gunn flew his Olympia 37 miles to Lyndholme and Bill Cooper took the Olympia, which he had rebuilt, 65 miles to R.A.F. Leconfield. Michael Mitchell, Norman Fox, Bernard Lawrence, Sid Cooper, Eric Elliott and Hughes have all completed their time on the T-31 and now fly the Tutor.

We are all very glad to see Stan Armstrong back in the Bar, He had fractured an ankle during an undershoot.

O.W.N.

DONCASTER

THE hangar is now practically complete, and the Syndicate Tiger-Moth is fitted with a hook.

Flying continues apace and our two hard-worked aircraft have done about 1,500 launches between them so far. Some of the more experienced solo pilots have now been promoted to the back seat of the T-31.

On 7th August 5 high-performance aircraft from the Derbys & Lancs Club visited us to sample our local thermals. Brian Fisher was so inspired by the sight of an Olympia thermalling off an aero-tow that he took the Cadet up on the winch and got to within sneering distance.

The Daimler winch built by Les Muncaster out of a double-decker 'bus is proving to be a magnificent device and gives launches of not less than 1,000 ft. The fluid flywheel gives a launch of almost auto-tow smoothness and unlike so many winches it is easy to drive.

Our first Doncaster-trained lady member, Pat Willert, soloed on the 23rd of July.

M.C.U.

HALIFAX

ON 11th June the AVRO Gliding Club joined us at Ringstone Edge with their Skylark IIb and enjoyed great success. Several flights of well over an hour were made, much to our jubilation.

The fine weather held until the next week for our open day and 2,000 spectators saw sailplanes from AVROs and Yorkshire Gliding Clubs do some fine soaring and aerobatics.

Tentative arrangements are being made for AVROs to use Ringstone Edge as a permanent hill site, meanwhile they have lodged their Skylark and Tutor with us. We have filled in the quarry on the west run and a larger section of the field can now be used.

D.J.W.

HANDLEY PAGE

THE most important event of the year to date was the exchange of the Skylark for Tony Gaze's Eagle for the duration of the World Championships, thus allowing everyone to get some experience of a high-performance machine.

Peter Neilson, flying an Eagle on 5th June, climbed to a height of 10,000 ft. First solos have recently been completed by Ken Holdaway, John Parker, Jim Jordan and Mike Knott on the T-31.

During the firm's holiday seven members of the club travelled north to Sutton Bank, where they were hospitably welcomed by the Yorkshire Club who generously allowed us the use of their T-21 during the week.

An expedition to the Mynd was also undertaken, during which time Geoff Wass, flying from Nympsfield completed his Silver C with a climb to 4,200 ft in the Skylark.

We regret the loss of Lou Dowdall and Peter Neilson, both of whom have left the firm for pastures new.

We shall miss Lou since not only has he been one of our most regular instructors, but he has also done stalwart work as Club Secretary. Peter has accomplished some outstanding flights whilst with the Club.

A.W.

KENT

THE Annual General Meeting was held in Maidstone on Saturday, July 16th. The officers of the Club (Richard Parkinson, Chairman; Sue Parkinson, Secretary; and Roger Neame, Treasurer) were re-elected for their third year of office. Owen Maddock was elected to the Committee as an additional member and will be responsible for ground engineering.

The proportions of soaring weather has been limited in the south-east lately, so the accent has been more on training.

Sunday, 12th June, produced intermittent hill and/or thermal lift in a strong south-west

OCT 1960

wind and short soaring flights were possible. Again on Sunday, 17th July, which dawned in clamp, there was good hill and thermal lift, when eventually it was possible to start flying at 3.30 p.m. and most of the members present had a soaring flight.

Philippa Buckley flew for 5 hours in the syndicate Skylark, thus completing her Silver C. Neil McHarrie and Brian Stevens, who have only recently joined the Club, had their first solos at Lympne during August.

Richard Parkinson flew the Club Olympia in the National Gliding Week at Edgehill. The week before the competition was spent building a new lightweight trailer for the Olympia. On 17th July the trailer was just a collection of separate components, but by the evening of 22nd July it was fully roadworthy and on the way to Edgehill.

P.B.

LAKES

THANKS to the hard working instructors of the Lakes Gliding Club we are pleased to note a swelling in the number of solo pilots. The following have taken to the Tutor: Mike Kelly, Gill Halsam, Howard Woods and Geoff Potter.

Howard Woods has not only achieved his A and B, but on his fourth solo flight gained his C in flying time with exactly 15 minutes thermal soaring.

At long last David Millet has also achieved his C time with 27 minutes thermal soaring in the Tutor. The Club now has fifteen solo pilots, three of which have gained C certificates.

The Lonsdale Trophy has been won this year by Ron Reid our C.F.I. His winning flight turned out to be a tour of the Lake District. With a gain of 6,700 feet and good lift at regular intervals Ron contented himself with a bird's eye view of the different waters and finally landed rather conveniently in a field at Levens village, a hundred yards from his own back door.

We hope that during the next twelve months more pilots from other clubs will compete for this most worthy prize which is awarded for the greatest distance flown from the Lakes.

D.H.M.

MIDLAND

SINCE our last report, Tom Hood and Vic Biske have both completed their Silver Cs with cross-country flights.

Charles Green with a crew of Geoff Benson and Tim Corbett have been to France to compete in the "Huit jour D'Angers", when the weather was most unco-operative, producing but one flying day, a 150-km. triangle in which Charles finished 9th, winning the cup for the best foreign entry.

Thirty-two of the thirty-four competitors finished the task. Although there was not much flying, the trip was most interesting. The organisers held a fishing competition on one wet cloudy day, and on another, a tour of the Anjou wine cellars, made the visitors forget the lack of thermals.

Tim went on to Fayence for a week of good thermal flying before taking the Club Olympia to Dunstable for the National Gliding Week, where he and Bob Swift performed creditably.

On 1st August Charles Green tried a 200-km. triangle, but was brought down by a belt of rain at North Piddle, near Pershaw, the second turning point. He assures me that it is perfectly true that he telephoned back to the Club from a house owned by Mr. Philpott.

The weather has been none too kind since Easter and we seem to have had rather worse weather conditions than the rest of the country. In consequence little worthy of comment has happened at our site.

At the last stroke of the pen we hear that Ken Wooley has completed his Silver C on 9th August, with a flight to Pershore 45 miles.

G.B.

NEWCASTLE

THE move from Usworth has been practically completed and we are now operating exclusively from Carlton. The hut is now furnished except for the interior decoration.

One of the runways has been cleared of rocks and in the prevailing winds launches of 1,000 feet have been obtained, using the run along the edge of the main N.-W. slope. A cable retreiving winch is under construction which should free the tractor for glider towing and speed up the lauching rate considerably.

There were only two soaring days in the fortnight's flying camp which was held at the site from 16th July to 1st August. Ian Paul arrived from Nympsfield in his Skylark 2 on August Bank Holiday Sunday. The flight gave him the final leg of his Gold C with a goal diamond—a distance of 203

miles at an average speed of just over 33 m.p.h.

The Bergfalke recently purchased by Ken Saddington was delivered and made its first flight on 14th August. Its high ground clearance and steel tube fuselage should make it an ideal machine for the rough conditions of Carlton, a fact which was amply demonstrated when the pilot had to turn it into the rough to avoid an obstacle. There was a sound like a peal of bells as the machine ran over the boulders, but no damage at all was done.

L.A.C.

NORFOLK & NORWICH (Swanton Morley)

THROUGHOUT the summer we have been visited by many members of other clubs, some of them coming solely to gain aero towing experience. Chris Delf came from the Derby and Lancs Gliding Club. He stayed a month and now has his Silver C. The Club's three Tiger Moths are fitted with towing hooks, and no glider pilot waits long for a launch.

Intending visitors may like to know that accommodation can be arranged locally and we shall always be glad to help in this direction. The flight office telephone number is Swanton Morley 274. The airfield is always open, with a full-time C.F.I. in charge.

The Club's Kranich is flying again after its ten year C. of A. by Mr. Gilbert of Foulsham. It looks very smart in its new colours of black and yellow. This, of course, makes it very visible in the air and will contribute to safe airmanship generally.

Bill Rekie completed all three legs for the Silver C after carrying out a soaring flight of 5½ hours on Sunday, 19th June. After an aero tow to 2,000 ft. he set course inland from Swanton Morley and eventually reached Tibbenham to be warmly welcomed by our friends of the Norfolk Gliding Club.

Our Club Chairman, Norman Brett, is fast becoming an accomplished glider pilot. In June he made a 50-kilometer soaring flight from Swanton Morley to Sutton Bridge in Lincolnshire and in August he got his Silver C height.

G.J.H.

NORFOLK (Tibenham)

THE Annual General Meeting was held at The Air Centre, Norwich, on the 22nd July, 1960, and was attended by some 50 members. The old Committee was re-

elected "en bloc" and was thanked for their hard work and the progress the Club has made during the last year.

New members are rolling in and we are now awaiting the delivery of the Club Swallow. Also we are negotiating for the purchase of a Tug Aircraft for aero-tows. We now have a sleeping dormitory, a good bar plus a juke box, together with an excellent soaring site and plenty of enthusiasm and we enter our second year with high hopes.

The Southdown Gliding Club held a second weeks camp here at Tibenham and we would like to mention that all visitors are very welcome. Should anyone want to visit us and fly during the week they have only to contact J. Wilkins, phone Drayton, Norfolk, 500 or P. Crabtree, Norwich 34278 and they will be only too pleased to make the necessary arrangements.

On August Bank Holiday our Membership Secretary, Ernie Cunningham, flew to Sherringham Golf Course in his Olympia, thus getting his distance and height legs for his Silver C. Club Secretary J. Wilkins took his Olympia to 5,100 feet gaining his height leg and the following Sunday A. Bowen also gained his height leg in this Olympia soaring to 5,300 in cloud.

To date 21 members have been soloed, the last four were D. Schamp, T. Daniels, Sheila Wilkins and Eric Boulter.

Mike Watson took the Tutor to 3,600 ft. and the next day this was beaten by Joe Polensky who took it to 4,500 ft. and was forced down by the lack of clothes.

Also over the Bank Holiday eight C Certificates were gained by Ray Saunders, Nigel Saunders, Bob Limmer, Mike Watson, Joe Polensky, Peter Voisey, Brian Redfern and Tom Connor.

M.R.C.

NORTHAMPTONSHIRE

News in mid-August seems to be singularly scarce, but, looking back over the last two months, one gets the impression of steady progress, especially in the flying of the Swallow and the Skylark II. A large number of hours of local soaring have been logged, but only two cross-countries; Bill Sykes, with Ken Pearson, to White Waltham, 68 miles, in Bill's Eagle and Stan Norsted, 25 to Upwood, not far enough for his Silver C distance, but he collected his height on the way.

The Swallow has twice been taken to Edgehill for a week by small groups, to get in some ridge soaring.

The R.A.F. Association in this area has formed a Gliding Club and the members, 14 full and 7 associate, are flying with us. The arrangement is working very smoothly and to the advantage of both sides. For our part, an influx of new members was welcome.

B.C.H.

OXFORD

By the end of July we had done 300 more launches and 200 more hours flying than in 1959.

In making up the total of 500 hours Tessa Stevens has gained her C and Messrs. Collins, Southam, Evans, Wren and R. Salisbury-Jones have claimed Silver Height.

It has been found easier to fly an aircraft away than to get it back and the fumble record must go to the Skylark II syndicate that set off to retrieve their aircraft from a flight to Cambridge.

Passing a Skylark II on Bicester Aerodrome they commented that it was a strange bird to be with the Windrushers and pressed on to Cambridge. Many hours and phone calls later they returned to Bicester to find their aircraft "roosting" with the Windrushers.

Still later pilot and crew were joined. It was more than 24 hours later that the Skylark was brought home from a little over four miles away.

Several other attempts to reach Cambridge have been made but only Anita and the White G.B. have succeeded.

Chris Hurst has flown to Swanton-Morley and 14,000ft. our first gold leg for many years.

Raymond Salisbury-Jones and his new Mark IIb Olympia syndicate should be with us in a few weeks.

W.K.

R.A.E.

The training emphasis has shifted considerably during the last two months as a result of two events. The first was the denting of the T-31 leading to its temporary retirement. The second was the acquisition of a Kranich. This machine was purchased, mainly on the strength of members' loans, from the Gothenburg Aero Club, Sweden. Jim Torode went to Sweden by sea to collect it.

Lionel Pike, one of the R.A.E. Club's instructors, in the Olympia 2b.

Our intention is to fettle the T-31 and sell our Tutor so that the Club fleet will consist of the Kranich, the T-31, and Olympia 2b.

We are proud of the fact that the organisation of the Gliding Display on the public days of the S.B.A.C. Week at Farnborough is in the Club's hands. Gliding-minded industry and various private owners are rallying round to put on what should be a good show.

The A.G.M. was held in June. Jim Torode was returned as Chairman, Dennis Hayhurst as Treasurer and Gerry Lewis as Secretary. A. K. Edgar, R. Goodspeed, R. Fry, A. Pickles, R. J. Richardson and G. G. Gant were elected to the Committee and Dave Martlew was returned as C.F.I.

Bill Lydiard completed his five-hour and height legs for his Silver C in the syndicate Olympia "Mambo".

Jim, Roy Procter and Lionel Pike took the Club Olympia to the National Gliding Week at Dunstable.

SOUTHDOWN

Two of our members recently completed the final legs of their Silver C's at Firle. Peter Staff with his height and Peter Chick with a five-hour duration flight in thermals.

George Constable, C.F.I. of Southdown Club (in cockpit) and Mike Meek.

This was not only a first all-thermal flight at Firle but also a very hard won flight under deteriorating conditions due to the advance of a sea-breeze front.

Five-hour duration flights have also been made by Len Lennard and Mike Meek. Mike shortly afterwards had a go at his first cross-country with a flight of 25 miles to Tunbridge Wells.

The sea-breeze front is now being turned to good purpose and several pilots have had their first taste of cloud flying in it since the raising of the air lane over the site. Bill Williams made one such flight recently gaining a thousand feet on instruments.

A second expedition was paid to the Norfolk Club during July by our C.F.I., George Constable, Ken Perelli, Joan Cloke and Ian Agutter. Although the first two days produced no flying due to rain, something like fifteen hours soaring were logged by the end of the week and Ken gained his height leg with a climb to 5,200 feet.

The Tutor has seldom seen a more enthusiastic group flying it including Frank Leduc, Derek Louis and Terry Eves who have all recently soloed on it.

P.W.

SURREY

THE Surrey Club Annual General Meeting was held on 9th July. Hugo Trotter has now retired as Chairman and this position is now in the capable hands of Sydney Swallow backed by Don Green, Chris Sellick, Lyn Boucher, John Simpson, Hugh Hilditch, Les Creed and Mike Gee as committee.

Hugh Hilditch, our chief trailer builder, has now completed three trailers, two for Skylark 2's and one for the Skylark 3f. With the exception of the trailer for he 3f these have sensibly been made interchangeable and can retrieve any of the Club Machines.

Sunday, 31st July dawned the day of days with thermals starting at 8.30 a.m. Derek Piggott started the rush by declaring 500 kms. and getting himself launched in Chris Sellick's Skylark 3f. However, as luck would have it, this machine had a faulty A.S.I. and Derek had to land.

Mike Gee managed to get away in an attempt on a 300-km. dog leg, but was caught in the clag of a decaying cu-nim and had to land just north of Abingdon. Ted Stark of the Army Club, proved it was a wonderful day by flying to Sunderland, a distance of 260 miles.

The week following the Bank Holiday should really be known as the "week of heights". Fourteen people qualified for Gold C heights. David Scallon flying the Swallow found himself sucked into a cu-nim and climbed to 15,000 feet thereby completing his Gold C.

Hugh Hilditch and Brennig James both went to over 12,000 feet in attempts to win diamonds. Humphry Dimock took his son to 16,500 in an attempt to break the two-seater gain of height record. Unfortunately his son was ill and he had to break off the climb.

John Goddard, who failed to get his Silver C distance by a few miles on one flight during the week, made certain by climbing to 9,500 feet and gliding into Netheravon. Alec Taylor completed his Silver C by flying to Keevil. Henry Mackinnon also managed to get to 13,400 feet for the first leg of his Gold C.

Congratulations to Cliff Tippett and Jackie Muller who got married on 17th September. Also to Sir Roger Conant, Bart., C.V.O., on his election to the chairmanship of the Anglers' Co-operative Association. The Association's journal, announcing this, adds: "He has recently taken up gliding as a secondary sport." Secondary my foot!

It is with great regret that we have to report that one of our hardest-working tug pilots, Tony Thackrah, suffered a fatal accident in an Auster on 9th September. He had done over 1,000 tows.

C.J.W.

TAUNTON

ALTHOUGH we have had indifferent weather conditions for the last two months, several members have gained their B and C certificates. John Fielden has again been very active, besides running successful Course Weeks. He just missed his Gold C height in the Swallow, getting away from a shaky 500 ft. to 9.400 ft.

Another opportunity was missed by our Secretary, Brian Knowlman, when, faithful to his instructor's briefing to practise upwind soaring, he failed to see all frantic ground signals telling him to attempt his first cross-country in improved conditions and lifted cloud base.

Another Tutor has been added to our fleet, making a total of five aircraft all duly inscribed with appropriate names. We now

have Popsy and Wopsy (Tutors), Rudolph (T-21), Nellie (T-31) and Jane (Swallow). A syndicate Skylark 3f is on order for the winter.

The Club's chief anxiety is still the proposed new road crossing the 'drome. We have been asked to put £4,000 towards the cost of an alternative route, incorporating the perimeter track.

M.A.K.

ULSTER

AFTER nearly a year our colours flew again in July and Liddell soared 1½ hours in strong wind and low cloud at Magilligan.

Hopes of the loan of a Tutor from Dublin did not materialise, but we had a pleasant visit from Michael Slazenger.

Two young Ulster members, Robinson and Skillen, attended consecutive courses at The Mynd and we have high hopes for next season.

Meantime we are keeping the gate open at Magilligan.

A.N.

YORKSHIRE

SINCE the National Gliding Week finished, we have had some very satisfactory flights. David Rennison took his Kite 2b to Tebay under difficult conditions. This is the first Goal flight there from Sutton.

Then the following day, Chris Riddell took his Skylark 1 to R.A.F. Spitalgate, Grantham some 96 miles away, to break the Club Distance Record. Chris was en route for Rugby and Nympsfield to try and complete his Gold C. High cover put paid to that one.

Jock White spent a week at Sutton and in the course of his stay he completed an out and return flight to Middlesbrough. He got up over 9,000 ft. in cloud and then remembered he hadn't switched on his barograph.

Doug Collinson from Newcastle also spent the week at Sutton and got in quite a lot of cloud flying practice. Best height was over 9,000 ft.

A.C.M. Sir Theodore McEvoy, President of the R.A.F.G.S.A. visited Sutton and flew five hours, mainly in thermals. On the same day Doug Collinson took his Skylark 2 to Bury St. Edmunds on a Gold distance attempt. This was 160 miles and the best ever from Sutton. The strong cross wind denied Douglas his declared goal at Clacton.

These recent weeks have shown that the Club is coming of age in its flying. Visiting pilots are always welcome and we have been very pleased to see visitors from Germany and South Africa.

J.C.R.

SERVICE NEWS

EAST ANGLIAN (Duxford)

THREE aircraft went from Duxford to the R.A.F. Inter-Command and Inter-services Championships which are reported elsewhere.

Evening flying is now taking place at Duxford. Several pilots have gone solo—Iain Dorman-Jackson, Al Whiffen, Alec Caudon and Frankie Streeter, and several more have got their Cs. Doreen Cains had hers a month or so after soloing, Paddy Hogg has his, and Mac McIntyre and Tip Tippen have both celebrated theirs with trips of over an hour apiece in the Tutor John Bakewell got his on his first day with us from Moonrakers—one up for the East Anglians—and John Gates has both gone solo and got his C.

The cross country honours go without doubt to John Delafield and Dave Stephens. John flew the Skylark to Dunkeswell, 169 miles, and also to Cranwell. He circled down from 9,000 ft. to 3,000 ft. for a photo graph of Grantham and was then unable to regain height. We have just heard that John has got his Gold height at Netheravon, where he and Nobby Clark have taken the Skylark. Dave did 28 miles to Luton, in what he later identified as a sea breeze front.

Next time he says he won't fly across but along it! He then had a stab at a 100-km. triangle and rounded two of the turning points. Mike Holloway also got away and landed at Bury St. Edmunds.

D.V.D.

EAST YORKSHIRE (Driffield)

THE addition of the T-21 to our fleet has caused a considerable increase in monthly flying hours and on August Bank Holiday week-end every student received soaring instruction. Three pilots obtained their C as the thermals rose like strings of sausages.

On the 15th June we were visited by the President of the R.A.F.G.S.A.—Air Chief Marshal Sir Theodore McEvoy, who had two flights in the Olympia, which had been brought over by Peter Lane from the Clevelands Club. A total of 32 launches were achieved in four hours flying.

We have also had visitors from the Halifax Gliding Club and our C.F.I. has paid a number of visits to Sutton Bank.

Since the last report the following certificates have been awarded:

A and B—S.A.C. Middleton, Cpl. Gaunt, Cpl. Elliott; C—Master Herring. Capt. Ott, Sgt. Hewett, Cpl. Gaunt, A.C.2 West, Mr. Poxon.

R.T.B.

MOONRAKERS (Upavon)

A VERY successful week of gliding was had over Whitsun at Edgehill. Five of the Club aircraft were moved by road. The week produced 400 launches, 70 hours and four A's and B's, plus a number of cross country flights. Major John Evans made the best distance flight when he flew the 117 miles to Leeds. Dick Stratton produced his 2.4 Jaguar for auto-towing on the runways and it averaged out at 9 launches to a gallon.

Two members are now well on the way towards their Silver C's, namely "Jock" Reilly, who collected his height at Edgehill and flew to Dunkeswell from Upavon, also Eddie Edwards who recorded his height on one Sunday morning in June and in the afternoon qualified for his distance with a flight to Lasham.

On 16th June the Club entertained 150 pensioners from Messrs. Fry's of Bristol They all enjoyed themselves but were quite happy to remain firmly rooted to the ground.

August Monday was a day of most impressive lift that sent the green ball leaping to the top of the tube. John "Willie" climbed to 21,000 at approximately 2,000 ft. per minute. During the previous few days Geoff Chandler made three climbs to over 8,000 ft. the last one was in an open Grunau.

E.C.R.

PHOENIX (RAF Brüggen, Germany)

SINCE we started flying in March this year we have logged over 2,300 launches up to the end of July. This exceeds last year's total.

In June we flew on 12 days and flew 92 hours with 540 launches in the book. July was not so good, only 57 hours and 490 launches.

Our second Grunau appeared in July from Jever. Painted white all over, this Grunau has a full canopy and those who have flown it say it is far more responsive on the controls than our other one.

At Whitsuntide Steve Warwick-Fleming completed his Silver C with an 80 kilometre cross country to s'Hertogenbosch in Holland in the Weihe and Clive Wallis flew 58 kilometres to Eindhoven airfield the following day and only wants five hours to complete his Silver.

Roy Waters flew the Weihe around the local skies for five hours fifteen minutes in June and attempted his distance at the beginning of August in the Grunau, but only made 12 miles to the R.A.F. Hospital at Wegburg.

Silver C heights have been got with almost monotonous regularity of late: Ron Clarkson, Doug Allan, Alan Somerville, Dave Lewis and Warrant Officer Harris being the pilots.

Colonel Vickers did fifteen minutes for his C at the end of June in a Grunau and Major Hargreaves soloed in July.

The first lady member of the club to solo this year was Lt.-Col. Christy of the W.R.A.C., who got her A and B on 6th August in the Grunau.

The latest solo was "Mac" Mcmullen the following day, 7th August.

R.L.C.

WESSEX (Andover)

RON Sandford declared Rufforth (Yorks.) as his goal when he took off from Andover Airfield. He successfully achieved the task and therefore claims a Gold C and Diamond.

J.D.

WHITE ROSE (Finningley)

THE White Rose Gliding Club was formed at Royal Air Force Finningley on the 4th April 1960 to serve R.A.F. Finningley, R.A.F. Bawtry, and R.A.F. Lindholme. Our first aircraft was a T-31, which was borrowed from the Four Counties Club, and with this we managed 350 auto-towed launches in 8 weeks.

Trevor Ware (C.F.I.) and George Coatesworth (Deputy C.F.I.), flying an Olympia

2b and an Olympia 401X respectively, represented Bomber Command in the R.A.F. Inter-Command Contest at Odiham, and George went on to represent the R.A.F. in the Inter-Services Contests.

The Club's first ab initio member to solo was Peter Southgate who also gained his A and B certificates on Wednesday, 10th August.

The Club now has an Olympia 2b and a Kranich which should be airborne in the near future.

W.J.F.

OVERSEAS NEWS

AUSTRALIA

BEING winter in Australia, the past few months have been rather quiet on the gliding front but there are signs of an early spring.

There are also signs of a forthcoming invasion of foreign sailplanes into Australia. Several European countries have realised that the Australian gliding movement is growing rapidly and that there is an increasing market for good sailplanes.

Both Polish and Czechoslovakian sailplanes will arrive here shortly to make demonstration tours.

Our own sailplane builders, Edmund Schneider Limited have obtained local manufacturing rights for the popular German Kaiser Ka-6 and Ka-8 sailplanes and there is a rumour that someone is trying to get the local agency for American-built sailplanes. It looks as though the British sailplane manufacturers are overlooking the Australian market.

I read that British clubs are looking for a modern replacement for the veteran T-21. They should seriously consider Schneider's latest product, the ES-52b, a 15-metre advanced two-seater that has been highly praised by Australian instructors. It should be ideal for British conditions.

A.A.

SOUTHERN CROSS (Australia)

THE Southern Cross Gliding Club of Sydney who are at present going through a period of consolidation have an active flying membership of 85 members and owns two two-seat trainers, one shortwing Kookaburra (ES-52) and one long-wing Kookaburra (ES-52b) and two single seat machines, a Kingfisher (ES-57) and Grunau Baby. All four machines are Edmund Schneider designs.

Two private-owner machines are used on the site, a single-seat "Joey" owned by Mr. Jack Herford (designed and built in Australia) and a beautiful single-seat, high performance B.G.12, built and owned by Mr. Vic Kasak and the Treffner brothers. This is an American designed machine but unfortunately it has not as yet flown in Australia owing to difficulty in getting a C. of A.

The C.F.I. is an Englishman named Mr. Geoff Allington.

R.F.

CANADA

THE Edmonton Soaring Club report a flight of 4 hours 16 minutes, with a climb to 11,555 by Anne Marie Klesschies.

Out there the thermals are very strong by eastern standards and they soar Schweizer 1-19's to cloud base—10,000 or more—quite regularly. 10 ft./p.s. is not unusual 5 is quite O.K. around here. 3 more usual.

In Vancouver, B.C., the Glider Council is very active. 15th May saw the first flight of the Briegleb BG-12a, built by Peter van Gruen, Gerhard Class and Vic Shobridge, who are reported very pleased with its performance. Ken Minshall is momentarily expecting delivery of a Skylark 3f kit. Seven members attended the North-west Meet at Wenatchee, Washington in July. They clocked 54 hrs. and 400 miles cross-country.

George Ryning of the Cu-Nim Gliding Club of Calgary, Alberta, who has been working for 5 years to get type approval of the Schweizer 1-20, which is a 1-19 with about 3 ft. more on each wing, reports progress.

The Southern Ontario Soaring Assn. are going up to Muskoka in August. This is a resort area north of Toronto.

The Victoria, B.C., Soaring Club made their first flight on 24th May (Queen Victoria's anniversary) after rebuilding a Schweizer 2-22 and building a winch and trailer.

D.K.

HOLLAND

SINCE the last club news the weather has not been outstanding. Only three flights over 300 km. have been made while 18 attempts ended between 200 and 300 km.

One of our pilots landed behind the iron curtain and it took nearly two months to get the glider back.

The Dutch fleet of gliders is being extended in three ways. First of all a replica has been built for the National Aeronautical Museum of the Zögling PH-1, the first registered glider in Holland. It has been given to the Museum by Air-Commodore Oyens who crash-landed the original PH-1 in 1932 at a total loss. The replica is built according to the original specification and drawings and will be flown next spring. Secondly an order for 10 Ka-7 two-seaters has been given to Alexander Schleicher in order to make some progress in advanced instruction. The first deliveries are expected in December.

Last but not least the Sagitta, a new standard class machine designed by Piet Alsema and built by the N.V. Vliegtuigbouw Deventer, has made her first flights. The early results looked very promising.

J.Th.v.E.

SOUTH AFRICA

ON the Rand in winter almost every day starts with a low inversion, heavy with industrial smog and the smoke of grass fires—burning grass is a national pastime in South Africa in winter. As the sun gets higher in the sky, the inversion gradually lifts, but seldom entirely clears. The air is dry and cold and the wind cuts like a knife. However, after being pretty duff for some weeks, the winter thermals came back to us during two weekends and a good deal of local flying was managed.

On 22nd May odd clouds were developing at 5,000 feet above ground and falling down after about ten minutes, there was also a good deal of haze due to grass fires—by August the whole country-side will be as black as a boot. A good fire may even form its own little cloud, which breaks through the inversion level for a couple of hundred feet.

The 5th June was much brighter, with dry westerly winds tending to push everyone down-wind. Sporadic veld fires broke out occasionally, the smoke drifting towards the East at a fairly flat angle to the ground.

At the end of July, the Defence Gliding Club, which is based at Zwartkops Aerodrome just south of Pretoria, invited Johannesburg over for the week-end. We were able to sample the Iscor thermal—a permanent up-draft that exists over the Steel Works blast furnaces.

Maintenance continues at Johannesburg. Boet Dommisse has devised a machine-driven belt sander which takes the labour out of rubbing down.

G.A.

Make it plain sailing

When the call's for a trustworthy tow-car, the Vanguard Estate Car's the answer. It makes gliding and sailplaning *plain sailing* with its sheer dependability and ample pulling power. Never in this class of vehicle did so much robustness lurk behind such grace of line, such stem-to-stern elegance. Within ... lots of room for a party of six to ride in generous comfort ... or (with back seat folded down) for a full quarter ton of luggage. But perhaps the biggest surprise this perfect tow-car has in store for you is its economy. Call in or call us up; we shall be only too glad to give you a demonstration.

VANGUARD ESTATE CAR

£1092.13.4 inc. P.T.

See it at

Berkeley Square Garages

Ltd., London, W.1

exclusive STANDARD TRIUMPH area dealers **GRO 4343**