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April 1963





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SAILPLANE AND GLIDING

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION

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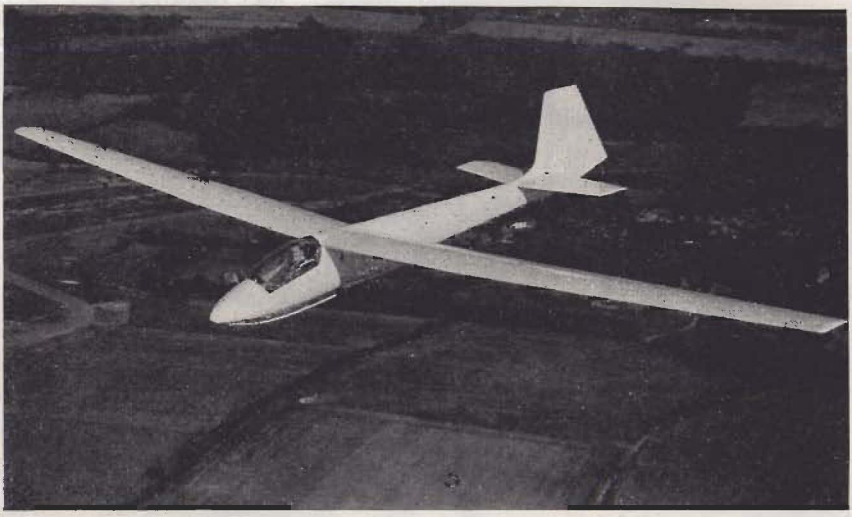
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Cover Photograph: Sailplane park at the World Championships at Junin, Argentine. At the top is part of the area where teams were camped among the trees.

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Chairman's Report on 1962

AGAIN the highlight of 1962 was the National Championships, this time held at Aston Down from 2nd to 11th June. Eighty aircraft flew nearly 59,000 miles in eight days, and nearly 2,400 hours flying was achieved. Twenty-eight pilots completed the first 300 km. triangle ever set in this country.

Our team for the 1963 World Championships in Argentine, selected largely from the results of these Nationals, is one of the strongest, both in men and machines, which we have ever fielded. By the time this report is published the results will be known. I am bold enough to forecast that we shall be proud of them.

British Gliding continues to grow, the problem being to keep this expansion under control, for our record for safety and self-discipline must be maintained. The two major problems are still, as they will always be, the acquisition of sites, and the maintenance of adequate freedom in the air. Perhaps the latter is the most difficult and never-ending battle, for it has to be fought against prejudice and misleading propaganda.

Britain is going through an uncomfortable and belated stage of self-criticism, and awakening to the facts of its post-war international standing. In the air, as in other fields, comforting assurances have been issued that we are amongst the leaders, and that in fact the main problem is that our air is so overcrowded that it would be dangerous to allow any great expansion of the number of aircraft. A system of beliefs which has been accepted so long that it is taken uncritically for granted and defended with passion from any attack, has thereby encouraged a growth of restrictive practices, and of an Air Traffic Control system costing millions of pounds.

The *facts*, when produced, make little or no impact. One such fact is that the whole of this multi-million pound nation-wide system is at present devoted to controlling an average number of 15 commercial aircraft in controlled airspace over the whole of the United Kingdom at one time! This number is increasing only slowly, because the increasing number of *passengers* is carried in larger aircraft.

The restrictions round Manchester and Jersey are more onerous than around New York and Chicago.

At Rockford, U.S.A., last year airline traffic and a Gliding Club continued to operate normally when a light aeroplane meeting brought 2,400 additional aircraft on to the field for over a week. Ten per cent of such traffic density would produce A.T.C. hysteria in our country.

The high spot of a Television Schools programme on Air Traffic Control last year showed an airliner pilot suddenly taking violent avoiding action as a dim shade swept past outside, with the laconic comment: "A glider". If any of the viewers as a result joined the A.T.C. organisation, they were doing so under a misapprehension, since a mathematical analysis indicates that at current traffic densities the chances of such a happening to a given airliner is less than one in ten thousand years.

I am one of those who believe that the British people are, in fact, first class and if they are given the facts of our backwardness in the air they will be only too anxious that our expansion should be encouraged. So the first pre-requisite is to pull the blinkers away which are sedulously applied by vested interests, and so cut away the ground from under the feet of the restrictionists. For at present this fiction of our "overcrowded" air is used continually to increase controls and so make it more difficult for the rest of us to fly.

Here is a great task of public education, and I hope that our Free Press will be inspired to take it up and pursue their historic duty of presenting the facts to the public so that the pressure of public opinion may at last force our Government to take off the brakes that have since the war prevented us assuming our proper place amongst the air-minded nations of the world.

All this seems far away from the duties of the British Gliding Association, yet in fact in this apparently remote field of public education lies the key to the future, not only of British Gliding, but of British Aviation as a whole. So possibly the most important and complex task of the year has been the production

of a number of papers advocating the application of defined Safety Standards to the hazard of aerial collision to bring these into line with other technical aviation problems, such as the risk of simultaneous engine failure and the like. For why should the collision risk be treated irrationally, whilst all other flying risks are handled on a proper scientific basis?

This highly technical task has been undertaken by our Airways Committee under the Chairmanship of Capt. H. C. N. Goodhart, R.N., whose achievements, including the invention of the mirror landing system adopted by the Navy for Aircraft Carrier landings, makes his authoritative standing impeccable. Your attention is particularly drawn therefore to the report of his Committee, printed on page 79.

We are not attacking A.T.C. as such, but simply advocating that it should be applied only where and to the degree that it is shown to be necessary.

Unless our National policy is revised, an eminent U.S. authority has written: "You will continue to have an industry devoted largely to a handful of aeroplanes and airline pilots. The comparatively few people you have involved in this industry will certainly have achieved a high level of safety — simply by keeping British Civil Aviation hamstrung to the point where it can barely exist. It is because of this philosophy, incidentally, that what we call General Aviation in the United States cannot possibly exist in the U.K. . . ."

Committees, Panels and Officials

During the year the following Committees and Panels were set up under the Chairmen listed below:

AIRWAYS COMMITTEE:
H. C. N. Goodhart.

INSTRUCTORS' PANEL:
Ann Welch.

TECHNICAL COMMITTEE:
F. G. Irving.

Reports from the above Committees and Panels are published separately.

ACCIDENTS ANALYSIS OFFICER:
Air-Cdr. G. J. C. Paul (resigned 13.9.62) replaced by

SAFETY PANEL:
E. J. Furlong.

ARTICLES OF ASSOCIATION COMMITTEE:
J. E. G. Harwood.

C.C.P.R. REPRESENTATIVE:
W. A. H. Kahn.

FLYING COMMITTEE:
E. J. Furlong.

INSTRUMENT DEVELOPMENT CO-ORDINATOR:
R. Brett-Knowles.

MAGAZINE COMMITTEE:
P. A. Wills.

MANAGEMENT COMMITTEE:
P. A. Wills.

M.C.A. STANDING JOINT COMMITTEE:
Representatives:
P. A. Wills, Ann Welch.

NATIONAL CHAMPIONSHIPS COMMITTEE:
Ann Welch.

O.S.T.I.V. REPRESENTATIVE:
A. H. Yates.

PUBLIC RELATIONS OFFICER:
F. D. Storrs.

ROYAL AERO CLUB AVIATION COMMITTEE:
P. A. Wills, H. C. N. Goodhart.

SITES COMMITTEE:
A. L. L. Alexander.

WORLD CHAMPIONSHIPS COMMITTEE:
E. J. Furlong.

Finance

A year ago we were faced with a large increase in running costs, due to the necessity of taking on more expensive offices following the closing of Londonderry House, and the general growth of work arising from the continual expansion of Gliding.

It was extremely difficult to budget for this new situation, but we asked for increases of subscriptions and other charges, and in the result this has worked out very well.

The form of presentation of our Accounts has been simplified and brought up-to-date, and it will be seen that we are in a satisfactory position. This coming year also presents its difficulties, not least of which is the fact that, at the time of writing, the costs of our entry to the 1963 World Championships in Argentine being much higher than usual, contributions have consequently fallen so short of requirements that practically all our special reserves from past years built up for this purpose will be absorbed. The Council decided that we must nevertheless field our full team as usual, but our 1965 entry will probably present us with serious financial problems.

The Flying Committee examined and approved the Rules and Marking System for the National Championships, and for nine Regional Competitions, namely the Norfolk Easter Rally, Lasham Spring Rally, Bicester R.A.F.G.S.A. Rally, the Midland Easter Rally, the Western Rally, the Northern Rally, West of England Rally, Bicester August Rally, and the R.A.F. Rally at Geilenkirchen.

The Flying Committee was also responsible for the Pilots' Rating System, which was put into operation for the first time. This year it had to be adjusted to take into account the Easter Rallies as was agreed by Council.

During the year the experience gained on the markings of the Rallies suggested certain variations, which were tested and worked out to compare with the original system. Council has decided to continue with the original system to operate in 1963 and at the same time arrange to have a general discussion at the A.G.M. to test the feelings of the members with regard to altering the system during 1963 to come into effect for 1964.

The Rating System seems to have caused a considerable expansion of interest in competition flying, as is shown by the number of rated pilots having increased by over 50 per cent.

The Committee examined and discussed two variations of the badge requirements, both of which were turned down. It discussed and made recommendations on the proposed variations to be introduced by the C.V.S.M. and it has recommended to the Council to protest strongly against the variations that have now been introduced.

A further recommendation was put to Council that mementos should be given to all National Champions since the Championships were introduced, either in the form of a medallion or small replica cup.

Queries on claims for badges were examined and pronounced upon and claims for records dealt with. An unusually large number of letters on rating, marking and rules, etc. were received and dealt with, and as far as we know everyone eventually was reasonably satisfied that their queries were fairly treated.

Membership

During the year the Northumbria Club was elected to Associate Membership.

Membership is now:

21 Full Clubs.
29 Associate Clubs.
3 Overseas Associate Clubs.
106 Private Owner Groups.
37 Individual Members.

Operations

Civilian clubs flew a total of 30,546 hours from club sites involving 162,998 launches.

The club aircraft increased in number from 165 in 1961 to 176 in 1962, with an increase in privately-owned aircraft from 124 to 145.

The R.A.F.G.S.A. flew 7,249 hours from 54,706 launches, and the results of three of the R.N.G.S.A. clubs showed 590 hours and 5,598 launches.

Gliding Certificates were issued as follows (1961 figures in brackets):

A and B endorsements ...	762	(651)
C endorsements	478	(410)
Silver C	105	(111)
Gold C	9	(20)
Gold C plus 3 Diamonds	2	(3)

These were made up as follows:

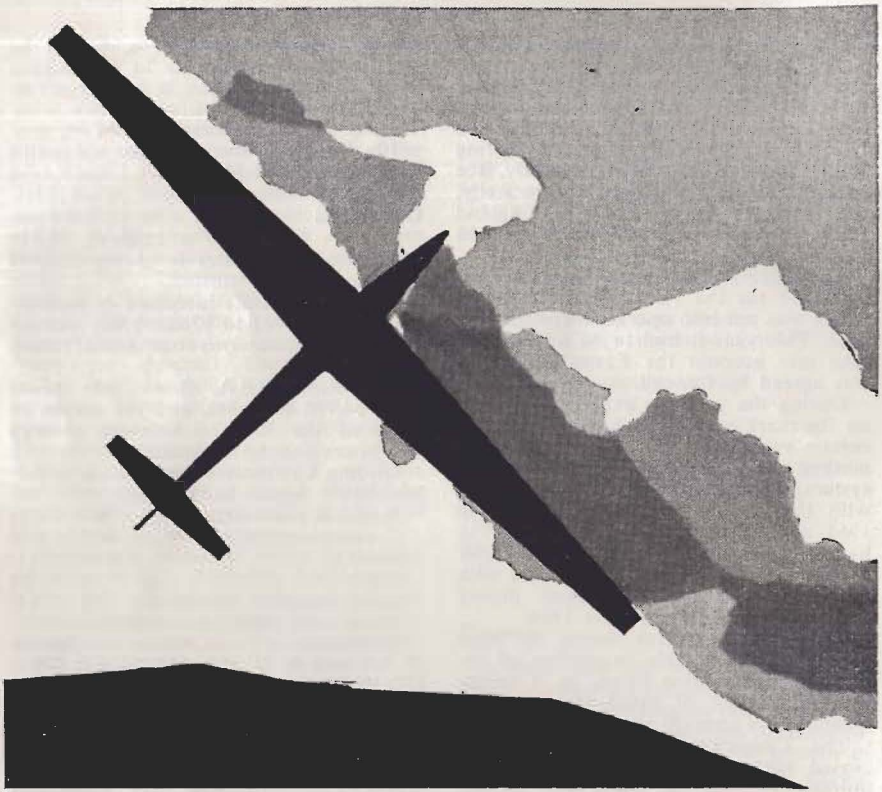
Endorsements	Civilian	Service
A and B	484	278
C	330	148

O.S.T.I.V.

Members of the B.G.A. have continued to play an active part in the work of the International Scientific and Technical Organisation for Gliding. The monthly technical section in *Swiss Aero Revue* has continued to be edited by "Bev" Shenstone and has published papers presented at the 1960 Congress in Cologne, together with data sheets of the latest world's sailplanes. The latter have been collected in attractive book form as "The World's Sailplanes II" published in February, 1963, 21s. to OSTIV members, 28s. 6d. to non-members, and available from the London Gliding Club, 22 Half Moon Street, London, W.1., and the British Gliding Association, Artillery Mansions, 75 Victoria Street, London, S.W.1.

"The World's Sailplanes", Volume I, which has been out of print for some time, has been reprinted and is available from the above address at 10s. to OSTIV members and 12s. to non-members.

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ments for Standard Class Sailplanes" has been well received and the standards have been adopted by several countries. Work is now proceeding on a "Guide to Designers".

Public Relations

This is a subject of tremendous importance, and one which is very difficult to deal with on a voluntary part-time basis. The new Chairman of this Committee has started the basic work, but there is a horrifyingly large field to be covered.

We need the support of the Press and public opinion to pursue our campaign to maintain freedom of the air for ourselves and all sporting aviation activity, and to help us in the acquisition of sites, without which we cannot cope with the large number of people wishing to take part in our sport.

We must reiterate that we have shown over the past many years that we are responsible people, that we have maintained highly satisfactory standards of safety, and that ours is a *sport* like mountaineering and underwater swimming and sailing. No more than in these is it necessary for Governmental authorities to intervene, except to satisfy themselves that we are not risking the lives of third parties.

Safety Panel

In September, Air Commodore G. J. C. Paul, who has for many years carried out the thankless task of Accidents Analysis Officer, resigned this post and in its place a Safety Panel under the Chairmanship of John Furlong was formed. This consists of a Chairman who has power to co-opt any suitable person to assist in assessing accidents with a view to drawing lessons to improve safety in gliding.

During the year 1962 there were 113 accidents and incidents reported, 26 of which were of a minor nature and little cost, and have little to teach us. These for the time being have been ignored. The remainder were analysed with a view to obtaining a general pattern. This once more indicated that the two outstanding causes of the accidents were lack of discipline and poor instruction.

The majority of the expensive and serious accidents are with instructors in the machine, pupils under instruction, or with experienced pilots. It is intended to present a complete analysis to the Instructors' Meeting following the A.G.M. for their consideration and information, which will undoubtedly underline their policy of improving both discipline and instruction.

It is the intention of the Safety Panel to try and bring home to Chairmen and C.F.I.s of Clubs the vital importance of reporting all accidents and incidents promptly, fully and faithfully, so that the maximum benefit may be derived.

A very cordial meeting took place on the 28th November between the Chairman of the Panel, the Chairman of the Instructors' Panel, and the Chairman of the Technical Committee with representatives of the Ministry of Aviation Accidents Branch. At this meeting an undertaking was given on behalf of the B.G.A. that all accidents would be followed up. This means that in any accident where the cause is obscure, every effort will be made to delve into the cause: and that the findings will eventually be reported to the Ministry of Aviation.

Sites Committee

During the year an event of major importance took place, namely the acquisition by the Coventry Gliding Club of a permanent site, consisting of part of the ex-Ministry Airfield at Husbands Bosworth. This was bought during the summer at a public auction and the Club hope to put it into operation within about a year. Financial assistance has been provided by the Shaw Slingsby Trust and the Private Flying Loan Trust.

The Committee is trying to persuade the Air Ministry that in selective cases, rather longer lets than have hitherto been usual, ought to be granted to Clubs using ex-service airfields where they are retained in Air Ministry control. As so often happens, the Ministry have agreed in principle but it is not possible to report any actual cases where a lease has been granted.

The Committee is keeping a continual eye on all legislation (other than Air Traffic Legislation) affecting gliding and is at present actively negotiating with the Ministry of Transport in an attempt to raise the speed limit for glider trailers.

P. A. WILLS, *Chairman.*

Wave across the Irish Sea

by CHARLES C. ROSS

I will arise and go now, and go to Innisfree . . .
(William Butler Yeats)

In our last issue, page 32, Charles Ross described his flight "Across the Border in Wave", which was the first flight from Scotland into England. This time another barrier has been surmounted with his flight across the Irish Sea.

THE morning dawned with an overcast sky, I believe, but by 8.30 James Rae was chasing about waking everyone with the cry "WAVE". By 9.30 the Tiger and the Skylark 3 were lifting off in a flurry of disturbed snow into a light N.E. wind.

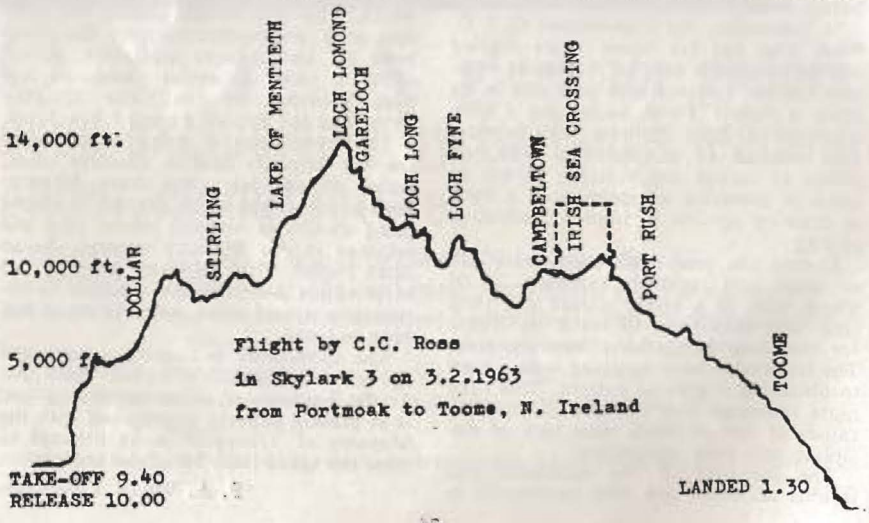
After twenty minutes I released in weak lift, in front of an insipid looking flat lenticular over the Ochills, at 4,700 ft. At 5,500 ft. lift disappeared and I realised that I was going to find lift, or land short of Portmoak.

A filmy wisp of cloud appeared ahead and I reached this at 4,800 ft. and found weak lift at 1 ft./sec. Not daring to leave this, I waited for something to happen, which it duly did.

The lenticulars around formed up, lift increased to 3 ft./sec. and I climbed slowly to 7,000 ft. Things were changing at 8,000 ft. : above the lenticulars, I saw the gaps between the bars close with newly-formed cloud. No further lift forthcoming, I turned S.W. in order to be over lower ground before descending, and flew towards a slot which was slowly widening ahead.

This slot, by the time I reached it, was some 2 miles in width and stretched east/west. I flew west, along the lift edge at 50 kts. at 7,500 ft. all the way to Loch Lomond where, in the lee of the higher mountains, I could see much shorter, steeper lenticulars and where I hoped there would be stronger lift. There was over the Loch, I found strong lift at 18 ft./sec. and I climbed quickly to 14,000 ft., using oxygen from 12,000 ft. on. Severe canopy icing occurred at 9,000 ft. (temp. −20°C).

At 14,200 ft. the lift stopped dead and through the clear vision panels there was a truly magnificent panorama of white-





capped mountains, blue seas dotted with islands glinting in the sunlight and, stretching away to the west, the Mull of Kintyre.

What a view — what a chance — what a mess if I missed out.

Working carefully to avoid the down-draughts of the lenticulars, I quickly arrived at Campbeltown at 9,000 ft.

Up till now we at Portmoak have all been flying along the wave clouds, and those who have turned downwind have been caught by the tremendous sink. I decided to try an idea that James and I had. Instead of increasing the speed when sink is encountered on leaving the lift downwind (with the usual two or three seconds' delay in building up speed and the resultant loss in height with the vario up against the pin) I flew along in the lift building up speed to around 65 kts. indicated (78 kts. true) and then tight turned downwind.

This worked beautifully. Instead of losing 3,000 ft., I only lost 1,000 ft. and then as the vario came back to a more normal reading I turned and angled into the lift of the next wave slowly at 40 kts. Very often if the lift is approached directly, one misses the narrow, smooth band completely, but never the sink !

Now the choice lay in landing safely at Machrihanish airfield below (10,000 ft. runway) or going west and trying for 300 km. The upper wind appeared N.E. 25 kts. The lift stopped at 9,000 ft. and the lenticulars lay N.W. — S.E.

The call of 300 km. won, and off along the cloud I went, maintaining around 8,500-9,000 ft. Opposite Portrush on the Irish coast I turned and flew down-wind, and as I went the wave system slowly collapsed and I let down through a tiny slot into dead air. At 3,000 ft. I passed over Toome airfield, and decided that, as I still required some 25 miles it might pay to be prudent ; so to facilitate retrieving by air I landed there. Only 160 miles direct line — still, look out, Betsy, here we come !

Special thanks are due to the Tiger pilots who undertook the long and cold retrieve ; to the airfield managers who put up with aircraft without radio ; to the boys in the Ulster Flying and Gliding clubs for their magnificent aid ; and to Mr. Scott of Toome who fed, transported and provided storage.

* * *

THE OTHER END OF THE ROPE

THE telephone rang through the tea-time clatter at Portmoak. There was a rush to answer it, for 1800 hours on Sunday, 3rd February, was the time Charlie Ross had arranged to phone again — from Ireland.

Ten hours before, snugly in bed at Portmoak, he had heard a call himself, at close range. It was from James Rae, whose motto must surely be, "See a wave, and have a go by aero-tow".

At 14.30 he phoned after landing with discretion and consideration on the disused airfield of Toome Bridge in Northern Ireland. An aerotow retrieve would solve a lot of problems and the interval to 1800 hours gave time to make the necessary arrangements.

James's plan was to fly to Renfrew and re-fuel before crossing the sea, but when Monday came Renfrew had low cloud and would not accept the Tiger without Radio. Machrihanish was suggested, for there the weather was good. Good weather — yes, but 80-octane fuel, no.

Consequently, the Tiger, tanked to the brim and carrying extra fuel, flew under low cloud by way of Stirling and Loch Lomond to reach the blue sky and 3-mile runway at Machrihanish. This took 1 hour 35 minutes and darkness was approaching. The Tiger was picketed down and Monday night was spent in Campbeltown.

Tuesday morning brought snow, front after front of it. It lay and then it drifted. The only thing to do was to get the Tiger into a hangar and catch the last B.E.A. flight out before snow closed the airfield. The snow storm in Ireland was even more severe and Charlie went home by boat and back to work until conditions improved.

On the following Sunday, Met. had good weather to sell. A chartered Tripacer flew James to Machrihanish and Charlie to Toome Bridge. The Tiger refuelled at Newtownards, the home of the Ulster Flying Club, before towing the Skylark to Machrihanish. There a strong wind was blowing, far too strong for comfort, so into the hangar went the machines and off to Campbeltown for the night went the pilots.

On Monday, 11th, eight days after Charlie's grand flight, the final leg of the retrieve was flown, helped, believe it or not, by an Ochil Lee Wave. From Stirling to Crook of Devon, the Tiger, though throttled back, gained 1,000 ft.

This remarkable flight, with its "get you home again" service, highlights the wave flying at Portmoak. Two heights of 13,000 ft. were reached by winch launch via hill lift on 9th December, and 10,000 ft. and 15,000 ft. from aero-tows on 16th December. These were two Sundays in one month, but if views from office windows are anything to go by, waves are active on weekdays too.

It really is not necessary to travel to California, France, Italy or New Zealand for Gold C heights. The launching point is much nearer — at Portmoak.

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Airways Committee Report

MEMBERS of the Committee: H. C. N. Goodhart (Chairman), D. H. G. Ince, C. A. P. Ellis, J. N. Cochrane, P. Minton, Miss P. L. M. Buckley, O. W. Neumark, B. A. G. Meads.

The Airways Year

While more airspace has been controlled than decontrolled, 1962 has not been an unsatisfactory year from the gliding point of view.

We retain freedom to fly anywhere over the country, as long as we can maintain VMC, other than in the London and Manchester Control Zones and the traffic zones of all airfields. Under IMC the picture is not as good with the whole panoply of controlled airspace, necessary and unnecessary, arrayed against us. But even here some small steps have been taken in the right direction: the revised airways lower limits have produced some reduction in controlled airspace, though in exchange for this we now have the added complication of "flight level" rather than "above mean sea level" bases.

Another important item during the year has been the particular problem of the future of controlled airspace in the Lasham area. The Ministry of Aviation, at the specific request of the Minister, has been conducting an urgent review of the possibilities in this area. The review is still in progress and there is little to be said at present except to say that the outcome is tending satisfactorily for Lasham.

In the Southampton area the Control Zone has been reshaped and an additional piece of airway imposed.

Amber 25 has come into existence, but due to pressure from us — and others — it has been sited reasonably satisfactorily from the gliding point of view and its base is not unreasonably low.

The introduction of the Lyneham Control Zone is the worst stupidity of the year. Perhaps its worst feature is the indication it gives that the bureaucratic mind is still shut to the facts.

We have had an Airmiss involving a glider. The other aircraft was military. This is, I believe, the first Airmiss report involving a glider and yet it has already been quoted against us as evidence that "see-and-be-seen" is not effective even in gliders. This is of course pure nonsense: what one really needs to know is the number of times a glider goes "see-and-be-seen", only then will one be able to measure the effectiveness of the principle. Even this Airmiss is an example of the success of "see-and-be-seen", albeit with a small margin. Nevertheless our approach to the Ministry on the whole question of freedom for gliders is based on the common-sense of glider pilots coupled with their ability to "see-and-be-seen". Make sure that you live up to these two qualities and are not yourself involved in an Airmiss.

There has been a major rationalisation in the Ministry of Aviation with the formation of a National Air Traffic Control Service which is responsible for organising Air Traffic Control of both civil and military traffic. This is not an unmixed blessing from our point of view as the new N.A.T.C.S. will, if it can solve its own internal problems, be more able to steamroller its plans through against the relatively weak voice of general aviation and gliding.

Finally, in case you think your Committee is not doing much about all this, let me mention the other nine-tenths of the iceberg, of which the outward and visible signs are given above. We have during the year covered 14 Ministry meetings and a further 25 meetings of such bodies as B.G.A., Royal Aero Club and the Guild of Air Pilots and Air Navigators.

The Future

The crystal ball is far from clear, but it's the right time of year for hazarding a guess about the future, and this is what I see.

The formation of N.A.T.C.S. will lead to increasing control in upper air space and this will gradually extend downwards. It could get down to 15,000 ft. in five years. Radar control of all traffic will be the aim and this may lead to pressure for gliders to be equipped with radio and possibly increased radar reflectivity. We shall, of course, fight this, for gliders are rarely at these altitudes

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and thus the statistical risk of collision is fantastically, unbelievably, incredibly low. Just to put this in perspective, the last published U.K. Civil Air Census showed a grand total of six (yes, six) civil aircraft under Air Traffic Control above 10,000 ft. over the whole of the United Kingdom. There were, incidentally, a further seven below 10,000 ft., giving a grand total of 13, and this was at 11.00 G.M.T., which is about the peak hour.

At low levels the main threat is a proliferation of control zones round unimportant airfields with negligible traffic, a perfect example of which is the Lyneham nonsense. In addition, there is the westward extension of the London T.M.A. which has been threatening for a couple of years but now looks unlikely for a further one to two years. When and if it does come, it may not be as disastrous as one might expect, as current proposals cover an area little used by glider pilots at present.

There is one other item in the future which is most important: it is something we can all do something about, and that is to engender favourable public opinion. It is most important that the general public has an impression of a well-organised responsible gliding movement, and also that they become aware that the air above this country is not, as the popular press would have them believe, filled with multitudinous aeroplanes in imminent risk of collision, but is in fact empty almost beyond belief. How to build the image of responsibility needs no guidance, but to put over the emptiness of airspace it might help to remember that civil aircraft under control over the U.K. have, on average, more than 30,000 cubic miles of airspace each. This is not to say that at peak periods and in high density areas they are not closer together, but it does give an idea of the sparseness. Another interesting statistic is the peak density so far reported in the London T.M.A.: this was on an August Bank Holiday Saturday when there were 18 aircraft simultaneously in the area: since there are at least 22 flight levels in the T.M.A. this means that each aircraft had the equivalent of the entire area of the T.M.A. (about 1,000 square miles) to itself.

Sanity must prevail — the question is, when.

H. C. N. GOODHART, *Chairman.*



Write to: Dept. SG., Irving Air Chute of G.B. Ltd., Letchworth, Herts.



I'll Go Solo !

by John Adams



ONE of the difficulties of telling a story seems to be knowing where to start. It's all very well saying "at the beginning", but there are some things that one just drifts into and there is no real beginning.

This particular tale could start, I suppose, at any one of three points — the war in 1939, the dinner table in 1960, or a derelict airfield in East Anglia in 1961. Of course if I start at the derelict airfield I shall have to do a flashback, like they do on the television, and I don't really know if I am up to it. I'll try the dinner table first, I think . . .

At the dinner table were my wife, my nearly grown-up son, and our definitely overgrown dog, and all that I really said that distinguished it from any other dinner time was that I was going to fly. From the look on the faces of my nearest and dearest you would have thought that I was going to attempt it there and then — by jumping out of the window and flapping my arms about.

In fairness to the dog, who is a bit dim, he passed no remark — come to



He passed no remark . . .

that, neither did my son, but nevertheless he seemed impressed, and I knew quite well what was going through his tiny little mind! After all, it wasn't everyone in his crowd who had an old man go stone bonkers at the dinner table, and this should prove impressive down at the old Espresso.

My wife's reaction was a look of hopeless resignation, and a bowing to the inevitable, for in her opinion I had been, for some time, at what she termed the dangerous age, being fully convinced that every male around the age of 45 becomes a weirdy for a time! I know full well that she had been watching me closely for the past year, and I think she really expected me to start drinking, chase after some young girl, leave home, or refuse to do the washing-up. How-



3 engines and my crew gone . . .

ever, she decided, here it was, and this was it. The ensuing discussion is best forgotten.

I think at this point I had better flash back to 1939, for it really started, I suppose, when I decided to join the R.A.F. and my wife said she would leave me if I did, and, being newly married, I joined the Royal Engineers. It wasn't that I was unhappy in the Engineers — well I was at times of course, and I still avoid Chatham, and always take the by-pass around Colchester, but generally it is a fine regiment.

The trouble was that I wasn't with it a lot of the time, being frequently called away at the controls of F for Freddy, penetrating deep into the heart of Germany, returning over hundreds of miles of enemy territory, 3 engines and my crew gone, and only the beautiful little W.A.A.F. in the control room, her voice choked with emotion, talking me down . . . I owe the Engineers no ill feelings, and in spite of what they said

at the time, I am sure they have long ago forgotten me.

After the war I joined the civil service (and B.E.A.). Things were much quieter then, but I still remember one trip, when, having given the order to the Luton Girls' Choir to bale out, I deliberately remained at the controls of my aircraft S for Susie in order to prevent it crashing into the home for deaf, dumb and blind children.

All this did no harm (least of all to the deaf, dumb and blind children), and before you judge me as the complete schizophrenic, or right nit, according to your standard of education, may I remind you lot of one or two little things — Didn't you come out of "Bridge over the River Kwai" with your shoulders squared, arms swinging, a song on your lips, and a reprimand from your wife? — and what about that time you went to Silverstone, and in a desperate attempt to pass Moss on the way home, blew the top of your cylinder and the bottom out of your car? . . . It's my firm opinion that I am not alone.

Of course, if I had gone to the cinema or Silverstone I might have remained safely within the bounds of improbability, but I went to Dunstable and got caught up in the realms of possibility. Dunstable is the home of gliding, and



a desperate attempt to pass Moss . . .

one look at the activities there convinced me that, with my past experience, I was the born glider pilot.

In the manner that Mollison, Cobham, and the rest blazed the trail as pioneers of the aeroplane, I would do the same with the glider — I was already stepping from my Olympia C for Charlie as excited natives surrounded me and marvelled at the brave white man who had come from out of the sunset in his "big bird no guts" . . . The sight of a special car badge for members of the British Gliding Club put the decision beyond all doubt!

I won't say that my training had proceeded without incident, for there had been one or two slight misunderstandings, but the C.F.I. treated me with considerable respect, and, from the numerous instructors I had, it seemed that they were all of them quite keen to fly with me! We now come to the derelict airfield in 1961, and a particular Saturday afternoon in January. I was on my third circuit that day, and approaching the landing area under the supervision of my instructor.

Now there are two types of instructor, those who talk incessantly, and if not talking keep whistling, and those who grip the seat and say nothing despite the



grip the seat and say nothing . . .

fact that their lips are always moving. The type that day was of the talkative variety, and as I turned in, he went through his usual routine, "too high! too high! you'll overshoot! turn away — turn back! stop pedalling the bloody thing! now get your nose down . . . You're building up too fast . . . air brakes! air brakes! hold off . . . hold off . . . HOLD OFF! — My God I'm too old! I swear I'll give it up!" and so on.

We eventually came to a stop, and sat waiting for the retrieving party who pulled it back to where the cars and spectators were clustered near the perimeter track, and I made my way to the officer I/C Log to pay my dues. At the same time I noticed that my instructor was deep in conversation with the C.F.I. and I presumed that the C.F.I. had noticed how neurotic he was getting, and had decided to rest him for a while. Imagine my surprise when the C.F.I. walked over to me, pointed to a contraption on the runway, and said, "Get in".

I won't say I had not thought of flying solo one day, because, after all, they

give you a certificate, and a badge in dark blue enamel with two white seagulls. The times I had worn that badge with just the right touch of modesty! — I say old chap, what's the badge for? Well actually I'm a glider pilot, you know . . . really, my goodness old chap what a splendid job you fellows did at Arnhem . . . nice of you to say so but I'd rather not talk about it actually, will you take the first chukka. All very nice — but this was all very nasty.

In the first place the contraption on the runway looked like something the Wright Bros. had carefully concealed in the woodshed, and in the second, my grandmother was very ill, and my old war wound was giving me considerable trouble . . . Apart from the fact that they didn't actually shave my head and slit my trouser leg, the strapping in and general feeling of well being was about the same. To add to the drama, everyone had stopped talking, all other aircraft had been pulled to the side of the runway, and every miserable ghoul who possessed a camera was fiddling with the lens or doing something equally revolting. Obviously the landing was going to be flogged to the Telly as the scoop of the year. The way people walked over, peered into my face from a distance of about 12 in. and went away again was nauseating, and then of course there was Arthur.

To me Arthur had always appeared to be a kindly individual and I liked him a lot, that was why I had called for him that morning and brought him in my car the 40 miles to the airfield, and yet there he was, in my hour of need, standing over me and clamouring incessantly for my ignition keys! Anyway I was so trussed up that I could not possibly have got my hands into my pockets, and so eventually he took part of my advice and went away.

Following Arthur's departure I took a despairing look around the cockpit and noticed with morbid curiosity that the instruments were not the same pattern as those I had been using, the stick had obviously been supplied by the local plumber, and the rudder bar wasn't a bar at all, but great hulking flappy planks of wood like elongated organ pedals. I figured that the flying potential of such a heap of junk was on a par with a depressed wet hen.



no shortage of helpers . . .

There seemed no shortage of helpers. One lifted the wing, another hooked the cable on, and a third picked up the Aldis lamp. All clear above and behind, take up slack, take up slack, the Aldis began to wink at the tow car with slow intermittent signals. For seconds there was absolute silence, followed by a slithering noise as the cable began to straighten out on the runway. All out, all out, the Aldis flashed rapidly and continuously — a sudden jerk, and the thing began to accelerate down the runway. First it swung to the right, then to the left, followed by a starboard wing dipping alarmingly, and then it staggered into the air wheezing and groaning and flapping its wings in protest.

At 700 ft. I discovered that my mouth was so dry I couldn't even swallow, and just as I was wondering why, the noise around me suddenly stopped. Silence may be golden to some people, but not to the glider pilot, for it means that his controls have already gone like a heap of useless spaghetti, and that in about two seconds he will be heading earthwards at considerable speed, and probably spinning gracefully as he goes.

Technically it is a stall, and I just beat it to it by putting the stick hard forward, levelling out, and with gathering confidence began my first turn. It was like trying to get an elephant through a revolving door, and three parts of the way round I discovered why; it seems I was still attached to about 1,200



ft. of cable and a tow car. By the time I had finally pulled the doings, the crew's chance of getting the cable back without going into the next parish had long vanished.

Another turn, and I was heading back for the launch point flying parallel to, and about 600 ft. out from, the tarmac. At 450 ft. I passed at right angles to the launch point, continued just short of the perimeter, turned again and lined up the runway. One thing, I knew, safety depended on maintaining speed, and so, putting the nose down, I began my descent — 40 knots, 45, 50, 55, 60 and the whole orange box began to shake and buffet.

I feverishly groped for the lever operating the air brakes, and experienced another of life's little moments, as it became clear that there was no lever. I shot over the launch point going like the proverbial clappers, pulled back the plumber's pipe to check the speed, and shot upwards like a rocket . . . put the nose down, again hit the tarmac, took off again, then with a shuddering bump made a final landing and slithered off the runway onto the grass.

There was absolute silence as I sat there in my Olympia C for Charlie, and then from out of the surrounding swamps and forests the dark-skinned natives emerged in excited chattering groups . . .



THE SMOKE WHICH FAILED

by HUMPHRY DIMOCK

ONE Sunday we were carrying out simultaneous launching of two gliders, a Skylark 3F and a Skylark 4, gliding in close formation, to discover what marginal difference there was at various airspeeds. On one launch I was in the Skylark 3F when the pilot of the other, Keith Morton, reported on the R/T that he had suffered a cable break. At the top of the launch I spotted a field of straw being burned off, and the smoke from this going up to about 1,500 ft. From previous recent experiences I guessed that it was worth burning my boats, risking a landing out, to go for the lift there with every prospect of rising to well over 1,000 ft. I reported my intention and arrived over the fire at 300 ft. where I rose at 3 knots at first, to a maximum of 700 ft., where after a pause I slowly lost height.

At the moment of getting the strong lift I told the other pilot to follow as soon as he could get a cable, and I would wait for him. However, the instructions had to be cancelled because I gradually lost height, and finally landed in a pre-selected field opposite the house of a friend where I could get a lift back to the aerodrome.

A most beautiful young lady, not more than 17 years old, driving a very large car, stopped to ask why I had landed there and could she help? On receiving the explanation, she replied "You must blame my Daddy for your trouble" and laughed merrily. Naturally I looked in amazement, wondering how her Daddy could be connected with our gliding. The explanation was: "My Daddy sent for the fire brigade and they are putting the fire out".

DYING CLOUDS OR WHAT?

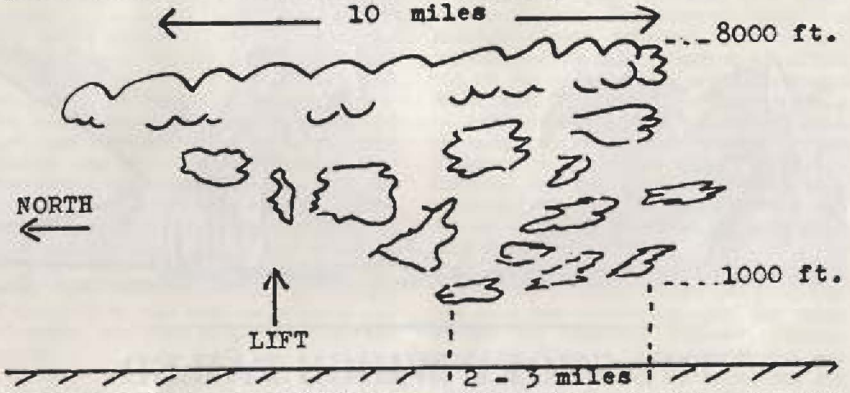
by J. S. FIELDEN

It happened one April: it may happen again this April

HOW do sailplane pilots carry out useful work for the community on a day like April 27th, 1961? For us West Country folk, a west wind of 10-15 knots, 4/8 Cu, base 3,000-4,000 ft. with 8,000-9,000 tops, starting at 10 a.m., is a rare bird, and it was with the greatest difficulty that the day's labours were tackled and completed by 4.30 p.m. A few hurried 'phone calls produced the requisite number of fellow-sufferers prepared to nibble at the crumbs left over from the day's wasted banquet.

I was aiming to get in some practice for the Nationals, and at 5.45 p.m. took an auto-tow from Dunkeswell to 1,400 ft. in our Skylark 3. This particular glider is the one which knows its way to Portmoak so long as it has had its lunch first. It was Nick Goodhart's when he performed that wonderful feat. Some of the stardust must have been lying about in the cockpit somewhere, because in next to no time it was setting course in an easterly direction at the base of a flat, ragged cloud which did not look capable of lifting thistledown. In due time a sensible cloud loomed up and we were up at 8,000 ft. amongst the turrets. For the next 50 miles life was quite rosy, though a glance at the ground would have been quite useful — but not to worry: "Stay high when late" seemed a goodish motto to bear in mind in the circumstances.

I had not set the altimeter at airfield height, and soon it was showing 1,400 ft. and still we were in cloud — at least without ice, thank goodness — when quite suddenly and unexpectedly we burst out into a gap. Our position was about 5 miles south-west of Shaftesbury, and to the north and south was a completely clear sky right to the limit of my vision.



Above was a belt of dead-looking cloud about ten miles wide with a flat top at about 8,000 ft. and base at about 1,000 ft. above ground, being ragged and broken but with a remarkably sharp edge at the top on the northern side. I flew to the northern edge chiefly because the fields looked bigger in that region. As I cleared the broken cloud under the north "shelf", I could see that a section through the "belt" was wedge-shaped and about half-filled with cloud. All of it looked completely dead and the variometer gave confirmation of the look and feel of the whole mass.

Flying out under the shelf it seemed that the belt of cloud extended from horizon to horizon and had the same sort of look in each direction, so all thoughts of continuing the flight were duly abandoned.

The altimeter was now showing 1,000 ft., actually about 1,600 ft. above ground,

and a field just on the far edge of a village was duly picked. As we got nearer something made me look at the variometer and to my astonishment the Crossfell was showing two up. The Cosim had given up the unequal struggle in an earlier climb and was now showing a steady twenty down (due to a split tube).

With natural instinct a turn was immediately started and although the air was so smooth that I could not get any sense of feel from it, the Crossfell promptly fell to two down then rose to two up and so on. After about five circles like this with much shifting and trying, the altimeter finally descended to 500 ft. and my ego received the usual blow when it was apparent that what looked like good lift had not been adequately utilised.

The wind was very light, hardly more than five knots, and was blowing straight down the belt, at least on the ground. Some kind farmer had lit a smoke flare quite near. I could not really believe that waves could be working at this height and in this wind more or less over a plain, but nevertheless a turn was made into wind and we found it was possible to stay in zero to one up for a short time but it was obvious we were travelling steadily up wind. As even travelling waves do not move in that direction, at the first sign of falling off of the lift I turned across wind with the idea that we would drift back into the wave. All we got, in fact, was two down again. By the time I had got back into the lift the altimeter was showing a most disconcerting 100 ft. and the ground was now 600-700 ft. below.

The fields in this area left plenty of choice, so in one final effort at least to find out what was going on, I turned down wind in the lift and pretended to be ridge soaring on a non-existent ridge. To my surprise the Crossfell showed one or two up in something which could only be described as typical wave-type lift, the great advantage being that I was covering the ground at about fifty knots in the desired direction — east. After about five minutes of careful shifting from side to side the lift was averaging about zero and the height obstinately at about 700 ft. above the ground.

The possibilities for landing if the lift failed, remained extremely good and in the next half-hour we covered the twenty odd miles to Salisbury without appreciable change of height and at a steady forty-five knots.

Unfortunately the band of lift was aiming straight over the centre of Salisbury, and the spire of the Cathedral looked alarmingly near, so since it was not a competition, and discretion being the better part of valour, I turned round. To my surprise the belt of cloud was still there going as far as the eye could see and still the lift was present.

Somewhat vague ideas about the possibility of getting back to the West Country were shattered by the sight of the sun rapidly approaching the horizon, it was now 7.30 p.m. Still, if we could not get the whole way it might be possible to shorten the retrieve, so I pressed on still flying straight in the same weak lift and holding between 600-700 ft. from the ground.

By now it was apparent that the whole belt of cloud was moving slowly south because my track was over new country. There were several interesting moments

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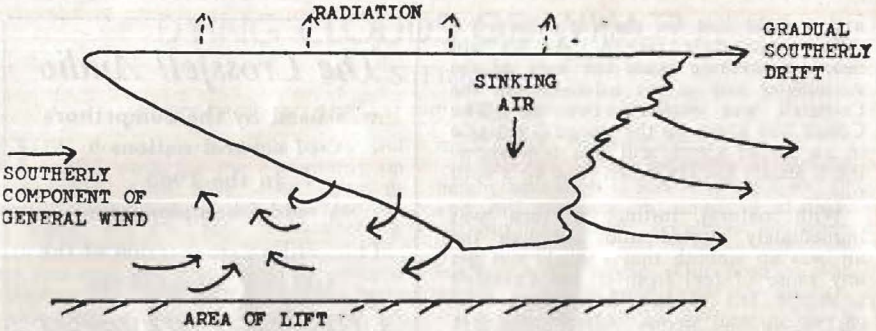
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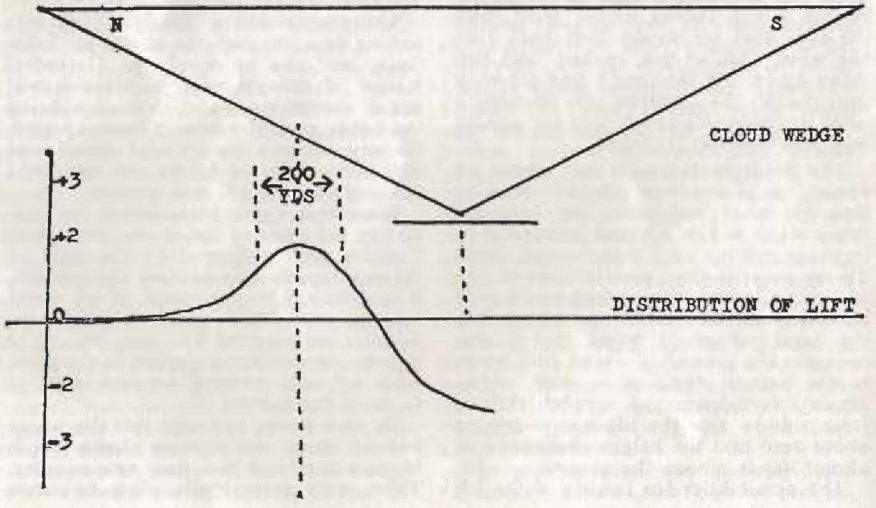


when the best fields seemed a rather long distance away particularly in view of my lack of knowledge of the extent of any sinking air which may have been close to the lift. However, the lift never faltered, but as Blandford Forum appeared in the distance there was a very horrid looking estate region with a large half-moon lake, and all the bigger fields seemed full of trees or cows. It was getting quite tricky to see out of the canopy because by now the sun was right on the horizon. I decided that this was far enough and picked my field. But first a last inspection of the lift.

By flying north until I felt I was just safe to return to my field I discovered that the lift fell off quite slowly and the lost height could be regained in the best region. Flying south further under the shelf the lift fell off much more rapidly and very soon turned into an excess of down, but throughout the whole region it remained quite smooth and wave-like.

After landing I walked very slowly to the gate, having a last look at the dead wedge of cloud still stretching from horizon to horizon and a possible idea occurred to me.

The top of the shelf was losing heat by radiation so that as it cooled and sank to lower levels, cloud base would be much lower than earlier in the day. When the water vapour finally evaporated the air would be appreciably warmer than the environmental air near the ground, and hence flow outwards and upwards from the wedge of cloud.



The north edge was the best area for lift because the wind was just north of west, clear of the front, and in meeting the frontal air turned parallel to the line of cloud, hence the sharp edge on the north side with the ragged edge on the south side, and the gradual southerly drift of the whole cloud mass.

or rather before turning round at Salisbury. I am quite sure that having crossed the town there would have been no further worries about landing areas and darkness would have been the only limit to the flight. I should have made my mumbled goal by then.

If anyone has used this type of lift



On more mature consideration since the flight I have been unable to dream of any better explanation and have spent my waking hours regretting that I did not work out the reason before landing, before, or has a better theory to explain its origin, I feel that we may well have a method of putting the odd fifty miles or so on to the end of a good day by using these "dying cloud fronts".

Holiday in St. Auban

by H. V. Howitt

As I laid my head on the pillows, very tired, I began to recollect a few thoughts on my journey, and the reasons for my visit to St. Auban.

It had all started six months previously in June. I had been listening to Toon Ghose in the bar at Lasham, and his account of his visit to St. Auban had me enthralled. I thought to myself, "I'm due for demob from the R.A.F. in November and have a month's leave to come". So I decided to write off for information on courses, etc. Two weeks went by, then came a letter containing application forms. I filled in all the details and posted my letter to Paris.

Two weeks dragged by and at long last the letter bearing the Paris postmark arrived. I had been accepted and should arrange to arrive at St. Auban at one-thirty on 1st December, 1962.

I arrived at St. Auban unshaven, creased suit. I must have resembled a character from "Pilgrim's Progress". Mr. Gasnier, the Chef de Centre, made me very welcome. I was ushered to the room I was to share with a Captain in the French Air Force. After a shave and clean-up, I had dinner and then a quick look around St. Auban town, which is situated about five hundred yards to the north of the airfield. St. Auban is a beautiful little town, narrow cobbled roads, typical of many Continental towns I had seen during my tour of Germany in the R.A.F. The array of coffee bars and café-cum-pubs seemed to cater for young and old alike.

The following morning I was up early and the sun was shining brightly as I made my way after breakfast at eight o'clock to the Bureau de Stagiares, where examination of log books, booking in, getting insurance, and interview with M. Barbera, the deputy chief pilot, on my flying qualifications, cross-country flights, field landings, etc. brought us to dinner time.

By this time seventeen others had arrived, one Italian, four Germans, and all the others except myself were French. Nine were from civil clubs

and the others were members of the Forces, ranging from two Majors down to a Corporal.

They were a cheerful crowd, and during dinner we got to know each other. Capt. Doulbie, the man sharing the room with me, was a bright and humorous character, and it was this quality which made my stay at St. Auban such a memorable one.

After dinner we were fitted out with oxygen masks and parachutes, and then started the first of many lectures we were to attend during my three weeks' visit.

The first lecture dealt with the use of oxygen, and the effect of nausea. After this M. Lardi, the chief pilot, gave us a talk on the local country around St. Auban, also including a brief talk on radio procedure. Very soon it was supper time, and during this meal we all in turn had to go to the head of the table and answer a series of questions, such as name, age, gliding hours, female conquests (if any), types of gliders flown, etc. After everyone had given their piece, by unanimous decision a president, secretary and finally a treasurer were elected, all of whom were responsible to the Chef de Centre, for maintenance of discipline and general running of the course.

TRADITIONAL FINES

I must mention here that this is always done on these courses in France, and there is a system of fines for small offences. For flying at St. Auban for the first time 1 NF. first solo, 2 NF. 5 hours completed, 5 NF. Gold C height, 5 NF. Diamond Height 1 bottle champagne, and a whole lot of others, which are too numerous to mention here. The net result is that after three weeks a tidy sum of money is available which is used up in one great farewell dinner and drink at a local hotel.

Well, the first day of the course was over; it had been very instructive; now the cold night air seemed to go right through me, the stars shone brightly in the clear dark sky.

The next morning after briefing we were allocated to various instructors. I was selected for a M. Real, a fine gliding instructor who, after four flights in a 904, sent me solo in a Javelot. On this flight I managed two hours forty-five minutes thermal soaring at 2,000 metres; this was the longest flight of the day (cost 2NF. fine). The following day I was sent solo in an Air 100 and managed three hours. I was rather surprised because I found thermal, hill and wave lift — the latter took me to 6,200 metres to get my Gold C height, but unfortunately low cloud coming in from the north forced me to make a very rapid descent and at 5,000 metres my canopy iced up badly. This I found out was due to a leaky oxygen mask. I hung around for a few minutes at 2,000 metres waiting for it to clear, then landed safely.

The next day, I soloed in an Air 102, a similar design to the Air 100, but with rather better performance. The Mistral, which produces the wave effect, is formed by a high over Scandinavia, and low over Spain ; the two airstreams meet in the Rhone Valley, which acts like a venturi, and tends to hold the two situations stationary for two or three days.

Every day we had a met. briefing and every day a disappointed crowd of Stagiares used to go to the launch point and hope for tomorrow, *maybe*!

All the launching is done by Fieseler Storch aircraft and if you've ever flown behind one you'll know what I mean. The take-off is quite straightforward, until about fifty feet, when the aircraft does a sixty degree bank. Then the fun really begins — over the Durance Valley, to Chateau Arneel about fifty kilometres east, and normally to 1,500-2,000 metres, when flying dual or training.

When you are solo you are taken either to the north face of the Mountain De Lure, or to a soarable hill five

They can tell
when you use a
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kilometres south, where on most days one could soar quite happily at 2,000 metres and safely get back to St. Auban. Landing out in the vicinity of St. Auban is frowned upon because the fields are very small and the terrain very rough.

Well, my three weeks' stay was nearly up. I had done some good wave flying; three times I managed Gold C height, but it seemed that elusive diamond was not yet within my grasp, until the last day of the course. The last day, Friday, 21st, dawned and it was raining, so I decided to catch the early train to Paris leaving St. Auban station at 2.30 p.m. I was handing in my favourite parachute when M. Landi came to me and said that I had better wait awhile, conditions could change for the better, and sometimes did very quickly, as I was later to find out.

ONE MORE WAVE

At 12 o'clock, just as I was going to dinner, the Met. man came across and said it was on. The wave would be blowing well at about 1.30 p.m. It had already cleared to the north and the first wisps of rotor cloud were beginning to form.

After hurried preparations I was allocated a 901 and, making sure everything was ready, I was towed into an unrelenting hell. I had been towed several times under rotor conditions, but this time I needed both hands and feet to fly; it was hopeless trying to maintain positions, all one could do was hang on and pray (which I did very fervently, I can assure you).

At 1,450 metres, with the vario hammering the 10 metres stop, I released. The rate of climb in front of the rotor cloud was fantastic, and after a few minutes at 3,200 metres I flew into smooth lift of four metres with a speed of 120-130 k.p.h. I settled down to the climb, and at 5,000 metres I was flying at 150 k.p.h. to maintain my fixed ground position over a village called Sumane.

Still holding three metres I passed the 6,000 metres mark and found I had drifted a little south, so I eased the stick forward until I had a speed of 180 k.p.h. This was perfect, the vario was reading 2½ metres up, and a lenticular cloud had formed at about 4,500 metres. The view was, to say the least, magnificent. At 7,000 metres the lift began to fall slowly, so for a while I just took in that panoramic vista that I shall remember for a long time.

I even tried a loop; then, horror, on top of the loop I stalled. I heard a thump in the compartment behind me. "God", I thought, "the barograph"; I called St. Auban and told them I was descending and with full airbrakes, nose hard down, I started my descent.

Those of my readers who have tried to descend from great height will understand when I say that it takes a long time. All the way down I had visions of a ruined barograph trace, and it was a very worried man who landed some twenty minutes later.

My instructor rushed over in the jeep, and carefully brought out the barograph — it was all right, a slight smudge of ink behind the height gain. "You've made it", he said, shaking my hand vigorously, "congratulations, but" he said, "you'll have to come back next year, and I'll teach you how to loop properly".

That night we had a lovely party to celebrate the end of a wonderful course and, for me, it was a fitting climax to my holiday. Of the eighteen people on the course, sixteen had made Diamond Heights, two had made Gold C height and the other completed a Silver C and Gold C height, missing the Diamond by 200 metres.

I can only conclude with these thoughts in my mind, I had spent about £70 all told, £40 for the course and food, £20 for rail and boat fares and £10 for pocket money. One does not need money when in St. Auban, everything is laid on. In conclusion, I would like to say that the course of instruction is really worthwhile, and above all they like English people to go to France and glide.

Now I have returned to work, and if anyone should ask me what was my most memorable experience, I would say, without any hesitation, my holiday in St. Auban.

DUNSTABLE GLIDING CARNIVAL

On Sunday, June 23, London Gliding Club will stage a Carnival with aerobatic displays, flying contests, tombola and sideshows. Details later.

Technical Committee Report

Work of the Committee		1961
Number of Meetings	7	6
New Certificates of Airworthiness issued	62	67
Certificate of Airworthiness renewals	276	208
Major Overhauls (included in renewals)	44	44
Duplicate Cs. of A. issued	7	
Experimental Cs. of A. issued	0	1
Special Category Cs. of A. issued	1	0
New Glider Types certificated (incl. Special Category) ...	5	
Renewals of Inspection Approval	61	57
Renewals of Senior Inspection Approval	17	17
New Inspectors Approved	6	8
New Senior Inspectors Approved	1	4
Renewals of Firms Approval	4	
New Firms Approved	1	

MEMBERS of the Committee: F. G. Irving (Chairman), J. B. B. Johnston, J. D. Jones, J. Leach, H. U. Midwood, K. R. Obee, R. C. Stafford Allen, C. O. Vernon, B. E. Warner, L. Welch, R. B. Stratton. Advisor to the Committee: J. S. Williamson (radio).

The routine work of the Committee in administering the Airworthiness Scheme is presented above. The real measure of the effort involved, both in the Office and by individual members, is indicated by the steady rise in the C. of A. renewal figure, which increased by over 30 per cent during the year.

The figure of five new types certificated during the year (Skylark 4, T.49A, Foka, Mucha Standard, Harbinger) indicates the amount of testing carried out by the various approved Test Pilots, and the volume of associated report-writing and checking of Type Records. The constructors and/or importers of these machines have been extremely helpful in supplying data and replying to queries.

The Major Overhaul (Ten Plus) scheme has generally continued to work well, although a few administrative difficulties have arisen due to misunderstandings by owners. It has now been decided, on the basis of experience of the scheme, to call for further Major Inspections at five-year intervals after the initial one.

Since several mandatory modifications have recently been promulgated, it seems appropriate to mention this admittedly unpopular aspect of the Committee's work. These, unfortunately, are one of the consequences of owning flying machines of any sort. In all good faith on the part of the manufacturers and the certificating authority, a type is approved and its various features are deemed to be satisfactory. Subsequent operating experience may then show that some features are unsatisfactory in ways which were not initially foreseen, despite careful testing and the application of quite rigorous and detailed requirements. If it is really necessary to ensure safety, a modification must then be carried out. Every effort is made to keep the cost of such modifications low, but even so they may not be particularly cheap. But neither the manufacturer nor the Technical Committee can be blamed when such expenditure is incurred: it is one of the potential liabilities which owners must accept.

A major innovation has been the introduction of Special Category Certificates of Airworthiness. These are designed to help potential importers of foreign machines and are fully explained in SAILPLANE AND GLIDING for October, 1960.

Without being complacent, I think we can reasonably claim that our standards of airworthiness and maintenance are good, due largely to the efforts, mostly voluntary, of our Approved Inspectors and Senior Inspectors. However, unsatisfactory work does occasionally come to the notice of the Committee, and it has recently been necessary to discuss such a case formally.

The detailed office administration has been greatly improved by standardising data and procedures, and delays in the

issue of routine documents should now be very infrequent provided that proper application is made.

Again, we are most grateful to the office staff, inspectors and senior inspectors, and the firms, all of whom make it possible to operate a comprehensive airworthiness scheme almost entirely on a voluntary basis.

F. G. IRVING, *Chairman.*

Instructors' Panel Report

MEMBERS of the Panel 1962: Ann Welch (Chairman); G. Collins; Wg.-Cdr. J. G. Croshaw, R.A.F.; D. Darbishire; T. Davidson; Fl.-Lt. R. A. E. Dunn, R.A.F.; Fl.-Lt. D. Cretney, R.A.F.; J. Everitt; D. Goddard; Sgt. A. Gough, R.A.F.; J. Hands; Gp.-Capt. N. W. Kearon, R.A.F.; Dr. K. E. Machin; Sqn.-Ldr. E. W. J. Morris, R.A.F.; P. Minton; R. Neaves; A. D. Piggott; Fl.-Lt. Spottiswood, R.A.F.; A. Sutcliffe; B. Thomas; Plt.-Off. J. S. Williamson, R.A.F.

The growing popularity of gliding has resulted in increasing work for the Panel. More instructors have come up for category tests, and the need for instructor training is greater. 1962 was, as a result, a very active year.

Apart from the routine work of category tests, a Slingsby T.49 Capstan, which was presented to the B.G.A. by W. D. & H. O. Wills, was used throughout the summer by Panel Members in their spare time to tour as many clubs as possible giving handling and soaring experience to instructors and u/t instructors. It visited nine sites and made some 250 flights, mostly aero tows. This flying was valuable not only to the many pilots but as a pre-production exercise for the glider in eliminating the small snags which crop up in new aircraft. It certainly showed that in the T.49 we will have a first-class all-through trainer.

Later in the year, thanks to the Ministry of Education, the B.G.A. was able to obtain funds for a National Coach. From the many first-class applicants, John Everitt was selected. With the Capstan, he will tour the clubs training and testing instructors, and in clubs where facilities are limited, give soaring and advanced flying experience. A suggested programme, based on experience gained during the summer, was circulated to clubs. The response was rapid and the "Coach and Capstan" became quickly booked, except for the winter months. There is little doubt that this scheme, with its first-class professional instructor and fine glider, is going to give the opportunity, which has been increasingly needed, for standardised instructor courses, advanced flying training, and wider technical knowledge. This in turn should make for more efficient gliding and fewer accidents.

Another important event in 1962 was the joining together of the B.G.A. and R.A.F.G.S.A. Instructor Panels, and the merging of the B.G.A. category and R.A.F.G.S.A. "B" into one. To achieve this both sides had to modify their own requirements and it was agreed that all modifications should be to raise, and not lower, the standard. The final negotiations took place at the Panel Meeting at Dunstable in November, where in a spirit of real co-operation, decisions for new standards were reached. Briefly, the new R.A.F.G.S.A./B.G.A. Category calls for 75 hours minimum, a Silver C and the satisfactory completion of an instructors' course, before the test can be attempted. The course requirements were laid down, and provision made for instructors who could fly only at week-ends.

The addition of the R.A.F.G.S.A. Examiners to the Panel is most welcome. Not only will it make easier the carrying out of the many routine tests all over the country, but it will enable the Capstan to be used even more. Examiners will help the National Coach when he is in their area and when the aircraft is not needed by him, can take it over themselves to run short courses or to use for category tests.

ANN WELCH, *Chairman.*

B.G.A. News

Annual Awards for 1962

DE HAVILLAND CUP for the greatest gain in height: No award.

MANIO CUP for the best Goal Flight: to A. H. Warminger for flight of 515 km. from Reepham, Norfolk, to Perranporth, Cornwall, on 14th April. Olympia 419.

WAKEFIELD TROPHY for the longest distance: to A. H. Warminger for flight of 515 km. from Reepham, Norfolk, to Perranporth, Cornwall, on the 14th April. Olympia 419.

VOLK CUP for the best Goal and Return: to A. H. Warminger for flight of 145 miles from Swanton Morley to R.A.F. Henlow and return on the 13th September. Olympia 419.

SEAGER CUP for the best two-seater performance: to D. M. Kaye and F. K. Birkett for triangular flight of 85 miles from Aston Down via Malvern College, Morton in Marsh; speed 35.3 m.p.h.; on 7th June. Eagle.

DOUGLAS TROPHY to the Club putting forward three flights by three different club members in club aircraft aggregating the largest total cross-country mileage: to Cambridge University Gliding Club, total 623 miles (P. O'Donald, 226 miles, J. B. Brenner, 201 miles, P. W. Hames, 196 miles).

CALIFORNIA IN ENGLAND TROPHY to a woman pilot of British Nationality for the longest flight commencing in the United Kingdom: to Anne Burns for flight of 206 miles from Aston Down, via Yeovil, Lasham, Northampton, on 8th June. Skylark 3.

FRANK FOSTER TROPHY for fastest speed round a 100 km. triangle: to Philip Wills and Captain H. C. N. Goodhart as Joint Holders for 100 km. triangle at identical speeds, 43.7 m.p.h., Aston Down, Malvern College, Moreton in Marsh, on 7th June. Skylark 4, Olympia 419.

ROBERT PERFECT TROPHY to the Club with the highest number of B.G.A. Categorised Instructors in proportion to its flying membership.

1st	Trophy & £40 award	Cornish Gliding Club
2nd	£20 award	Aberdeen Gliding Club
3rd	£10 award	Kent Gliding Club

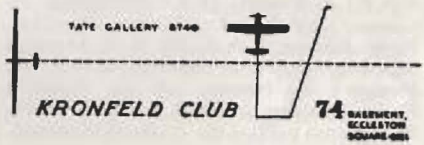
East Midlands Gliding Competition

BY kind permission of Beagle-Auster Aircraft Ltd., a competition has been arranged to take place over two consecutive weekends, 27th-28th April and 4th-5th May, from Rearsby aerodrome.

It is a B.G.A. qualifying competition and the organisers consider that the time and place may be appropriate for Gold C distances. Entrants should possess at least two legs of their Silver C.

Entrance fee will be £2 2s., and launches will be by aero-tow at standard prices. Closing date for entries, 13th April.

Applications for entry forms and further details should be made as soon as possible to J. Furr, Esq., 86 Kingsway, Braunstone, Leicester.



A special General Meeting of members was held on the 23rd January to discuss the future of the club, having regard to the Notice to Quit that has been served on the club by our new landlords.

The Meeting was well attended and many useful ideas were discussed and are now being investigated.

The Committee would like to take this opportunity of stating that the club will continue, and arrangements have been made for Wednesday evenings even

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if we are temporarily deprived of premises. Details will be sent to all members, the Press and Gliding Clubs.

The club has had a period of great activity since Christmas. The series of instructional lectures on Mondays has been well attended and these continue until the 8th April. Still to come are two lectures on more advanced Meteorology on the 1st and 8th April. These will be given by J. Findlater, Championships Meteorologist.

Admission 2s. 6d. to members; 5s. to non-members.

Special introductory lectures for those taking up gliding are being held on behalf of the B.G.A. on the 1st Tuesday of each month at 8 p.m.

David Smith (ex-Treasurer), who recently returned from Nigeria, has been co-opted on to the Committee and given special responsibility for the collection of subscriptions. If you have not already done so you are urged to let him have your 1963 subscription without delay. Ordinary subscriptions 20s. Married couples 15s. Country and Overseas 10s.

C. T.

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

Mar. 27. "A Spell in Nigeria," by David Smith.

April 3. Some light-hearted reminiscences concerning Light Aviation in the light of experience, with film, by Lt.-Cdr. Sproule.

„ 10. Victory at Sea film series: "Sealing the Breach" and "Suicide for Glory".

„ 17. Barnstorming in the '20's in Australia and film "Early gliding meeting in Victoria" by Hamilton Hervey.

„ 24. Repeat showing of films "Whispering Wings" and "Powered Flight"; the story of the Century.

May 1. "Thoughts on Flying by a Chairborne Backroom Boy," Richard Clarkson.

„ 8. "Flying the Standard Austria," by John Jeffries.

„ 15. "Aspects of Modern Air Survey," with film, by John Saffery.



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GLUE DETERIORATION IN WOODEN AIRCRAFT

THE Director of Civil Aviation, Australia, has recently imposed very severe restrictions on older wooden aircraft constructed with synthetic resin glues. This action is partly based on investigations carried out in this country by Forest Products Research Laboratory into the loss of strength due to ageing of the types of synthetic resin glues of types used in the late 1940's. These tests quote apparently drastic reductions in strength over a period of ten years and, as a consequence, the Australian Director of Civil Aviation strongly implies that gliders constructed with synthetic resin glues should be regarded as having a useful life of ten years. Urea-formaldehyde glues are regarded as being particularly suspect.

In this country, the Air Registration Board is currently considering the airworthiness of certain types of wooden aircraft in the light of this Forest Products Laboratory report and the experiences of their inspectors. It would seem that aircraft built prior to 1950, assembled with urea-formaldehyde glues incorporating fillers, are in the suspect category. There is also an indication that in many cases influences other than "ageing" of the glue are to blame.

Most gliders built in this country since the war have been assembled with "Aerolite", a urea-formaldehyde glue which does not incorporate a filler. The Forest Products Research Laboratory results do not distinguish between different brands of urea-formaldehyde glues, and it seems that the Australian Director of Civil Aviation has taken the bald statements in this report at their face value, which thus suggests that "Aerolite" is just as suspect as other urea-formaldehyde glues.

At present, the Air Registration Board are not showing any concern about the airworthiness of "Aerolite"-glued gliders and Mr. Hardingham has said: "It is not true that the Board is against wooden aircraft; we must take steps to safeguard owners' and pilots' interests".

The B.G.A. Technical Committee has gathered a certain amount of evidence on "Aerolite"-glued gliders, from the results of ten-year inspections, from experience of major repairs and from tests of actual components of old gliders carried out by Slingsby Sailplanes Ltd. So far as can be seen at the moment, there are strong indications as follows:

1. **To the best of our knowledge, there has been no specific in-flight failure of an "Aerolite"-glued glider since the war which could be ascribed to glue deterioration.**
2. **Any deterioration of properly-assembled "Aerolite"-glued joints solely due to the passage of time does not seem to be significant.**
3. **It would appear that the overall conclusions quoted by Forest Products Research Laboratory do not apply in this specific context. Taken at their face value, they are thoroughly misleading.**

The Technical Committee is in close touch with the Air Registration Board and interested manufacturers, and hopes to gather more specific information in the near future. At present, all the indications are that the outcome, so far as "Aerolite"-glued gliders are concerned, is likely to be very favourable.

F. G. IRVING,
Chairman, B.G.A. Technical Committee.

The Probability of Collision between a Commercial Aircraft and a Glider

CORRECTION to the article written by H. C. N. Goodhart, February issue: p. 5, left hand column, 3rd paragraph, should read:

In one second the airliner sweeps out a volume of $400 \times 5{,}900$ cubic feet $= 2.35 \times 10^6$ cubic feet.

The glider may be anywhere throughout the 25,000 square mile by 12,000 feet box, the volume of which is $25{,}000 \times 5{,}280^2 \times 12{,}000$ cubic feet $= 8{,}35 \times 10^{15}$ cubic feet.

Thus in any . . .

Meteorology and Gliding

by M. S. KERLEY and G. D. WHITE

THE Scottish Gliding Union acted as hosts to the six Met. members of the above Field Study Course sponsored by the Royal Meteorological Society, and held at Portmoak from 16th-22nd September, 1962, under the direction of Dr. R. P. Pearce and Dr. J. M. Rushforth, both from the University of St. Andrews. The course totalled 16 members in all, 9 being members of the S.G.U., one a student from St. Andrews and six meteorologists from stations ranging from Colerne in the west of England to Gatwick in the south. All of us were given a hearty welcome by Bill Shanks, the S.G.U. Secretary, on arriving at the club and it wasn't long before we knew the meaning of Scottish hospitality.

Sunday, 16th, saw the arrival of Dr. Pearce and Dr. Rushforth and after preliminary introductions the course assembled officially shortly after midday. During the afternoon two of the Met. members were taken in turn by Bill Lawson in his immaculately kept Eagle, to sample "hill lift" produced by the Bishop Hill, there being a moderate W.N.W. unstable airflow prevailing. The remainder of the party were taken on a brisk walk to the top of the Bishop, Anne Lawson being their able guide. This journey became more familiar to many of us before the week came to an end.

The appetite which the fresh Scottish air had given us was appeased by an excellent tea, after which we adjourned to the committee room where we heard Bob Pearce give details of previous work done on airflow over the Bishop, and also outlined what was hoped to be achieved during the coming week, weather permitting.

In short, it was hoped to make further measurements of windspeed and direction by releasing "Tail Balloons" from a series of points along a line in the direction of the expected wind flowing over the hill, ensuring that this line passed as near as possible over the Bishop. Thence, a series of streamlines could be produced from the results obtained and possible areas of lift and sink estimated.

A tail balloon consisted of an air-filled balloon containing about 10 gm. of sand, attached to a hydrogen-filled balloon by means of 120 ft. of strong thread, the whole combination being arranged to give a relatively slow rate of ascent — 200-300 ft. per minute. Using tail balloons enabled each theodolite station to be responsible for its own target and for actual individual rates of ascent to be calculated.

Everyone was up ready for a bright and early start on Monday morning and from general observation, the wind and weather appeared to be very favourable for our task. However, to obtain information on the synoptic situation and winds to 5,000 ft. a visit was made to the Met. Office at Pitreavie, where arrangements were made for this to be a routine visit each morning. Meanwhile, other members had been busying themselves with such tasks as measuring and winding "tails" on to formers, and preparing the Eagle and T-21B for flight.

It was decided that the task for the morning would be to station three theodolites at various points in the neighbourhood and track one of the gliders as it made traverses between The Bishop and Benarty, on the opposite side of the Loch. Readings would be made every half minute of temperature, and variometer indications, whilst the glider was flown at as near constant airspeed as possible (at about 40 Kt.). Thus, two of our number, who had previous experience in fitting and wiring thermometers to aircraft, set about putting a standard Met. Office platinum resistance thermometer element and balanced bridge to each aircraft. The elements were positioned on plywood bases in the D.V. panel positions to avoid drilling the aircraft fuselage.

This done, Bill Lawson was soon airborne with observer and commenced a series of traverses, climbing to approxim-

ately 2,500 ft. in lift from the Bishop, flying to Benarty and back to the Bishop where a climb was made for the next run. Due to a misunderstanding over the timing, the glider flight continued for an hour after the theodolite observers had finished tracking and on landing at 1330 hrs., the occupants found that practically all the lunch had been taken care of by the hungry trackers!

Lunch over, three groups were formed and each proceeded to selected release points with balloons, theodolites, stop watches, "tails", sand, writing pads, etc., and prepared to release the first balloon at 1530 hrs. Those fortunate (?) enough to be chosen to ascend the Bishop were able to enjoy a hair-raising ride in Charlie Ross's Austin Champ, to a point half-way up, the final assault on foot being helped to some extent by the lift given by the three hydrogen-filled balloons! Their only task, apart from reaching the summit was to release balloons with tails at the appropriate time; these were then followed by a theodolite at the club-house.

The plan adopted was for the upwind station to release and follow its balloon, and as soon as this appeared over the next station downwind, they were to release theirs, and likewise when this balloon was over station three, furthest downwind, the final release was made. Unfortunately, due to a patch of lower cloud over the hill, the first balloon had entered cloud before arriving over the second position and the desired timing was not achieved. The programme was amended subsequently to overcome this difficulty.

* * *

On gathering at the club-house for tea we learned that the local press had been active during our absence, no doubt having been alerted by the inhabitants of Scotlandwell who had most likely seen Charlie's Champ laden with bods, balloons and instruments. An unexpected surprise awaited Dave Lowe and Toon Ghose who had arrived late in the afternoon in a Tugmaster from Lasham. They were quickly made Honorary Members of the course by Bill Shanks and were given an outline of the plans for Tuesday during the discussion which took place in the evening.

An anticyclone in the Atlantic had been moving east and by midday was expected to be in a position just west of the Hebrides, giving a stabilising N.N.W. airflow over Eastern Scotland. As Wednesday was to be a "Rest Day" and with the prospects of the winds becoming light and variable as the High continued to move east, it was obvious that we should try to obtain two good series of releases during the day. Accordingly, we dispersed to our designated positions and, with our temporary increase of members, were able to position four release points. Having had a successful morning we attempted to add a refinement to the afternoon programme by releasing a constant lift "tail" combination, but the separation mechanism, manufactured from Bird Scarer Fuse, failed to operate at an intended 1,500 ft. and the three balloons, tied together, continued to ascend at an even slower rate of ascent than normal. However, the day was deemed to have been quite successful and the evening was devoted to films and slides taken by members of the S.G.U. These included a very excellent time lapse colour film of the Bishop Lee Wave,

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taken from the clubhouse by Bill Lawson; an impressive time lapse of Cu-nim development, taken in America and shown by Bob Pearce; John Rushforth's impression of his walk across the Forth road bridge, now under construction, via the Catwalk beneath one of the main suspension ropes, with interesting cine and transparencies taken at various points along the "walk". Finally we were brought right up to date by seeing 35mm slides of cloud formations as seen from satellites, one showing a series of wave clouds extending eastwards from the Rockies being of particular interest.

Wednesday being a "rest day", the meteorologists took the opportunity of visiting the neighbouring Highlands in a hired motor-car, whilst the S.G.U. members' activities ranged from grass cutting to golf, no one actually resting in the true sense of the word.

By Thursday the Anticyclone had positioned itself over central Scotland, giving light and variable winds, poorish visibility and a uniform layer of Sc. at around 4,000 ft. It was decided, therefore, to spend the day plotting results; during the afternoon a few circuits were made in the Eagle and T21B to give the meteorologists some air experience.

* * *

In the evening we were privileged to hear Mr. Paton, of Edinburgh University, give a sparkling lecture on "Optical Effects in the Atmosphere" illustrated by numerous colour slides. Commencing at sunrise, Mr. Paton worked through a theoretical 24-hour period and showed a series of slides embracing various forms of low, medium and high clouds, rainbow, effects of polarisation due to reflection, crepuscular rays and halos, ending with fine examples of night exposures of lightning, aurora and noctilucent clouds. A lively discussion followed with Mr. Paton answering numerous questions put to him by members, most of whom by then felt that there was far more to be seen in the atmosphere than was generally realised.

With the Anticyclone still over Scotland on Friday and the layer of Sc. persisting, it was agreed to fit one of the thermometers to the Tiger and carry out a climb during the afternoon to just above cloud tops (in the region of 5,500 ft.). The climb was to be done between Benarty and the West Lomond and the aircraft's position followed by three theodolites in a similar manner to the earlier glider traverses.

Bob Pearce bade us farewell as he had to leave Prestwick that night to fly to California, where he will be lecturing for the next year. We were all grateful that he was able to spend so much of his valuable time with us. John Rushforth devoted an hour of the morning to give us a lecture on Thermals and described experiments carried out at Lasham by Betsy Woodward, using an instrumented Eagle to fly through small cumulus clouds. A general discussion followed embracing such topics as Waves, and their practical use for cross-country flying, use of the Tephigram and instruction on how to plot the coded message. It was generally felt that useful knowledge had been gained by both sides.

During the afternoon the ascent in the Tiger was duly carried out, 7,000 ft. being reached. After landing the temperatures were corrected and plotted against the midday Shanwell Radiosonde ascent and the two showed remarkable agreement. One or two flights were made during the late afternoon in the Eagle for the benefit of those who had not yet managed to get airborne. During the evening, the W. Lawson production "Security of Tenure — or, The Development of Portmoak", complete with commentary, spoken by Anne Lawson, was shown by popular request from the meteorologists. It certainly brought home to us just how great an effort had been put into making Portmoak what it is today and would no doubt be an incentive to other clubs to see just what can be achieved with co-operation of all members. Richard Rozyck's excellent film on the Art of Lapidary brought the evening to a close.

The course ended at midday on Saturday, the morning having been spent tidying up, collecting results together and checking the instruments and generally discussing what improvements could be made on any future course of this nature.

Hearty thanks were given to John Rushforth and, in his absence, Bob

Pearce for their efforts at making the course such an interesting and, we hope, successful one, not forgetting the many hours they devoted beforehand, selecting and surveying the release points and collecting instruments together; also to members of the S.G.U. without whose co-operation the course would not have been possible.

The Anticyclone had moved away S.E.-wards by Saturday and weak fronts were approaching Scotland, with a moderate W.S.W. airflow ahead of them. Numerous wave clouds were to be seen as we left the clubhouse on route for our respective destinations. Charlie Ross had taken advantage of the situation earlier in the morning, by getting an aero-tow in the Skylark. We learned later that he had made a very successful flight of 170 miles to Yeadon; an excellent example of a cross-country flight using waves. It would indeed be gratifying to think that perhaps the course and discussions had, to some extent, helped to make this flight possible.

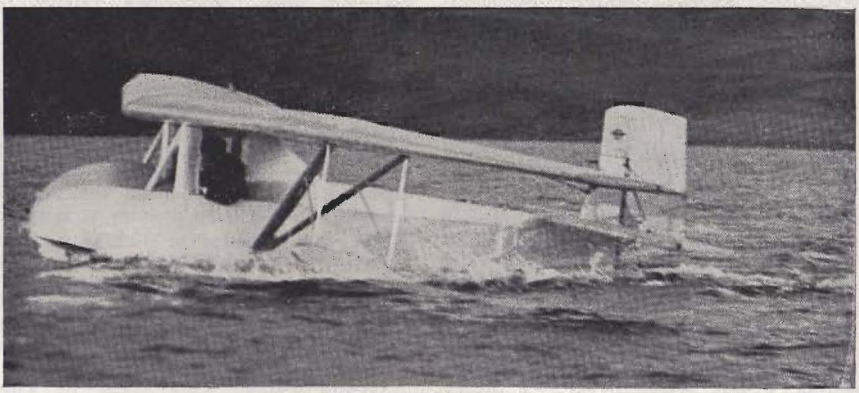
Water-borne Falcon

FRED SLINGSBY, who began his glider-making career by turning out the Falcon type (designed by Dr. Alexander Lippisch as the "Falke"), writes:

"A few weeks ago I met Mr. Cooper Pattinson of Windermere who is a supporter of the Lakes Gliding Club. We discussed his experiments with a Falcon 1 in 1943 when he adapted the machine for operating from a lake. He has sent me a few pictures which might be of interest to your readers. Extracts from his letters are:

"'The first test of the boat-glider took place on February 3rd, 1943, and the motor-launch used was Sir Charles Craven's (of Vickers), with a speed of about 30 knots. The wind was from the north — perhaps 20 m.p.h. After travelling some distance on tow, I noticed that I was overtaking the towing launch, and when I reached the end of the lake the glider was some hundred yards ahead of it; I had to swing back in order to be able to 'land' on the lake . . . The handling of this machine was very good, and after casting off I was able to soar to about 1,000 feet.'"

Mr. Slingsby adds that Mr. Cooper Pattinson claims this to be the first water-borne glider to fly in Great Britain. He was, however, preceded by the late C. H. Lowe-Wylde's "Bat Boat" which took off from the Welsh Harp lake, near Hendon, on December 7th, 1931.



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The Certification of Imported Second-hand Foreign Gliders

THE Technical Committee is concerned about the airworthiness of second-hand gliders imported from abroad, in particular from Sweden. There are now 16 in the country. The causes of this concern are:

(*a*) Reports of very bad workmanship in repairs carried out in the country of origin and generally poor condition of such machines.

(*b*) Lack of information about their previous history.

(*c*) The case of a Kranich whose fuselage had to be completely re-skinned due to bad assembly.

(*d*) The recent import of a Weihe whose native C. of A. had expired some months before the date of import.

(*e*) The actions of A.R.B. in respect of old wooden aircraft incorporating certain types of glue. These may have repercussions affecting gliders (relatively few) assembled with "Beetle" and "Kaurit". The glue used in Swedish machines is not known at present.

The Technical Committee therefore recommends the following:

1. At the date of entry of a second-hand foreign glider into the United Kingdom, the C. of A. of the country of origin must still have at least a further 9 months validity remaining.

2. Notwithstanding this, before a B.G.A. C. of A. is issued, the machine must have a complete inspection by an Approved Inspector and overhaul as for a normal C. of A. renewal.

3. The Technical Committee will not normally grant a B.G.A. C. of A. to imported machines more than ten years old on the date of entry into the United Kingdom. If an applicant desires certification of a machine more than ten years old, the application will be considered on its merits and it will be the responsibility of the applicant to produce comprehensive evidence of airworthiness. Such evidence would comprise, as a minimum:

(i) Valid C. of A. as in paragraph 1.

(ii) A satisfactory record of all maintenance work carried out throughout the life of the machine.

(iii) A certificate to the effect that the original materials of construction were approved by a competent authority.

It would be the responsibility of the applicant to furnish such translations into English as the Technical Committee might require.

4. If the Technical Committee found the above evidence satisfactory, such a machine would require a major "ten plus" inspection by an Approved Senior Inspector, with proper overhaul and submission of strip reports in the usual manner.

5. This scheme comes into operation in respect of machines imported on or after 1st April, 1963.

F. G. IRVING,
Chairman, Technical Committee.

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World Championships—Practice Period



by A. E. SLATER

THE British team arrived at Buenos Aires more or less on schedule except that the final contingent — Nicholas Goodhart, Lorne Welch and myself — were held up a day in the snow and ice of Madrid before crossing the equator into summer. So we missed the great ceremonial procession through the streets of Junin in Citroëns modified to enable all the participating teams to stand up and wave continuously to the crowds. Official estimates were 200 vehicles and 40,000 people waving and cheering. Junin's Municipal Commissioner (i.e. Mayor), Mr. R. Portela, welcomed the visitors on behalf of the town's 70,000 inhabitants.

All the sailplanes that came by sea from the various countries were unloaded and taken by the Argentinian organization to Merlo, the site of the Albatross Gliding Club which serves Buenos Aires district. From there, their owners mostly took them on by road, but a few were aero-towed or soared to Junin. On our way there we overtook three empty American trailers in convoy; unknown to them, they passed close by where Dick



A Meteor does a low beat-up at the opening ceremony.
Courtesy of "Flight"



John Ryan's Prue Super Standard.

Courtesy of "Flight"

Schreder had landed short, and had to go back for him. John Ryan and Dick Johnson soared the whole way. Johnson brought a Sisu instead of his intended RHJ-6, and Ryan a Prue Super-Standard.

The U.S. Air Force transported the three American planes free in a C124 four-engined aeroplane, and there would have been room for two more on the floor space. Above the trailers they added another floor for the crews, some of whom slept in sleeping bags on the trailer roofs.

The Belgians similarly had a free ride. They and their two Standard Class machines were brought in a DC6 normally used by the King of Belgium. One was a Ka-6, and the other a newly acquired Foka, for which the Sabena airline lent them the money. Argentine pilots towed them on from Buenos Aires.

But the most spectacular arrival was that of the Chileans, who came by air from over the Andes, having been towed all the way by Piper PA-18's. The team manager, Enrique Hernandes, and the three pilots, Jose Chanes, Jurgen Kunze and Alejo Williamson, packed into the two Blaniks, which are two-seaters although being flown solo in the contest. On their first leg from Santiago to Mendoza through the Upsallata Pass, they climbed to 5,000 metres (16,500 ft.). The next leg took them to an Argentine Air Force base for the night, and one more leg completed their journey.

Chilean gliding, the party told me, started 15 years ago with Primaries, and the Czechoslovak Blaniks only arrived last year, one of them being the prototype. They have three gliding clubs, but some aeroplane clubs do gliding too.

The Brazilians were refused an expected government grant but managed to raise money from "private sources" in time to arrive on the 8th; but the Yugoslavs, though all set to come, were also refused the money when they were about to start, and have had to stay behind.

Other alterations from the list published in February (p. 8) are: Australia: D. G. Reid is flying the Ka-6 and J. H. Iggulden the Arrow.

France: The Wassmer 23 has been replaced by a Breguet 901 flown by F. I. Henry; in the Open Class, J. Lacheny and C. Labar are each flying an Edelweiss.

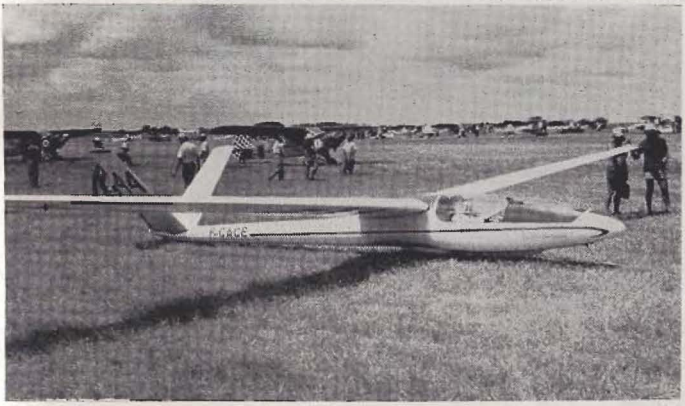
In the Open Class, new types making an appearance for the first time are the Skylark 4, Blanik, Sisu, Schreder's HP-11, and the Vasama which is really Standard Class.

In the Standard Class are several novelties, the most striking being the French Edelweiss and the German all-plastic SB-7, both of which have low, narrow cockpits like the Foka. Swept-

back fins and rudders are also coming into fashion in other types. (Instructors who are used to telling their pupils why the rudder and elevator exchange functions in a vertical bank will now have to explain why the swept-back rudder continues to act as a rudder).

The Australian Arrow is the smallest machine competing, with a span of 13 metres (43 ft.). It was finished, test-flown, given a C. of A., put on the ship and taken away on successive days, and it then had to change ships at Durban.

The first sight suggesting a World Gliding Championship, as one approaches the aerodrome, is an aero-



Edelweiss flown by J. Lacheny (France).
Courtesy of "Flight"

plane park containing about 50 tugs, which is greatly in excess of the usual number needed for launching. The rest are wanted, not only for retrieving, but for patrolling the route in order to spot sailplanes which have landed out — if the field is suitable. The main snag is that grass fields are apt to contain a peculiar weed consisting of a stalk two or three feet high with a heavy knob at the top end. If anything hits the stalk, the knob retaliates by bending over and knocking a hole in it. At least, that is what it looks like from the road, though it does not seem to have troubled anyone so far.

The team's language difficulties have been greatly eased by British residents in Junin: Mr. Beckwith, a founder of the Junin Gliding Club, and Mr. L. Jackson and his daughter Sheila, who also helped with work on the gliders.

The camping site among trees proved to be a collection of chalets used as week-end and summer retreats by Junin residents, who generously lent them to the teams of all nations. One evening our own "landlord" and his family laid on a marvellous barbecue-type dinner in their garden for the whole British team, roasting it on an open hearth in the garden. Our hosts were: Umberto, Hipolito, Nelida, Monica, Rosana, Elida and Graciela Muscariello: Delia, Emilio, Elma and Liliana Arato; Maria Ferreyro, Filipe Rodriguez, and Peter Meehan, the only adult at the party who knew both languages.

The three British chalets are close by the high-water mark of the lake — Laguna de Gomez — which gives its name to the aerodrome. But it had shrunk a lot in the dry weather and its remains could only be reached by a long walk over drying mud; however, there was a bathing pool on the aerodrome.

Training Flights

MONDAY, FEBRUARY 4TH. — No task was given, and pilots were warned that if they landed out, they would not be retrieved by air. A strong surface wind blew from the east, but cumulus clouds moved from west; this, it appears, is a common situation in these parts. Thermals were good, and at 6 p.m., when they were dying out, a large grass fire started up by the lake shore and a huge volume of smoke drifted over the airfield, attracting all the remaining gliders in the sky.

Argentine, by the way, has permanent



John Williamson fettling the radios.

Photo A. E. Slater

Summer Time; I am told that, after it had been introduced as an experiment one summer, nobody could be bothered to change it back. So the sun is due north at 1 p.m., and the start and finish of thermals are nominally delayed an hour.

TUESDAY, FEBRUARY 5TH. — A task was set — Rufino and return; total distance 321 km. (200 miles). The course there was W.S.W., with an easterly wind up to 1,000 m., changing to southerly above 1,500 ft. Not everyone tried to get there; Kuntz in the new SB-7 was anxious not to have to land out, and turned back short of Rufino. He found thermals of 3 to 5 m/sec. The Arrow had variometer trouble and had to land out. Nicholas Goodhart found the thermals large and not very strong, but soon discovered that they had strong cores. One of them gave him 8 m/sec. up. He had to pull up into a near-stall to avoid a Standard Class machine whose pilot was circling without looking. The thermals were equally good above and below the wind-shear level.

Visibility, Goodhart said, was terrific; he could see clearly 50 miles, i.e., half-way along the course. Although there was a railway line all the way it was more difficult to distinguish than the roads.

A Belgian pilot, M. Cartigny, put up a national out-and-return record in his Foka.

No official figures for speed were issued, but of the British team John Williamson took 4 hr. 35 min. over the course.

WEDNESDAY, FEB. 6TH. — A couple of crop-spraying aeroplanes "mowed" to and fro across the aerodrome scattering D.D.T. indiscriminately on men, machines and grass.

A race to Tandil was set, 328 km. (204 miles) S.S.E., with a strong following wind at 1,000 and 2,000 ft. and a partly contrary wind at 3,000 ft. and above. The Poles, who had at last arrived after a struggle with Customs over their ground transport, chose to do a triangle instead. The Germans went half-way and back.

Thick cirro-stratus patches in some parts of the sky interfered a lot with thermal production, Ted Pearson of Rhodesia found, so he turned back half-

way and thereafter avoided the cirrus and had perfect soaring.

With these and some other exceptions, most pilots tried for Tandil, but only John Williamson made it, taking 5 hr. 7 min. according to the official bulletin but just 6 hours according to himself. He flew mostly at 5,000 ft., but his last thermal, at 5.55 p.m., was the best of the day and took him from 4,000 to 8,000 ft. Apart from this, the second half was more difficult owing to the cirro-stratus patches. Tony Deane-Drummond made the second best flight of the day, landing 6 miles short; within 5 minutes a patrolling tug had spotted him, landed, towed him off, and was taking him on to Tandil. Nicholas Goodhart failed to be spotted, and his fantastic experiences in trying to reach a 'phone are described later by Ann.

Fritz and Wödl in Standard Austrias did well with 291 km. (181 miles) each, and Vergani made 254 km. Among many who exceeded 200 km. were Commonwealth pilots Rowe (254 km.) and Iggulden, Yeates and Mix (206 km.). This day gave a fair idea of what to expect in the actual contest. The longer-distance pilots were at first only retrieved to the nearest town — Tandil, Tapalque or General Alvear — and polyglot gatherings stayed the night in luxury hotels.

J. Kunze put up Chile's first national distance record — 270 km. Lewis Hale from New Zealand arrived on a three-day visit as "observer". A few days later another New Zealander, Warren A. Spence, turned up and attached himself to the British team, helping in every way during the contest period and earning everyone's gratitude. Oda, of Japan, who had to have his appendix out on arrival, was back in circulation today, and a few days later began flying an Argentine Sky with reduced wing-loading.

THURSDAY, FEB. 7TH. — Today the British team, having borrowed a large sheet of tenting and some wood, put up an awning for protection against the fierce northerly sun, adjoining a fence near which the trailers are kept. Later also a radio mast was erected, and here one could listen in comfort to what our pilots were saying *en route*.

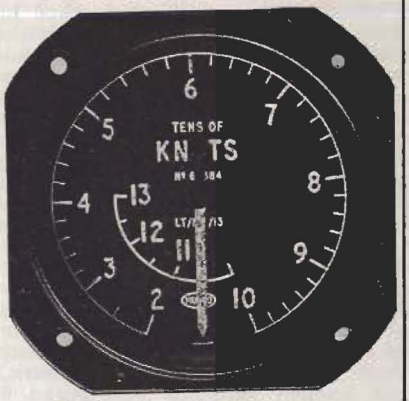
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Of the many competitors who were towed back from yesterday's flights, Dick Johnson had a day-dreaming tug pilot who gradually slewed round till he was pointing to the Andes; Dick tried hard to pull the tug's tail round, till at last the pilot cottoned on, looked at his compass, and got back on course.

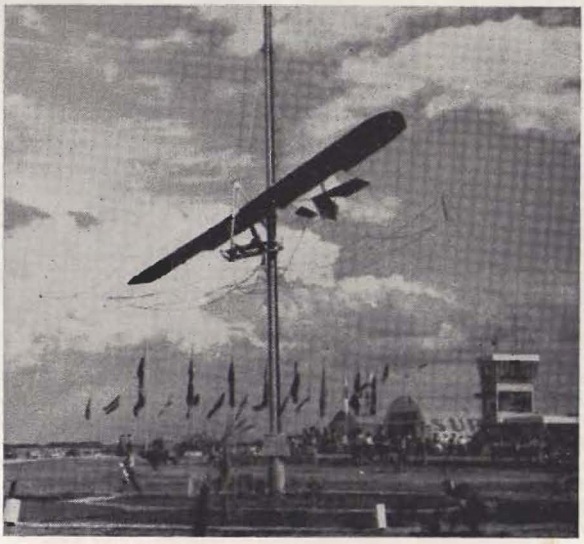
John Williamson set himself a triangle, making it up as he went along; but among the alto-cumulus patches was a lenticular-like one which blocked his direct way home; he radioed the precise course along which a search should proceed if necessary, but just managed to get home after all. Later he found his leading edge needed attention, so that was his last practice flight.

FRIDAY, FEB. 8TH. — The voluntary task was a 113 km. triangle via General O'Brien and Membrillar. The wind below 4,000 ft. was mostly 30 m.p.h. from N.N.E., and N.E. at 27 m.p.h. at 6,000 ft. Clouds: cumulus and alto-cumulus. Several went round in about 1½ hours; Dick Johnson took 1 hr. 23 min., Deane-Drummond 1 hr. 48 min., and Goodhart and Williamson about 2 hours each. But Fritz (Austria), and Lacheny (France), were fastest at 96.62 and 84.18 km/h. respectively.

SATURDAY, FEB. 9TH. — The weather had become more thundery, and at 1 p.m. a violent dust squall crossed the airfield, like those we used to get at Madrid; but the rain which followed it had mostly evaporated on the way to the ground.

A race was provisionally set to 9th July (9 de Julio) and back (towns in Argentina tend to be named not only after historic generals but after historic dates; there is also a 12 de Octubre). Total distance 165 km. (103 miles). Nobody seems to have tackled the thunderstorms for height; they just got in the way and spoilt the day for most people.

SUNDAY, FEB. 10TH was Grand Opening Day. The Mayor of Junin performed the ceremony; there were many speeches, a fine band, and the Queen of the Ninth World Championships, Senorita Maria Elena Giecco, hauled up the F.A.I. flag. Two Argentine Air Force Meteors swooped over, and between them a mass of pigeons was released; all but one got away from the Meteors. Vast crowds turned up. The participants were treated to a ceremonial super-lunch in the teams' restaurant.



"Trapped in the web of time," says a plaque below Junin Gliding Club's Primary of 25 years ago, "I return today from the midst of things forgotten."

Photo A. E. Slater

Contest Period

Monday, Feb. 11th

A low overcast, which began to "burn off" at 11 a.m., caused the briefing to be twice postponed, till at last, at 1 p.m., a race to Mercedes, 141.2 km. (87¾ miles) to the east, was announced. Pilots were told that if they landed more than 50 km. off course, they must not expect to be retrieved by air. Thermals would average 2 m/sec. with a maximum of 3½.

Launches averaged two a minute, and at one time were proceeding every 15 seconds. Open Class machines were towed away to one side, Standard Class to the other, and each had a different starting line. Two British radio bases kept in touch with our Open Class pilots — "Home" in the tent and "Mobile", usually presided over by John Furlong, by the starting line, to confirm that our pilots' crossings had been officially seen (at times a most difficult problem — in fact, no evidence could be obtained that Tony Deane-Drummond had been seen to cross, but later it transpired that he had).



Heinz Huth looks pleased at what the scoreboard reveals.

An hour after launch, John Williamson reported himself 16 miles out at 3,000 ft., then Nicholas Goodhart was 15 miles out, also at 3,000. Soon afterwards Williamson was at 7,000; and in fact 7,500 ft. was many pilots' maximum. Cloudbase was at only 3,000 ft.

This was the day of the Standard Class machines, for they not only won in both classes but the leading pilots in the Standard Class made better speeds than those in the Open. Shortest time of the day was 1 hr. 52 min. 30 sec. in the Standard Class by Huth of Germany in a Ka-6. Then came Wödl in a Standard Austria with 1 min. 8 sec. longer, followed by Sejstrup of Denmark in a Ka-6 and Labar of France in an Edelweiss. Deane-Drummond was in 11th place with 2 hr. 7 min. 24 sec., and Mix of Canada 12th. Of the other new Standard types, the Finnish Vasamas came 5th and 8th, the U.S. Prue Super-Standard 16th, the Dutch Sagitta 32nd and the Australian Arrow 37th in a field of 38.

In the Open Class Ulbing won with a Standard Austria in 1 hr. 54 min. 4 sec. and Henry of France with a Breguet 901 took 19 sec. longer. Dick Johnson took 1.55.32 and then came Goodhart with 1.56.52 and Williamson with 1.57.48.

At the goal there were exciting scenes with everyone trying to land on the same runway. The two Poles, Popiel and Makula, approached together; Makula deviated to come in behind, and then found two other sailplanes blocking his way; his tail parachute chose this moment to refuse to function, and he finished up in a sunflower crop with a broken fuselage.

Retrieves by aero-tow were from opposite ends of the runway alternately, interspersed with some along a cross-runway; a man at the junction, wielding flags, appeared to be in sole charge. They were continued by moonlight, with the Junin runway lit up, but many were postponed till next morning. Deane-Drummond was towed all the way back at 400 ft. above ground; he thought this

was because of a contrary wind.

Feb. 11th: Leading Scores

Open Class

1.	Ulbing (Austria)	1000.0
2.	Henry (France)	995.1
3.	Johnson (U.S.A.) ...	977.3
4.	Goodhart (Gt. Britain) ...	976.8
5.	Williamson (Gt. Britain)	944.2
6.	Schreder (U.S.A.) ...	911.7
7.	Makula (Poland) ...	876.8
8.	Ortner (Argentina) ...	874.7
9.	Ritzi (Switzerland) ...	866.5
10.	Hossinger (Argentina) ...	865.9
11.	Webb (Canada) ...	836.4
12.	Popiel (Poland)	833.3
13.	Jensen (Denmark) ...	823.3
14.	Spänig (Germany ...	806.3
15.	Rowe (Australia) ...	746.0

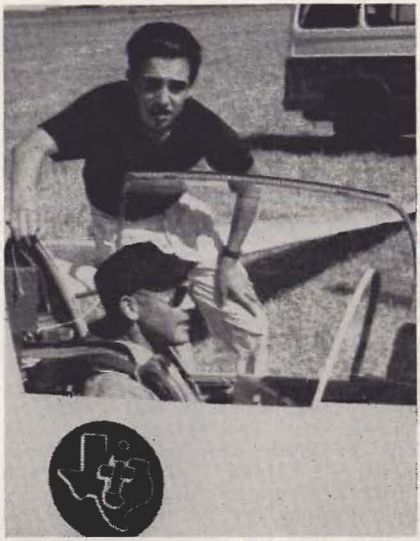
Standard Class

1.	Huth (Germany) ...	1000.0
2.	Wödl (Austria)	980.7
3.	Sejstrup (Denmark) ...	973.2
4.	Labar (France)	952.2
5.	Witanen (Finland) ...	923.9
6.	Fritz (Austria)	915.8
7.	Brigliadori (Italy) ...	848.5
8.	Horma (Finland) ...	833.8
9.	Braes (Denmark) ...	316.1
10.	Lacheny (France) ...	810.0
11.	D-Drummond (Gt. Brit.)	803.8
12.	Mix (Canada)	782.2
13.	Cartigny (Belgium) ...	753.5
14.	Pieczewski (Poland) ...	751.3
15.	Münch (Brazil)	748.2

Wednesday, Feb. 13th

After a no-contest day, due to so many pilots returning late, today an Out-and-Return task was set: to "9 de Julio", 82½ km. (51½ miles) to the south, and back — total 103 miles. The wind was north (40 km/h.) at 2,000 ft., N.E. below that, and N.W. above. Around 1 p.m. Williamson crossed the starting line, shortly followed by Goodhart and by Bob Rowe of Australia, who was also on our wavelength, and set off like time machines for the 9th of July. Soon Williamson reported that it appeared to be raining over the turning-point. He was flying mostly at about 2,300 ft., with a maximum of 3,600.

It was indeed raining around the turning-point, from cu-nims connected with an upper trough which had been forecast. Nearly everyone was brought



Dick Johnson, just landed after completing a 300-km. triangle.
Photo A. E. Slater

down there — some, like Williamson, before reaching the turning-point, and some, like Goodhart and Deane-Drummond, soon after it. Easily the fastest time from Junin to the turning-point was made by Fritz in a Standard Austria; he took 37 minutes, flying mostly below 1,000 metres. Next best times were by Nietlispach (Switzerland) in a Sky, 43 minutes, and Goodhart, 55 minutes.

But none of these times counted for anything, as not enough people exceeded 100 km. to make it a contest day. Only one competitor completed the course: Braes of Denmark in a Ka-6, taking 3 hr. 37 min. 54 sec. He had the good luck to find lift in a cu-nim just after the turning-point, and climbed 5,000 metres in it (16,400 ft.).

Williamson had a hair-raising time trying to get out of his field; twice the cable came off the tug, and he finally got out of an adjoining field with 13 metres of cable.

Thursday, Feb. 14th

Task was an Out-and-Return to Pergamino, 88¾ km. (55 miles) to the N.N.E.; total distance 110 miles. Winds E. by S. to 4,000 ft., then E. to 7,000 ft.

Anticyclonic subsidence caused clouds to disappear in Junin region, but towards the goal, from Rohas onwards, there were excellent cumulus clouds which helped the competitors both ways. Wallington broadcast a warning to the British pilots, as they were nearing home, that thermals were getting feeble, but Goodhart made sure of a final one just to leeward of Junin town.

This time the Open Class made the best speed; Makula took 2 hr. 34 min. 21 sec. in a Zefir, and Fritz 2 hr. 37 min. 14 sec. in a Standard Austria. Williamson took 2 hr. 55 min. 56 sec., Goodhart 3 hr. 9 sec., and Deane-Drummond 3 hr. 5 min. 21 sec.

Leading Points for Feb. 14th

Open Class

1.	Makula (Poland) ...	1000.0
2.	Henry (France)	964.4
3.	Popiel (Poland)	955.1
4.	Kuntz (Germany) ...	945.0
5.	Tandefelt (Finland) ...	865.7
6.	Schreder (U.S.A.) ...	843.6
7.	Hossinger (Argentina) ...	833.4
8.	Ulbing (Austria) ...	815.7
9.	Williamson (Gt. Britain)	794.7
10.	Spänig (Germany) ...	775.9
11.	Goodhart (Gt. Britain)	755.3
12.	Webb (Canada)	745.8

Standard Class

1.	Fritz (Austria)	1000.0
2.	Wödl (Austria)	872.2
3.	Huth (Germany) ...	855.2
4.	Sejstrup (Denmark) ...	814.7
5.	Braes (Denmark) ...	823.9
6.	Horma (Finland) ...	743.0
7.	Rodling (Sweden) ...	731.0
8.	Lacheny (France) ...	710.7
9.	Münch (Brazil)	704.7
10.	Juez (Spain)	695.8
11.	D-Drummond (Gt. Brit.)	695.4

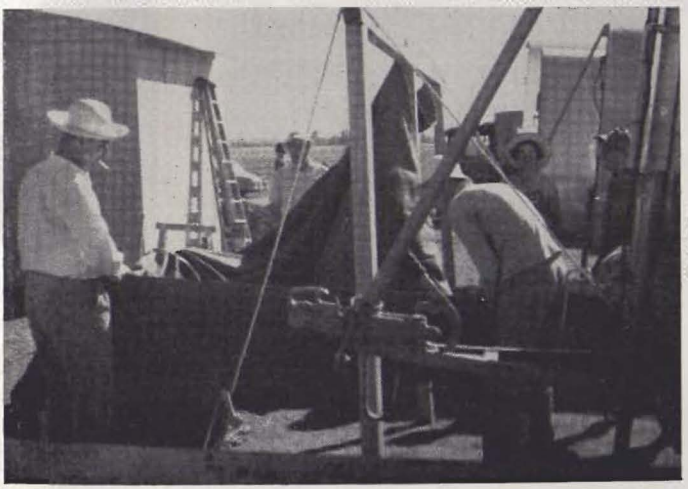
Leading Totals: 2 Days

Open Class

1.	Henry (France)	1959.5
2.	Makula (Poland) ...	1876.8
3.	Ulbing (Austria) ...	1815.7
4.	Popiel (Poland)	1788.4
5.	Schreder (U.S.A.) ...	1755.3
6.	Williamson (Gt. Britain)	1738.9
7.	Goodhart (Gt. Britain)	1722.1
8.	Hossinger (Argentina) ...	1699.3
9.	Kuntz (Germany) ...	1690.4
10=	Webb (Canada)	1582.2
10=	Spänig (Germany) ...	1582.2

Standard Class

1.	Fritz (Austria)	1915.8
2.	Huth (Germany) ...	1855.2
3.	Wödl (Austria)	1852.9
4.	Sejstrup (Denmark) ...	1817.9
5.	Braes (Denmark) ...	1640.0
6.	Horma (Finland) ...	1577.6
7.	Lacheny (France) ...	1520.7
8.	D-Drummond (Gt. Brit.)	1498.4
9.	Brigliadori (Italy) ...	1481.1
10.	Münch (Brazil)	1452.9



The British team puts up a sun shelter.

Photo A. E. Slater



▲ *Two Finnish Vasamas, flown by Tandefelt (No. 27) and Horma (No. 42).*



▲ *One of the m*
St



▼ *R. E. Schreder's HP-11 (United States).*

◀ *The Sisu flown b*
(United S



▲ *Seff Kunz and E.*
Rolf Kuntz from the s
a launch in the a





◀ *The*
by A. P

Centre pho
all others



...ny Fleet type tugs. There were also many of ...tearman and IA-46 Ranquel type.

...y R. H. Johnson ...States)



▲ *The World Gliding Queen, Senorita Noemi Susana Lucero (centre), and her two attendant Princesses.*



...E. G. Haase protect ...sun as he waits for ... all-plastic SB-7.



▲ *The Foka flown by M. Cartigny, which Sabena Airline helped the Belgians to acquire: it crossed the Atlantic inside a DC-6 used by the King of Belgium.*

▼ *The Standard Class Sagitta from Holland, flown by Eddy van Bree.*



...e Italian Eolo flown ...Pronzati in the Open ... Class.

...hotograph by Ann Welch; ...rs courtesy of "Flight"

Friday, Feb. 15

A 100-km. Triangle was set, S. to La Toldos aerodrome near General Viamonte, W.N.W. to some cross-roads, and E.N.E. back to Junin. Distance, 109.6 km. (68 miles). I did not record the forecast winds, but cumulus clouds were moving slowly from N.W. and leaning over from the E., denoting a wind shear.



J. Horma in his Vasama cockpit.
Photo A. E. Slater

By radio our pilots gave heights of 2,500 to 3,500 ft. Just before crossing the line, John Williamson radioed that "the position looks good judging by the cloud shadows" as seen from 3,500 ft.

Many pilots went round the course twice, but all, so far as I heard, were slower the second time. Makula, in a Polish Zefir, made the fastest time at 94.75 km/h., taking 1 hr. 9 min. 24 sec. The Standard Austrias particularly distinguished themselves: not only did Wödl and Fritz take first and third places in the Standard Class, but Ulbing, flying a Standard Austria in the Open Class, went faster than either of them. Popiel and Dick Johnson, in the Open Class, also made better times than anyone in the Standard Class, suggesting that it was one of those days when a large span counts for something.

The first twelve in the Open Class were: Makula, Ulbing, Popiel, Johnson, Spänig, Henry, Schreder, Jensen, Ortner, Hossinger, Goodhart (74.11 km/h.) and Williamson (73.43 km/h.). In the Standard Class the leaders were: Wödl (91.08 kmh.), Huth, Fritz, Horma and Brigliadori; Deane-Drummond was 19th at 70.77 km/h.

Leading Totals: 3 Days

Open Class

1.	Makula (Poland) ...	2876.8
2.	Ulbing (Austria) ...	2794.3
3.	Henry (France)	2768.4
4.	Popiel (Poland)	2761.4
5.	Schreder (U.S.A.) ...	2490.3
6.	Spanig (Germany) ...	2410.9
7.	Williamson (Gt. Britain)	2288.9
8.	Goodhart (Gt. Britain) ...	2286.3
9.	Hossinger (Argentina) ...	2278.7
10.	Jensen (Denmark) ...	2247.2

Standard Class

1.	Wödl (Austria)	2852.9
2.	Huth (Germany) ...	2824.2
3.	Fritz (Austria)	2800.0
4.	Horma (Finland) ...	2392.0
5.	Sejstrup (Denmark) ...	2316.0
6.	Lacheny (France) ...	2271.7
7.	Brigliadori (Italy) ...	2248.6
8.	Braes (Denmark) ...	2138.7
9.	D-Drummond (Gt. Brit.)	2052.4
10.	Juez (Spain)	2018.3

Saturday, Feb. 16th

Task was a 300-km. Triangle, and although nobody reached the third leg, it was a most exciting day and counted as a Contest Day. Course was: 55 miles N.N.E. to Pergamino, 65 miles W.S.W. to San Alberto Estancia; and 72½ miles S.E. by S. back home. Winds were moderate S.S.W. to 4,000 ft., N. at 5,000 ft., E.N.E. up to 8,000 ft.

Radio provided the first excitement when Nicholas Goodhart reported crossing the start line at 3,150 ft., whereas the observers, according to our Mobile Base, had made his height 3,750 ft., though Nick said later he couldn't possibly have reached that height at the time.

Next, at 2 p.m., John Williamson reported seeing over-convection around the first turning-point, and asked Wallington whether it would disperse; but the best "Wally" could promise was some holes in it. By 2.45 the over-convected cloud mass could be seen from base with a large roof of cirro-stratus which had already spread over Junin and beyond.

At 3.10 Williamson entered a cu-nim

and soon climbed to 20,000 ft., reporting that he was bouncing up and down like a yo-yo. He wanted to know the forecast winds at that height, but at the briefing the met. man had gone no higher than 8,000 ft. As a result Williamson, not knowing the winds, emerged 10 miles N.W. of Pergamino. He made for the second turning-point but landed at a neighbouring estancia, far enough to put himself in second place for the day and reach fourth place in the Open Class totals.

Only a few managed to use this thunderstorm in order to fly the second leg; they can easily be distinguished in the list of scores by the big gap after the first 5 in the Open and the first 3 in the Standard Class.

Quite a number of pilots, Nicholas Goodhart said, reached the storm 10 minutes too late to get into it. Tony Deane-Drummond found nothing but sink, which led him to a comfortable night at a car service station manager's house.

Dick Johnson wandered widely underneath the cu-nim base and finished up 35 miles off course, after which he sat in his cockpit for an hour and a half while 25 mm. (1 inch) of rain poured down outside. His position was not discovered till 1 p.m. next day, owing to someone insisting on phoning a faulty Spanish translation of his message instead of letting him use the phone himself. Many other pilots got soaked after landing, and some could be seen still dehydrating their cockpit instruments two days after the flight, i.e., Monday, when there was too much alto-cumulus for another contest to be set.



J. Lacheny in the French Edelweiss, in which he finished second in the Standard Class.

Courtesy of "Flight"

Sat. Feb. 16: some Scores and Distances (km.)

Open Class

1.	Henry	1000.0	193.0
2.	Williamson ...	992.8	191.0
3.	Spänig ...	959.1	186.7
4.	Hossinger ...	907.3	178.7
5.	Nietlispach ...	826.4	
6.	Ritzi	599.7	131.2
7.	Webb	590.0	
19.	Goodhart ...	325.1	88.7

Standard Class

1.	Sejstrup ...	1000.0	193.0
2.	Hächler ...	966.3	
3.	Ara	959.1	
4.	Witanen ...	625.6	135.2
7.	Yeates	590.0	133.5
23.	D-Drummond ...	325.1	88.7

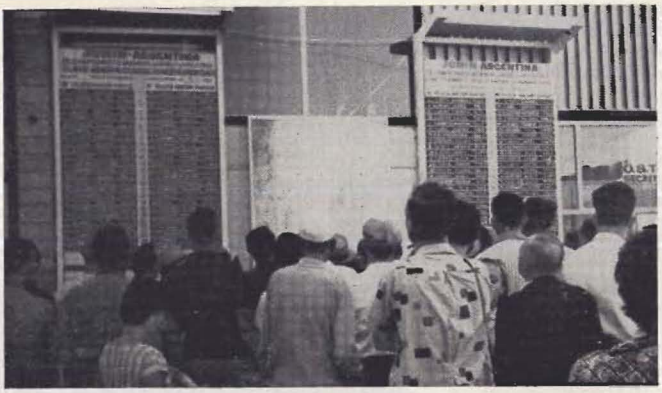
Leading Totals: 4 Days

Open Class

1.	Henry (France)	3768.4
2.	Spänig (Germany) ...	3370.0
3.	Makula (Poland)	3366.1
4.	Williamson (Gt. Britain) ...	3281.7
5.	Hossinger (Argentina) ...	3186.0
6.	Popiel (Poland)	3160.3
7.	Ulbing (Austria)	3119.4
8.	Schreder (U.S.A.)	3119.4
9.	Ortner (Argentina) ...	2723.6
10.	Webb (Canada)	2655.5
11.	Goodhart (Gt. Britain) ...	2611.4
12.	Jensen (Denmark)	2572.2

Standard Class

1.	Huth (Germany)	3414.2
2.	Sejstrup (Denmark) ...	3316.0
3.	Fritz (Austria)	3189.2
4.	Wödl (Austria)	3178.0
5.	Lacheny (France)	2861.7
17.	D-Drummond (Gt. Brit.) ...	2377.5
18.	Mix (Canada)	2155.6



An interested crowd scans the latest scores.
Photo by Ann Welch

Tuesday, February 19th

A 300-km. triangle was again tried—this time with success, as only 10 out of the 63 failed to get round. The first leg was against a wind of about 8 knots, 71 miles S.S.W. to Carlos Casares; then 70 miles N.W. by N. to Pazos Kanha; and 60 miles home, E. by N., total 322.7 km. (201 miles).

Small cumulus clouds first appeared at 11.10. By 12.20 one or two were growing towers, but John Williamson said over the radio that he would not start till about 1 p.m., and meanwhile he was going a little way down the first leg to see what it looked like. All three British pilots eventually crossed between 12.55 and 12.57.

By 2.20 Williamson was 35 miles (nautical) out at 10,000 ft. with a cloud-base at 9,000 ft. He said Henry, who won the previous task, appeared to be having a difficult time on the first leg; in fact, he only came 15th on the day's reckoning, though retaining his overall lead.

Dick Johnson, one of the first back, said the thermals were 3 to 4 m/sec. — better than he had guessed — and "we would be proud to have this day in Texas".

Fastest Times

Popiel (Zefir)	3h. 23m. 3s.
Johnson (Sisu)	3h. 34m. 53s.
Makula (Zefir)	3h. 41m. 42s.
Ulbing (Std. Austria) ...	3h. 43m. 10s.
Spänig (Zugvogel) ...	3h. 49m. 34s.

Huth (Ka-6) was fastest in the Standard Class, with 3h. 50m. 23s. In the Open Class, Williamson was 16th with 4h. 42m., Goodhart 19th with 4h. 54m. 50s. Deane-Drummond was 16th in the Standard Class with 4h. 45m. 34s.

Leading Totals: 5 Days

Open Class

1. Henry (France)	4280.0
2. Makula (Poland)	4211.6
3. Popiel (Poland)	4186.2
4. Spänig (Germany) ...	4157.4
5. Ulbing (Austria)	3953.5
7. Williamson (Gt. Britain)...	3770.5
14. Goodhart (Gt. Britain) ...	3038.6

Standard Class

1. Huth (Germany)	4414.2
2. Wödl (Austria)	4086.8
3. Sejstrup (Denmark) ...	3984.8
4. Horma (Finland)	3686.2
5. Lacheny (France) ...	3613.5
16. D-Drummond (Gt. Britain)	3061.1

Wednesday, February 20th

A great cheer went up when Wednesday's task was announced — Free Distance at last. But people wondered how the tugs were going to find everybody when they had no fixed route to fly along. However, for once the wind was more or less in the same direction at all heights, being southerly, 20 to 30 knots, and blowing quite strongly on the ground. So there was not much spread among the routes taken.

At the request of Haase at briefing, regions unsuitable for landing in were marked on a map: they were either swampy or almost uninhabited, or both.

Landing beside railway lines was recommended.

Release height was 700 m. (2,300 ft.) and launches could begin at 10.30 a.m. But competitors were reluctant to get away, especially in the absence of cumulus clouds, and many came down again — among them John Williamson at 11.40, who said that even the best thermals were only half a metre per second.

One exception was D. G. Reid of Australia, who set off at once from his first thermal at 11.17 and kept going till 6.30 p.m., making 10th best distance in the Standard Class, 523 km., which was exceeded by only five Open Class pilots.

François Henry, on the other hand, seemed in too much of a hurry. He did not wait to climb to the top of his first thermal, but shot off at a speed which Tony Deane-Drummond, who was watching him from above, thought excessive for the poor conditions obtaining at the time. The result was that he soon came down, earned no points, and dropped to 5th place from his leading position in the Championships.

Deane-Drummond, who stayed with the same thermal longer, said that it picked up a lot from its original 2 m/sec. He stayed in the air till 5.50 p.m. and covered 495 km.—15th best distance in the Standard Class. He spent the night in a room behind a bar, and a few dozen cockroaches spent the same night in the same room inside his shoes. He arrived back by aero-tow next evening just in time for a dinner given by our hosts, the Muscariellos, in their town house.



François Henry, who was in top place on three days and finished sixth.

To return to Wednesday's task; by 2.15 p.m. John Williamson, having had his second launch, radioed that he was 70 miles out, in company with Nicholas Goodhart at 3,500 ft., and they were just reaching the first cumulus clouds. After that they were out of range of the Junin airfield but were still in contact with Mobile Base, manned by Frank Irving and David Cretney. The cumulus clouds, however, were not much good at first, but they improved further on, and Mobile Base was left behind. Williamson landed after 375 km. and Goodhart carried on to 500 km. (311 miles), having to land at 6.50 p.m. because bigger and better cumulus clouds still further ahead were aggravatingly out of reach.

Goodhart and Selen of Holland made the first double tows of their lives when a tug brought both back together.

Those pilots who were 10 to 15 min. or more ahead of Goodhart managed to catch the congested cumulus, and one of them, Dave Webb of Canada, in a Skylark 4, got up to 11,000 ft. before landing after the third longest flight of the day — 637 km. (396 miles).

Throughout most of the next day this was thought to be the longest flight, until news at last came of two pilots who had exceeded 700 kms. — Edward Makula of Poland with 716 km., and Dick Johnson of U.S.A. with 712 km. (445 and 442 miles). Johnson had reached 12,000 ft. in the big cumulus, which he took to be an old front—in fact, the met. briefing that morning had stated that a front lay 150 km. to the N.E. and was moving north-eastwards.

Two days after their flight, Makula and Johnson and their dismantled sailplanes were picked up at a nearby airfield by a Bristol Freighter which, the story went, happened to be passing that way. No sooner had the Freighter rolled to a stop on Junin aerodrome than both Makula and Johnson were seized by a riotous crowd, borne shoulder-high to the swimming pool, and pitched into the water.

Ted Pearson of Rhodesia started his



Jerzy Popiel of Poland, who finished second in a Zefir.

Photo A. E. Slater

retrieve with a tug pilot whose sense of direction was not quite up to standard. On reaching a railway line, he turned and flew along it in the wrong direction, so Ted cast off and landed, the tug pilot landed too, and they took off again and followed the railway the opposite way. However, it wasn't long before the tug gradually veered off course again and overshot Junin by 100 km.; so Ted pulled off, soared to Junin against the wind in an hour, and informed the authorities of the whereabouts of the tug, which, he observed, had run out of fuel and landed.

It will be no surprise to those who have read of Dick Schreder's flight into a desert, which won him an American Championship, that on the present occasion he landed in one of the swampy, deserted regions which were "not recommended" at the briefing. He was not heard of for two days, and when at last a tug reached him, it had to tow him off the nearest road—the only dry land available.

Saturday, February 23rd

The final task was a race to Venado Tuerto, 128.3 km. to the N.W., and back: 256.6 km. (159.4 miles) in all. Forecast winds were light northerly to 1,000 ft., light southerly between 2,000 and 5,000, strong S.E. above 6,000.

Take-offs were going smoothly, and several sailplanes were circling in a thermal overhead, when there was a sudden outburst of shouting and everyone was looking up. There, directly above, the Dutch Skylark was to be seen spinning down with one wingtip missing. A few seconds later, a dark object was seen to fall out and a parachute opened out above it, to a general outburst of cheering. Arie Breunissen made a safe landing and the Skylark hit the deck in the tugs' landing strip between the two lines of Open and Standard Class machines waiting to be launched.

Breunissen had been diving towards the starting line when one wingtip suddenly broke downwards: his head hit the canopy violently, breaking it, and part of it hit his face. He said the A.S.I. was showing 200 km/h., but as this was the highest speed it would register, he was probably going a lot faster—certainly faster than the maximum permitted speed. Other evidence confirms this.

As to the competition, Hossinger took 2 hr. 57 min. 10 sec., and Nicholas Goodhart was second fastest with 3 hr. 5 min. 14 sec. Popiel, Johnson, Makula, Spänig,

Ritzi, and Henry followed, then came John Williamson in 9th place with 3 hr. 29 min. 57 sec. Six, including Ulbing, did not finish the course. In the Standard Class Fritz won with 3 hr. 4 min. 14 sec., and the speed of Huth, the second best, was between that of Spänig and Ritzi; Deane-Drummond came 19th in order with 4 hr. 7 min. 7 sec. Twenty-eight finished the course and 10 did not.

So ended the Championships, with the results shown in the accompanying table. Makula has done so well in recent World Championships that his win was well deserved, and Huth's consistent flying has made him the first pilot to hold the same title twice running.

Next day, according to custom, pilots were trying each other's machines, and many of the British ground crews were invited to fly the Australian Arrow, which they reported to be comfortable and to have good handling qualities.

At dusk the usual grand prizegiving ceremony took place, to be followed by a dinner at which many gifts were exchanged between teams and every member of each "delegation" received a bottle of wine from the Cento Vinateros of Mendosa and the Aero Club San Martin.



Some of the Dutch team before leaving home: L. to R.: Arie Breunissen sitting on the machine from which he later had to jump; M. Manting, the team manager, who is also manager of the Terlet Gliding Centre; and J. Selen, who flew a Ka-6 in the Standard Class.

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Final Results

Placings are given for the day's task, followed in brackets by placings on total points in contest up to that date inclusive. Shared placings indicate equal scores.

Open Class

Comp. No.	Pilot	Country	Sailplane	Placing on date in February 11	14	15	16	19	20	23	Total Points
47.	E. Makula	Poland	Zefir	7	1(2)	1(1)	13(3)	3(2)	1(1)	5(1)	6107.1
49.	J. Popiel	Poland	Zefir	12	2(4)	3(4)	17(5)	1(3)	11(2)	3(2)	5638.4
25.	R. Schreder	U.S.A.	HP-11	6	6(5)	7(5)	11(8)	6(6)	4(3)	10(3)	5370.3
23.	R. Johnson	U.S.A.	Sisu	3	23(18)	4(14)	16(15)	2(9)	2(4)	4(4)	5257.7
3.	R. Hossinger	Argentina	Zefir	10	7(8)	10(9)	4(6)	13(8)	16(10)	1(5)	5126.7
29.	F. Henry	France	Breguet 901	2	2(1)	6(3)	1(1)	15(1)	21(5)	8(6)	5093.4
1.	R. Spänig	Germany	Zugvogel 3	14	10(10)	5(6)	3(2)	5(4)	21(8)	6(7)	5014.8
33.	J. Williamson	Gt. Britain	Skylark 4	5	9(6)	12(7)	2(4)	16(7)	15(7)	9(8)	4956.1
15.	D. Webb	Canada	Skylark 4	11	12(10)	14(13)	7(10)	9(11)	3(9)	16(9)	4715.2
5.	J. Ortner	Argentina	Skylark 4	8	14(12)	9(11)	8(9)	12(10)	7(11)	11(10)	4671.7
31.	N. Goodhart	Gt. Britain	Skylark 4	4	11(7)	11(8)	20(11)	19(14)	8(12)	2(11)	4588.9
9.	F. Ulbing	Austria	Std. Austria	1	3(3)	2(2)	20(7)	4(5)	19(6)	20(12)	4456.8
27.	H. Tandefelt	Finland	Vasama	18	5(14)	20(16)	8(17)	7(16)	6(14)	12(13)	4263.0
21.	H. Jensen	Denmark	Lo-150	13	13(13)	8(10)	19(12)	20(15)	9(13)	19(14)	4088.6
55.	R. Ritzi	Switzerland	Skylark 3F	9	18(15)	16(15)	6(13)	10(12)	20(15)	7(15)	4081.0
37.	A. Pronzati	Italy	Eolo	19	15(17)	15(17)	20(19)	11(17)	10(16)	13(16)	3813.5
13.	R. Kuntz	Germany	SB-7	16	4(9)	18(12)	18(14)	8(13)	21(17)	18(17)	3665.8
35.	M. Bar	Israel	Skylark 3	22	19(20)	13(20)	14(20)	14(18)	12(18)	14(18)	3529.0
53.	H. Nietlispach	Switzerland	Sky 34	17	21(19)	17(19)	5(16)	25(19)	14(19)	17(19)	3351.5
7.	R. Rowe	Australia	Skylark 3F	15	17(16)	21(18)	8(18)	22(20)	17(20)	15(20)	3264.5
11.	M. Baeke	Belgium	Skylark 3	21	24(23)	23(23)	12(22)	18(22)	5(21)	21(21)	2566.6
45.	A. Breunissen	Holland	Skylark 3	25	15(21)	19(21)	15(21)	17(21)	18(22)	25(22)	2267.0
51.	J. Saunders	S. Rhodesia	Sky 34	20	22(22)	22(22)	23(23)	23(23)	13(23)	24(23)	1570.4
17.	J. Chanes	Chile	Blanik	23	20(24)	24(24)	—(24)	21(24)	21(24)	22(24)	849.9
19.	A. Williamson	Chile	Blanik	24	25(25)	25(25)	—(25)	24(25)	21(25)	23(25)	133.3

List of Tasks

1. Monday, February 11th: Goal Race to Mercedes: 141 km. (87.6 miles).
2. Thursday, Feb. 14th: Goal-and-Return Race to Pergamino and back: Total 177.5 km. (110.3 miles).
3. Friday, Feb. 15th: 100-kilometre Triangle Race via Los Toldos and Cruce Ruta: Total 109.6 km. (68.1 miles).
4. Saturday, Feb. 16th: 300-kilometre Triangle Race via Pergamino and San Alberto: Total 308.8 km. (192.1 miles).
5. Tuesday, Feb. 19th: 300-kilometre Triangle Race via Carlo Casares and Pazos Kanhi: Total 322.7 km. (200.5 miles).
6. Wednesday, Feb. 20th: Free Distance.
7. Saturday, Feb. 23rd: Goal-and-Return Race to Venado Tuerto and back: Total 256.6 km. (159.4 miles).

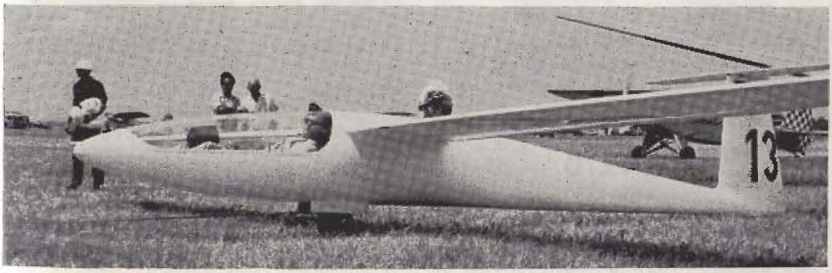


The three British pilots: from L. to R.: John Williamson, Tony Deane-Drummond and Nicholas Goodhart.

Courtesy of "Flight"

Standard Class

Comp. No.	Pilot	Country	Sailplane	Placing on date in February 11	14	15	16	19	20	23	Total Points
2.	H. Huth	Germany	Ka-6	1	3(2)	2(2)	5(1)	1(1)	11(1)	2(1)	6221.0
44.	J. Lacheny	France	Edelweiss	10	8(7)	7(6)	5(5)	15(5)	3(4)	7(2)	5356.5
42.	J. Horma	Finland	Vasama	8	6(6)	4(4)	22(7)	3(4)	9(3)	12(3)	5291.1
54.	L. Brigliadori	Italy	Uribel	7	13(9)	5(7)	11(6)	16(6)	7(5)	11(4)	5199.9
14.	H. Wödl	Austria	Std. Austria	2	2(3)	1(1)	22(4)	6(2)	22(2)	29(5)	4992.4
34.	M. Ara	Spain	Ka-6	19	15(13)	29(20)	3(8)	26(7)	13(7)	18(6)	4795.5
36.	L. Juez	Spain	Ka-6	17	10(11)	16(10)	20(14)	19(13)	1(8)	15(7)	4759.2
12.	J. Fritz	Austria	Std. Austria	6	1(1)	3(3)	19(3)	37(12)	30(16)	1(8)	4742.7
24.	C. Yeates	Canada	Ka-6	22	18(17)	18(17)	6(13)	12(11)	19(11)	6(9)	4721.2
32.	N. Sejstrup	Denmark	Ka-6	3	4(4)	24(5)	1(2)	22(3)	37(9)	13(10)	4697.2
78.	R. Hächler	Switzerland	Ka-6	25	21(20)	25(22)	2(9)	28(10)	5(6)	26(11)	4687.9
68.	J. Pieczewski	Poland	Foka	14	27(21)	13(15)	31(20)	8(10)	3(13)	8(12)	4665.3
22.	G. Münch	Brazil	Ka-6	15	9(10)	30(14)	5(12)	10(8)	21(10)	17(13)	4574.4
40.	M. Witanen	Finland	Vasama	5	31(22)	12(19)	4(15)	7(9)	25(14)	10(14)	4557.2
48.	A. Deane-Drummond	Gt. Britain	Olympia 463	11	11(8)	19(9)	22(17)	21(16)	15(12)	19(15)	4526.9
16.	M. Cartigny	Belgium	Foka	13	32(25)	6(23)	17(19)	2(14)	32(19)	4(16)	4422.3
46.	C. Labar	France	Edelweiss	4	34(23)	9(21)	31(23)	17(24)	8(18)	5(17)	4422.3
6.	R. Berretta	Argentina	Foka	21	17(16)	36(24)	22(28)	5(23)	14(20)	3(18)	4411.3
76.	S. Rodling	Sweden	Ka-6	27	7(14)	15(11)	15(16)	20(15)	20(15)	16(19)	4401.7
8.	D. G. Reid	Australia	Ka-6	32	23(34)	31(30)	12(22)	9(21)	10(17)	25(20)	4208.8
26.	W. J. Mix	Canada	Ka-6	12	20(12)	27(13)	29(18)	24(19)	18(22)	22(21)	4120.1
30.	I. Braes	Denmark	Ka-6	9	5(5)	23(8)	14(10)	31(18)	24(24)	20(22)	4076.2
60.	T. Johannessen	Norway	Ka-6	24	14(18)	21(18)	31(21)	29(27)	29(27)	14(23)	3822.5
52.	W. Vergani	Italy	M-100-S	23	22(19)	10(12)	10(11)	32(25)	12(21)	34(24)	3745.1
20.	G. Pessotti	Brazil	Ka-6	18	33(28)	26(29)	20(31)	14(28)	2(23)	35(25)	3687.4
38.	J. D. Ryan	U.S.A.	Prue Sup. Std.	16	36(31)	8(25)	22(29)	4(22)	28(25)	32(26)	3548.7
18.	H. Stouffs	Belgium	Ka-6	26	30(29)	17(27)	12(22)	11(20)	36(29)	21(27)	3537.8
50.	D. Arber	Israel	Ka-6	34	12(30)	14(26)	22(30)	27(29)	15(28)	27(28)	3413.1
58.	T. Hernes	Norway	Ka-6	29	25(25)	28(28)	15(26)	13(26)	15(26)	36(29)	3384.4
62.	I. Oda	Japan	Ka-6	30	26(27)	34(32)	5(27)	35(32)	16(31)	8(30)	3186.1
64.	E. van Bree	Holland	Sagitta 2	33	24(32)	22(33)	22(33)	25(31)	23(30)	30(31)	3061.4
70.	E. J. Harrold	S. Rhodesia	Ka-6	20	16(15)	20(16)	—(25)	30(30)	38(33)	9(32)	3055.0
74.	L. Frederiksson	Sweden	Foka	36	19(33)	11(31)	30(32)	33(33)	6(32)	37(33)	2855.8
72.	E. Pearson	S. Rhodesia	Ka-6	31	29(34)	33(34)	34(34)	23(34)	31(35)	24(34)	2793.6
66.	J. Selen	Holland	Ka-6	38	28(36)	32(35)	—(36)	18(35)	17(34)	31(35)	2513.3
28.	J. Kunze	Chile	Ka-6	28	36(35)	37(36)	17(35)	34(36)	34(36)	23(36)	2444.4
10.	J. Iggulden	Australia	Arrow	37	35(38)	35(37)	—(37)	37(37)	34(37)	33(37)	954.2
56.	A. Shimamori	Japan	Ka-6	35	38(37)	38(38)	—(38)	36(38)	33(38)	38(38)	724.7



The all-plastic German SB-7, flown by Rolf Kuntz.

Buoyancy Thresholds in Thermal Detachment

by D. Brennig James

THERE are a few features of thermals of special interest which deserve comment.

Firstly, making allowance for centring in a thermal, etc., there is not a great deal of change in the rate of descendance over a fairly long climb until the thermal meets cloud base or an inversion. The rate of ascendance of a thermal would, therefore, appear to be determined by factors affecting it early in its life. If we consider the thermal for the purposes of this argument to be a roughly spherical mass of air (the argument is equally applicable to other shapes; however, the sphere is chosen for simplicity). it is clear that the rate of ascent is determined by the relation between its upward force and its drag. Since the upward force is a function of volume, and drag of surface area, for a given density difference obviously the bigger a thermal is the faster it will climb.

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However, as a thermal climbs it gets larger by mixing with the surrounding air and also gets less buoyant for the same reason. Since the rate of climb seems reasonably constant, it is apparent that these two effects largely cancel out. It also follows that the rate of climb of a thermal is largely a function of density difference × volume; and since the density difference is a result of heating and water evaporation, i.e., power input, the rate of climb is a function of its total energy content; in fact, each thermal will have a sort of quantum of energy at detachment which governs its rate of climb.

Secondly, there seems to be a definite upper limit of about 18 ft./sec. to the rate at which the thermal rises in clear air. However, in cloud, rates of climb very much greater than this may be measured (e.g., 110 ft./sec.).

The sequence in thermal production is as follows. The sun beats on the earth and heats it. The air layer in contact with the earth becomes buoyant by the absorption of heat and water vapour from the earth, and with the passage of time this layer becomes increasingly thick and unstable until it breaks away to produce a thermal.

As there appears in practice to be no lower limit to the strength of a thermal, it would seem that there is no lower threshold which must be exceeded before detachment takes place. However, since there is an upper limit of thermal strength around 18 ft./sec., there seems to be an upper limit to the total energy content which a thermal can carry. In looking for a good thermal source, therefore, what is required is either some large area (1/10—1/3 square mile) which is warmer than the surrounding ground, or some feature of the topography (e.g., a wind shadow) which will tend to allow the boundary layer to accumulate to a good thickness before detachment.

All this reasoning holds true for discontinuous production of thermals; however, since the life of the average cumulus is about 40 minutes, and since it is possible to circle over 1,000 ft.

vertically away from another sailplane apparently in the same thermal, it follows that for a good deal of its life at any rate the thermal is a more or less continuous cylinder of rising air between ground and cloud (a plume).

Clearly what has happened is that the original bubble has entrained more hot air in its wake; and if the earth's hot air production keeps up with the thermal's volume rate of ascent, the system will attain a steady state.

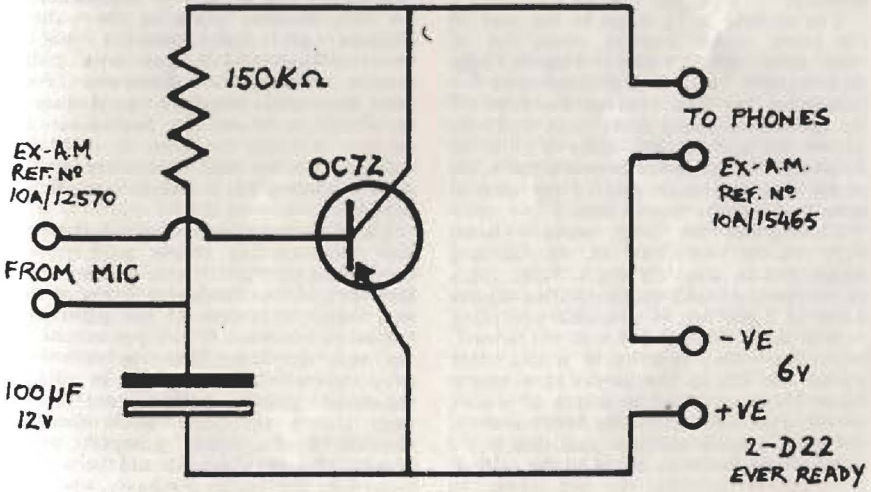
The thermal's ability to climb as such depends upon its ability to retain its entity. If it loses heat by convection, turbulence or radiation faster than it climbs, or if its rate of climb is of the same order of magnitude as random turbulence in the atmosphere, the conduction of heat from ground to inversion will not be discrete but diffuse, rather like heat conduction in a solid. It follows, therefore, that where the interval between ground and inversion is very great (e.g., a high cloud base), the thermals will be few, large and far between, and since their "quanta" are therefore large one would expect them to climb faster. This is in accord with experience, making allowance for lapse rate, sunlight, etc. The higher the cloud base is, the stronger are the thermals; for cloud bases in the European range of altitudes it would appear that there is an upper threshold of a thermal's quantum corresponding to a rate of climb of 18 ft./sec. For tropical or semi-tropical this last figure may be higher.

The paradoxical conclusion is that we cannot have faster-climbing thermals because we can't make them stay longer on the ground!

Simple Inter-com System for use in Tandem Trainer Gliders

by D. F. HALLIDAY

MANY instructors at Gliding Clubs and Gliding Schools must have experienced the limitations of old-type speaking tubes, and consequently resorted to shouting out instructions to pupils — a practice which becomes tiring



after a full day's flying.

The writer, being fully experienced in Glider Training techniques, was approached by an instructor of the Dumfries Club to design an intercom.

The main aim was simplicity, with a secondary aim economy. The accompanying drawing shows the final arrangement of the only three components required — one resistor, one condenser and an OC72 transistor.

Practical construction can take many forms, the components being so small that they can even be incorporated in the cable form. The microphone is ex-A.M. ref. 10A/12570 and the ear-pieces are ex-A.M. ref. 10A/15465, low impedence type. As a refinement an on-off switch may be included, but fitting of the battery into its container would suffice. The current drawn is only 4 or, say, 5 MA, and therefore need only be switched off at the end of flying.

Jack Reid of the Dumfries Club has flight-tested the intercom over a period of six months and reports as follows:

"The intercom is simplicity to handle and operate, and requires no attention. In the air, speech volume is ample and quality very smooth. No trouble is experienced with noise from the slipstream. Pupils respond much more rapidly, and the normal conversational tone is all that is required to talk a pupil round the circuit".

More about Aosta

by DAVID LOWE

THE snippets by Philip Wills in last December's SAILPLANE AND GLIDING whetted our appetites, and we left London on 26th December. What happened during our visit is another story, but we did see a number of letters from England on the C.F.I.'s desk, so clearly other appetites were similarly whetted.

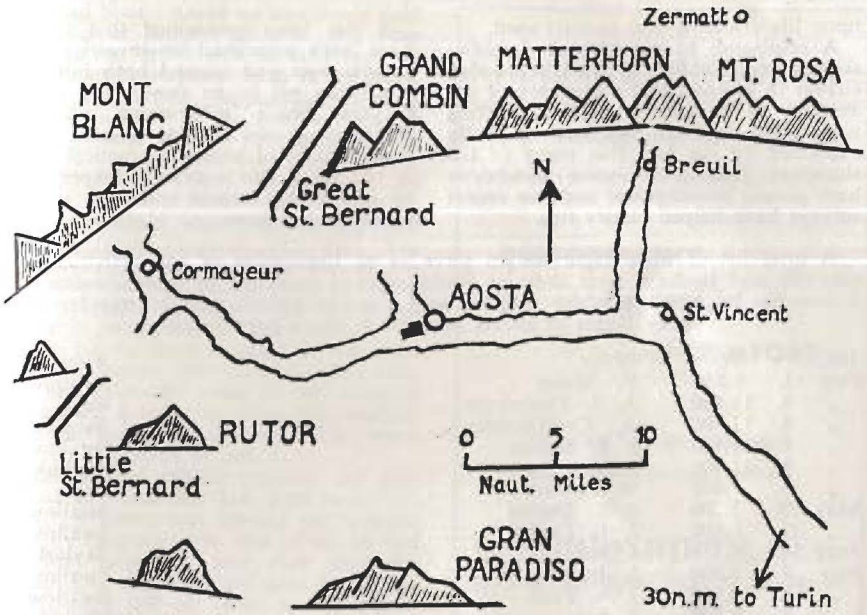
The airfield is 1½ miles to the east of the town, about midway along the 30 mile long Aosta valley. This is deep and narrow, and I was impressed — this being my first visit to the Alps — by mountains rising more than 8,000 ft. above the airfield and only a mile or so away. The distance between the 1,500 metre contours each side of the airfield is in fact exactly three miles.

Throughout the year, wave systems may be set up by the surrounding mountains in wind directions from south to north-east, and slope soaring above 4,000 or 5,000 feet is available according to the wind of the day. In the winter, when the valley is calm, it is necessary to use the lift on the slopes to a height from which to set off in search of waves, to avoid an extraordinarily high aerotow, the only launch method available.

Although thermals occur in the winter, it becomes possible to use them to remain airborne as long as one wishes in March. An inversion often exists 3,000 to 4,000 feet above the airfield, which limits the tops of the thermals generated on or near the valley floor. From an aerotow to higher than this, however, one may soar to cloud base — 12,000 feet or so — in thermals generated on the mountains above the inversion.

From April to August, thermals are very strong, causing an easterly surface wind to blow up the valley at high speed, and this may make things a bit tricky near the ground — the airfield is the only landing place in the valley! Courses get fairly heavily booked between June and August with Italian pundits looking for diamonds. April and May are, therefore, good months in which to visit. In September the weather is much the same as in March, and by October and November staying aloft in thermals is no longer consistently possible.

There are courses throughout the year, and pilots on the course have priority in booking aircraft. There are no course fees, payment is made for flying at normal rates, at present 25 lire per minute for all sailplanes, 150 lire per minute for the tugs. In order that the authorities may permit solo flying in Italian registered gliders, pilots must supply their gliding certificate, a certificate of physical fitness, three passport photographs, one of which should be authenticated by the Italian Embassy, and com-



plete an application form with details of flying experience, etc.

Aosta town may be reached by train from Turin, by road via the Little St. Bernard Pass from France, or via the Great St. Bernard Pass from Switzerland. The valley is also a tourist attraction, having many places of historic interest, and there are several first class ski resorts within 30 miles. In the town, both Italian and French are generally spoken, and at the airfield some people also speak good English. There is also an active flying club.

Sleeping accommodation on the airfield is limited but is very comfortable, being centrally heated in winter, and with all the benefits of modern plumbing for 350 lire per night; a restaurant with bar is open all day and evening, the food is excellent and comes in embarrassingly large quantities. Lunch and dinner are provided at 700 lire each — breakfast for Italians is usually coffee and a roll, the cost of such snacks being about the same as in England, whilst drinks are generally cheaper.

The address is: Centro Permanente di Volo velegeato di Alta Quota, Aeroporto Regionale di Aosta, Northern Italy.

Wave Flights from Portmoak

by W. SHANKS

AN assessment of soaring flights from the Scottish Gliding Union site at Portmoak, has shown that 1962 brought about more than the usual number of wave flights. Naturally this gives rise to the question — Have we been more fortunate, or have we gained in experience, and found that we are able to use the conditions which have always surrounded the site but passed undetected ?

In earlier years wave flights have resulted from contacts being made within easy reach of the airfield. Usually this has been aided by hill lift giving a useful and inexpensive boost to the winch launch height. The method, whilst achieving moderate success, resulted in limited exploration of the area, since the search was centred on two hills, that is, the Bishop Hill and Benarty. An effective range from these hills depended

upon lift available and aircraft used.

A reluctance to use aerotow facilities seemed inexplicable, as did the sudden change in attitude, and acceptance of the aerotow as a surer way of contacting wave. It is felt that this may be partly explained by the fact that many of the situations leading to wave conditions have passed unrecognised and our recent surveys have helped clarify this.

It has been mentioned that surveys have been organised to investigate the airflow over and around both hills, but much has yet to be done. The climax to the year's programme was the Meteorology and Gliding Course, which proved to be of immense practical value. A report of this course as experienced by two of the course members is published in this issue.

A brief list of wave flights might serve as an illustration of our activities. All take-offs and landings were done at Portmoak and launched by winch, except for 3 launches by aero-tow which resulted in 1 Out-and-Return, and 2 away landings. (Only flights in excess of 5,000 ft. have been listed).

1962		*ft.*	*Pilot*	*Aircraft*
Feb.	1.	9,550	V. Wyles	Swallow
„	8.	11,850	A. J. Thornburn	Eagle
„	8.	11,500	A. Cruikshanks	Swallow
„	8.	11,400	J. E. Duthie	Swallow
„	8.	11,400	J. Rae	Skylark 3F
„	8.	7,600	W. Lawson	Eagle
May	20.	5,200	J. E. Duthie	Swallow
„	27.	6,600	J. E. Duthie	Swallow
June	24.	6,350	J. Rae	Skylark 3F
July	1.	8,800	J. Burgess	Swallow
„	1.	8,850	J. R. Ford	Swallow
„	1.	8,500	J. Rae	Skylark 3F
„	1.	12,550	C. C. Ross	Skylark 3F
„	1.	9,350	W. Rozycki	Skylark 2
„	1.	5,100	D. Scott	Swallow
„	1.	9,450	V. Wyles	Swallow
Sept.	17.	10,000	J. Rae	Skylark 3F
„	22.	9,800	C. C. Ross	Skylark 3F
Oct.	7.	8,750	C. C. Ross	Skylark 3F
„	7.	7,150	J. McLauchlin	Swallow
„	28.	8,850	J. Rae	Skylark 3F
„	31.	15,200	C. C. Ross	Skylark 3F

Extracts from Bulletins

by ANN WELCH

DURING the World Championships Ann Welch, our Team Manager, sent regular bulletins to the British Gliding Association, which distributed duplicated copies to Gliding Clubs, relatives of crews, and other interested people. In them each day's flying was described, and there were many comments on the organisation which Ann, no doubt, will wish to incorporate into a later article. The bulletins also included stories of other activities, and of adventures in retrieving, some of which we reproduce here.

ON 3rd February there was an opening ceremony of the Practice Week. It started officially at 6.30 and actually at 7.30. Then at 8 p.m. all the pilots and team managers were stood up in a procession of Citroën cars with the roofs off, and driven through the town (Junin). This was quite fantastic. The population of 65,000 lined the route, waving and cheering with enormous Latin enthusiasm. After 2¼ hours and over 15 miles of this, our feet were exhausted and our faces stiff from smiling, and our hands dropped from waving. The French team

bounced their Citroën up and down until the bumper hit the ground, and once jammed on their brakes so hard that our driver nearly rammed them in the back, while the British representatives were flung in a heap in the middle of doing their "Queen" act. The representatives were Gerry Burgess for Tony Deane-Drummond who was working on his glider, John Willy and Frank Irving for Nick Goodhart who was sleeping (just arrived from England) and self. The whole thing was extremely funny, but the welcome was really genuine. There were several observations like "I can just see this happening in Basingstoke"—*all* traffic having been stopped in the town for three hours. Hooters and radios blaring and fireworks being let off, some of which fell a little too close for comfort. The junketing went on until I a.m., when we fell exhausted to bed.

The second official practice day produced the task 328 km. goal race . . . Nick's retrieve was carried out eventually by aero-tow; but, first of all, he had to find someone, and then pull the glider into the farmyard area as all the fields were full of cattle, and de-rig it, in no known language; then go 3 kilometres on a tractor on a compass course as there were no roads; then, on reaching the property boundary, climb the fence and walk 5 kilometres across country to *the* road, hitch-hike to a village 15 kilometres away (the 15th vehicle stopped), find that the village had no telephone, hitch-hike 35 kilometres in the other direction and telephone. He stayed the night in an excellent hotel in this town and was retrieved next morning.

Ryan, U.S.A., had an interesting moment in the practice period when he was met in his field by two men and a girl with a rifle pointing straight at his tum. Only half an hour later was the girl told to unload!

Retrieving from 300 km. Triangle task, 18th February: Kuntz of Germany was towed off by an aeroplane (in the mud) which promptly went on its back. Then a helicopter tried to tow him out. The pilot of the tug also got in the helicopter, but they forgot to reballast for him, so the helicopter crashed injuring the tug pilot (broken ribs). Then a car was sent from Junin with a trailer, to get Kuntz to harder ground. In the confusion this

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car bore away the main pins of Huth's glider, so a second car went looking for the first. Rowe of Australia was safely towed out by a helicopter, neither pilot having conducted this operation before.

20th February : I am writing this lying in the sun at the local golf club at which we are welcome. Most of the rest of the Team are doing the same thing as there is no flying today, the 2nd contest day. Beautiful summer cumulus of the very best English variety float overhead, and there is a pleasant breeze. The reason for this indolence? Yesterday's first contest day caused so many complaints (and indirectly five damaged gliders) that the organisation decreed that today would be the day of the "reparations" . . . We were all right except for Nick's tow back when the rope fell off the tug about a third of the way from home. Being brought up in the Navy, he unravelled one strand of his field rope, tied the two bits end to end, tied one end to the tug, keeping the rings his end, and set off 30 ft. behind the tug, with a beady eye on the middle.

O.S.T.I.V. PRIZE FOR VASAMA

THE OSTIV Prize for the best Standard Class sailplane, the regulations for which were published in our December 1962 issue on page 442, was awarded for the third time at the World Championships (previous winners were the Ka-6 and Standard Austria). Lorne Welch was the British representative on the jury. The machines entered for the prize were:

Arrow (Australian), Foka 4 (Polish), M-100-S (Italian), Olympia 460 (British), Sagitta (Dutch) and Vasama (Finnish).

The German all-plastic SB-7 was ineligible because of difficulty in taking off with its retractable wheel fixed in the retracted position, which it would have to be to conform to the regulations. All the entries were inspected on the ground and test-flown.

Mr. L. De Lange, President of OSTIV, issued the following statement regarding the award of the prize:

"The jury was of the opinion that, while the Foka possessed many outstanding characteristics and was undoubtedly the aircraft which had reached the highest state of development, it was not fully in accordance with the spirit of the Standard Class recommendations. Consequently it was felt that it could not be awarded the OSTIV Prize although it should receive special mention. The remaining five aircraft all possessed various imperfections. However, in the unanimous opinion of the jury the Vasama was the best of these aircraft."

The Vasama was illustrated and described in SAILPLANE AND GLIDING for December 1962, p. 393.

CONTEST IN FRANCE

THE annual gliding competition "Les 8 Jours d'Angers", organised by the Aero-Club de l'Ouest de la France (21, Boulevard Foch, Angers), will be held from July 4th to 14th, 1963.

GLIDING SITES CORRECTION

In the February issue, p. 37, 3rd column: the airfield used by the Ouse Gliding Club is R.A.F., not Civil.

Obituary

Dr. O. J. C. COTTON



"Doc" Cotton died suddenly of a heart attack at his home on 22nd January. He was 58.

Doc became bitten with the gliding bug when he was taken to the Mynd for a joy-ride by Pat Moore in 1948. He joined the Midland Club forthwith, but most of his early training was with the Hereford Club on the racecourse. After a year's apprenticeship of pushing (good old days?), his children, Ann and John, started to fly at 16 and 14 respectively. When the youngest, Peter, could reach the controls aged 12, he also started to fly.

1950 found the "Cotton Gliding Club" in full swing. Doc became part owner of an Olympia at the Mynd with Charles Wingfield and David Ince. Ann, and later John, also joined this syndicate. The Olympia was replaced by the first production Skylark 2 and the all-yellow Comp. No. 2 was seen at various sites before Doc gave up gliding and the Skylark was sold to New Zealand. Doc and all his children got Silver C's, but only Doc managed Gold C distance.

My memories are mainly of Doc Cotton as a father-in-law. He was always kind, encouraging and extremely generous. I found that patients in his practice at Kingstone, Herefordshire, all thought the same way about him too. He was a single-minded enthusiast; after gliding he took up boats with equal energy. His improvisations were many. Last year he built a formidable device to lift a dinghy from surf and carry it up a sandy beach, single-handed, and without putting anything underneath. It was a masterpiece of water pipes, bungey and jubilee clips such as users of "The Doc Winch" and his other pieces of gliding equipment will remember with awe.

ROY G. PROCTER.

GLIDING CERTIFICATES

GOLD C HEIGHT LEG

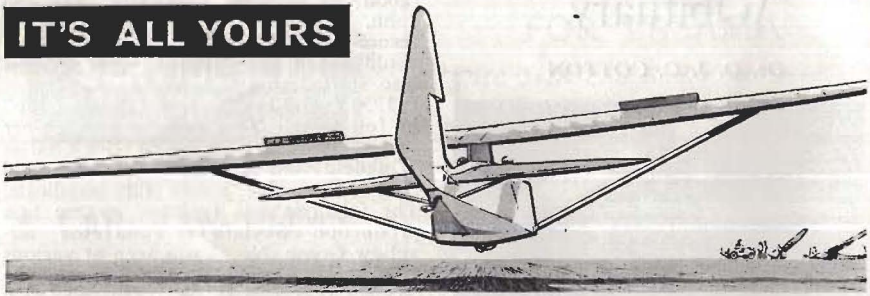
No.	*Name*	*Club*	*Date*
	R. A. Hellewell	Yorkshire Gliding Club	12. 8.62

SILVER C CERTIFICATES

1247	T. J. Thomas	Portsmouth Gliding Club	1. 6.62
1248	T. A. Moffat	661 Gliding School	1.10.62

C CERTIFICATES

Name	*Gliding Club or School*	*Name*	*Gliding Club or School*	*Name*	*Gliding Club or School*
G. Leat	Devon & Somerset	C. M. Woodman	Cambridge	L. A. Leonard	614 G.S.
N. D. Thatcher	Surrey	E. A. Perry	Windrushers	D. Sandford	Midland
C. J. Unitt	621 G.S.	A. C. Eade	Moonrakers	P. N. S. Fynes	Derbyshire & Lancashire
P. J. G. Mold	London	V. M. Dillon	Derbyshire & Lancashire	D. W. Lilburn	Newcastle
J. A. Williams	Portsmouth			E. N. Palmer	E.T.P.S.



I am sometimes asked how many instructors we have in Britain, how much instructing they do, what are their qualifications and several other questions.

It should be remembered that nearly all the instructors are voluntary (less than 10 are professionals), and that the B.G.A. regulations require that only C.F.I.'s, Professionals and Course Instructors need have Categories. All other instructors operate under the authority of their own C.F.I.

No attempt is made to draw conclusions from the figures. Those so inclined can have fun doing this themselves.

Number of civilian clubs in Britain	43
Total flying membership	4,576
Total number of club-owned or club-operated two-seaters	59
Total number of club-owned or club-operated single-seaters	140
Total number of privately-owned gliders	126
Number of categorised instructors on register	200
Number of instructors without categories	282
Instructors with Silver C or better	128
Instructors who are tug pilots	52
Number of accidents while giving dual instruction	17
Number of accidents flying solo	9

ANN WELCH.

* * *

National Coach Tour 1963

HAVING picked the worst winter in history to begin the project, initial progress has, naturally, been somewhat retarded. However, one or more visits have so far been made to the Southdown, Coventry, Kent, Handley Page, South Wales, Stoke-on-Trent, Halifax, Yorkshire and Ouse clubs. Very little flying has been possible, of course, and in some cases the mere completion of a journey seemed, at the time, to be an achievement.

All the talking that has taken place has been very useful in planning the operations for 1963, and the programme as confirmed at present is given below. The object of the programme is to be as useful as possible, but principally with regard to instructor training and categorisation.

Gliding operations are not the easiest in the world to plan for, and it has proved impossible to meet the requirements of every club to the letter. Consequently a certain amount of compromise and a lot of re-shuffling have been necessary in order to get the best out of one Coach and one Capstan.

We are now fairly well equipped. For the Capstan we thank W. D. & H. O. Wills, and for all the much needed auxiliary gear, our thanks go to the many prominent B.G.A. members. On a recent visit to Kirbymoorside everyone at Slingsby's was very helpful indeed. Frances Leighton seems to be completely undaunted by the extra work which has fallen on the B.G.A. secretariat. Ann Welch's efforts have been remarkable, and response from the clubs has been extremely enthusiastic. The Coach,

looking forward to a busy summer, is earnestly hoping that he will be able to justify the efforts of so many people.

By the time this is in print the tour will have started, with the first full-length course at West Wales. The Met. men will be busy organising fine weather for Swindon on 30th March, and a lot of incense will have been burned to the success of 1963.

Programme of Coach and Capstan, 1963

Period	*Club*
30th Mar.-5th Apr.	Swindon
7th-14th Apr.	Southdown
20th-27th Apr.	Air Scouts, Lasham
29th Apr.-5th May	Southdown
11th-19th May	B.E.A., Booker
25th May-3rd June	National Championships
4th-13th June	Norfolk
15th-23rd June	Midland
29th June-7th July	Northants
13th-21st July	Doncaster
27th July-6th Aug.	Northern Competitions
10th-16th Aug.	Scottish Gliding Union
17th-18th Aug.	Dumfries and District
*24th-30th Aug.	Halifax
31st Aug.-8th Sept.	Doncaster
*14th-22nd Sept.	Lakes
28th Sept.-6th Oct.	Dorset
12th-27th Oct.	West Wales

*Provisional bookings.

JOHN EVERITT.

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FRED FUMBLE



EXTRACT FROM "LAWS AND RULES"

"F.13.—The launching cable must not be attached to the glider until the pilot is ready to be launched, and the launching signals must not commence unless the projected take-off path is clear."

Analysis of Accidents 1962

Key to abbreviations IB Instructor to blame
IF Instructor at fault
IE Instructor's error
IR Instructor's responsibility
PF Pilot's fault

Type of Accident	*Assessment*	*Cost in £*	*B.G.A. Accident Number*
Blow overs	IB(1), IF(5), PF(6)	3,000	4 18 20 24 49 50 78 91 92 102 110 113
Gale tore trailer adrift	Act of God	150	16
Clumsy crew fell through tail Tow rope attached in ignorance New member attached cable to glider, cable being towed back for repair		2,100	95 40 109
Instructors in two-seaters	IB(1), IF(9), IE(7)	985	3 12 13 17 23 43 44 46 61 67 68 79 80 85 96 99 115
Instructor flying solo, or in charge on ground	IF(7), IE(1), IR (1)	110	7 8 11 14 57 75 103 108 114
Canopies blown off		2,375	9 10 72 73 74 82
Unable to cope with faulty launch ..		150	83 84 90
Bad landings		350	35 52 53 55 107 111
Faulty approach		255	2 21 45 59 64 81 87 88 94 104 105
Cross-country landings		1,085	26 31 32 38 56 62 63 76 112
26 Minor Accidents: normal incidents		200	
Details of assorted accidents:		675	
Pencil jammed controls			6
Winch cable dropped on aero-tow tug			30
Car towing glider across approach ..			23
Pilot taking risks to contact " wave "			36
Aero-tow rope broke over boundary			42
Spare cable fouled tail skid			57
Take off in high wind: turned over			60
Near miss with powered aircraft ..			65
Detachable wheels faulty			100
Pupil side-slipping without instruction			101
		11,360	

Hours and Launches per annum

	Hours	*Launches*		*Hours*	*Launches*
1957	17,996	94,939	1960	19,136	122,557
1958	17,798	99,448	1961	24,564	139,826
1959	22,937	121,196	1962	30,846	163,313

Hours flown from club sites in 1962 30,846
B.G.A. Categorised Instructors current during 1962 200
Flying membership, 1962, from actual returns were received, and 1961 where no returns 4,576

Club Statistics for 1962

Gliding Club	Aircraft Club owned 2S	Sec	HP	CO	PO	UC	Launches On Club site	Launches By Club gliders	Hours On Club site	Hours By Club gliders
ABERDEEN	2	1	1	—	3	—	3,527	3,224	258	197
AVRO	1	1	1	—	—	—	365	381	25	27
B.E.A. SILVER WING	2	—	2	—	2	—	2,777	2,657	448	348
BLACKPOOL & FYLDE	1	1	1	—	—	—	472	472	74	78
BRISTOL	2	1	3	1	8	1	7,281	6,566	1,655	1,039
CAMBRIDGE UNIVERSITY	1	—	2	3	2	—	3,752	4,630	914	1,617
COLLEGE OF AERONAUTICS	1	1	—	2	1	—	1,905	1,900	193	217
CORNISH	2	3	1	—	4	1	7,126	6,903	946	702
COVENTRY	2	1	2	—	7	—	6,430	6,032	981	813
DERBYSHIRE & LANCASHIRE	3	4	2	6	7	1	6,833	5,672	1,643	758
DEVON & SOMERSET	2	2	2	—	4	—	8,061	7,222	1,919	1,162
DONCASTER & DISTRICT	1	2	1	—	6	1	6,029	5,297	550	444
DORSET	2	1	1	1	2	—	1,779	1,712	132	108
DUMFRIES & DISTRICT	—	1	—	1	2	—	1,635	1,450	98	75
EAST MIDLANDS (LEICESTER)	1	—	1	—	2	—	4,871	4,194	368	251
ESSEX	1	1	1	—	—	—	4,851	4,851	380	380
GLASGOW & WEST SCOTLAND	1	1	—	—	—	—	54	54	7	7
HALIFAX	1	1	—	—	2	—	400	380	22	19
HANDLEY PAGE	1	1	1	—	—	—	1,074	1,099	101	137
KENT & ROYAL ENGINEERS	2	1	2	—	2	2	4,500	—	—	—
LASHAM CENTRE							25,975	23,955	6,020	4,774
ARMY	1	1	3	—	—	—				
AIR SCOUTS	1	—	—	—	—	—				
CROWN AGENTS	—	—	1	—	—	—				
IMPERIAL COLLEGE	1	—	1	—	1	—				
LASHAM SOCIETY	1	—	1	—	20	2				
LEIGHTON PARK SCHOOL	1	—	—	—	—	—				
SURREY	—	—	6	—	—	—				
POLISH AIR FORCE ASSOC.	—	—	2	—	—	—				
UNIVERSITY COLLEGE G.C.										
LAKES	1	2	1	—	1	—	1,175	1,107	151	142
LONDON	3	3	4	—	23	—	12,283	11,356	3,703	2,931
MIDLAND	3	1	6	—	5	1	8,806	7,561	3,138	1,887
NEWCASTLE	1	1	1	—	4	—	2,416	2,077	528	314
NORFOLK	1	1	1	3	4	—	4,236	2,972	495	340
NORFOLK & NORWICH	1	—	—	3	—	1	742	349	400	133
NORTHAMPTONSHIRE	1	2	2	—	—	—	2,259	2,240	269	261
OUSE GLIDING CLUB	1	1	—	—	—	—	2,820	2,820	235	235
OXFORD	1	—	3	—	4	1	3,038	2,585	699	471
PERKINS SPORTS ASSOCIATION	1	1	1	—	—	—	2,167	2,167	241	241
ROYAL AIRCRAFT ESTABLISHMENT	1	—	1	1	3	—	1,612	1,612	226	226
SCOTTISH GLIDING UNION	2	2	3	—	2	2	4,807	4,454	1,181	804
*SHORTS	1	1	1	—	—	—	64	64	18	18
*SOUTHDOWN	1	1	2	1	—	—	2,915	3,306	321	437
*SOUTH WALES	1	2	—	—	—	—	558	558	47	47
*SWANSEA	1	1	—	—	—	—	1,740	1,740	124	124
SWINDON	1	—	2	—	—	—	3,025	3,012	360	353
WEST WALES	1	—	3	—	—	—	4,033	4,040	446	460
YORKSHIRE	2	2	2	1	5	—	4,920	4,513	1,530	1,231
TOTAL CIVILIAN	59	46	71	23	126	13	163,313	147,087	30,846	23,798
ROYAL AIR FORCE										
BANNERDOWN	2	2	2	1	—	—	3,415	3,417	359	433
*CHILTERNS	2	3	1	—	—	1	3,560	3,560	442	459
CLEVELANDS	3	2	1	—	—	—	2,946	2,943	309	309
*EAST ANGLIAN	2	2	2	—	—	—	6,159	6,159	898	898

Club Statistics for 1962 (continued)

Flying days		Cross-country miles		Courses		Certificates					Membership		
Total	soaring	From site	By club gliders	No.	Pupils	A	B	C	(Legs in brackets) Silver	Gold	Flying	Non-flying	Potential
122	75	120	—	9	72	13	13	6	— (6)	—	57	—	100
24	—	—	—	—	—	2	2	—	—	—	70	4	150
93	45	610	50	—	—	8	8	5	1 (3)	—	85	—	100
36	11	—	30	—	—	5	5	3	1(—)	—	36	180	55
214	99	2,199	1,200	23	190	5	5	5	6(23)	1 (4)	237	53	350
200	138	3,320	5,920	5	50	14	14	19	8(32)	1 (6)	346	10	360
72	21	400	400	—	—	6	6	5	1 (3)	—	52	—	50
248	102	2,404	80	24	192	12	12	9	— (9)	1(—)	93	26	200
122	61	1,243	855	—	—	19	19	15	5(23)	1 (1)	153	21	180
150	90	7,282	293	9	75	20	20	23	3(13)	—	215	105	380
211	163	6,157	425	21	164	25	25	22	4(14)	—(2)	118	—	200
165	85	544	26	6	44	12	12	15	1 (5)	—	140	63	175
68	29	—	—	—	—	—	—	—	—	—	79	14	150
77	10	—	—	—	—	8	8	2	1 (1)	—	51	50	135
84	35	—	—	—	—	—	—	—	—	—	80	12	100
105	61	—	—	—	—	33	33	13	—	—	120	40	200
7	5	—	—	—	—	—	—	—	—	—	39	—	60
12	—	—	—	—	—	4	4	4	—	—	35	25	100
80	32	236	439	—	—	3	3	1	2 (2)	—	36	—	50
109	80	—	—	—	—	—	—	—	6(20)	—	90	10	150
320	173	13,700	13,675	26	120	67	67	55	13(60)	—(5)	655	150	1,000
80	38	20	50	4	36	3	3	1	— (3)	—	49	12	100
262	225	8,950	5,664	22	143	33	33	18	6 (8)	— (2)	425	83	500
211	152	4,144	978	19	283	30	30	25	5(37)	— (2)	192	80	300
97	58	76	—	—	—	12	12	9	1 (9)	—	75	—	100
116	40	474	—	—	—	21	21	10	—(11)	—	64	8	100
61	35	35,550	385	—	—	3	3	8	1 (2)	—	27	20	50
93	40	260	230	—	—	6	6	5	1 (3)	—	67	9	200
84	10	—	—	—	—	24	24	3	—	—	75	—	200
92	51	728	343	—	—	7	7	3	5(16)	1 (2)	85	2	85
84	n.r.	100	100	—	—	5	5	3	4(11)	—	30	—	30
78	50	—	—	—	—	—	—	1	—(1)	—(1)	45	—	100
188	125	858	483	9	72	15	15	11	2(34)	—(4)	140	40	150
13	6	—	—	—	—	—	—	—	—	—	10	—	25
93	23	—	652	3	30	5	5	6	3 (8)	—	130	20	200
33	16	—	—	—	—	—	—	1	—	—	50	9	130
84	12	—	—	1	20	19	18	—	—	—	50	—	100
131	35	65	65	—	—	16	16	10	—(7)	—	74	10	100
122	30	220	140	—	—	25	25	16	—(6)	—	115	2	150
200	120	821	602	13	98	16	16	8	5(10)	—(1)	150	50	400
4,631	2,381	90,461	33,085	194	1,589	496	495	340	85(380)	5(30)	4,576	1,100	7,165
81	53	904	892	—	—	8	8	1	2 (6)	—	131	—	150
122	38	79	767	c.t.	—	21	21	11	1 (5)	—	115	11	130
98	26	278	278	—	—	17	17	4	— (1)	—	58	—	150
165	98	1,095	1,095	c.t.	—	23	22	19	1(11)	1 (3)	75	1	100

Club Statistics for 1962 (continued)

Gliding Club	Aircraft Club owned 2S	Sec	HP	CO	PO	UC	Launches On Club site	By Club gliders	Hours On Club site	By Club gliders
East Midland	2	3	1	1	—	1	4,428	4,308	473	460
*East Yorkshire	2	2	1	—	—	—	2,359	2,359	286	286
Fenland	1	3	—	—	—	2	2,841	2,841	438	438
**Four Counties	1	2	1	—	—	—	2,262	2,275	239	244
Halton	n.a.									
Moonrakers	3	2	3	—	—	1	5,944	5,794	879	970
Red Hand	2	1	1	1	—	—	2,939	2,806	295	282
Suffolk	2	2	1	—	—	—	1,410	1,410	147	147
Wessex	1	3	2	—	—	—	4,006	4,052	468	570
White Rose	2	1	1	—	—	—	1,431	1,431	143	143
Windrushers	4	1	5	1	—	1	11,587	11,587	2,007	2,007
Royal Naval G.S.A.										
Condor	2	1	1	—	—	—	1,269	1,284	161	186
Fulmar	—	1	—	3	—	—	1,750	1,750	235	235
Heron	—	1	—	—	2	—	629	629	72	72
Portsmouth	1	1	1	1	3	—	3,700	3,493	357	309
Service Total	32	33	24	8	5	5	62,635	62,098	8,608	12,172
Service and Civilian Total	91	79	95	31	131	18	225,948	209,185	39,454	35,940
Air Training Corps							135,725	135,725		

Notes: *Only available figures are for 1961. **Only available figures are for 1960. These figures shown for purposes of analysis total and comparison with 1961 total.

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Club Statistics for 1962 (continued)

Flying days		Cross-country miles		Courses		Certificates (Legs in brackets)					Membership		
Total	soaring	From site	By club gliders	No.	Pupils	A	B	C	Silver	Gold	Flying	Non-flying	Potential
101	68	533	533	—	—	53	53	31	4(13)	— (2)	67	—	67
88	30	18	18	c.t.	—	4	4	3	— (5)	—	42	—	250
125	55	1,720	2,650	—	—	6	6	9	3 (8)	—	112	—	150
79	—	205	205	—	—	6	6	11	4 (8)	— (1)	70	—	120
129	54	1,380	3,516	—	—	25	25	10	8(23)	1 (1)	80	—	100
84	35	8	193	—	—	14	14	8	—(3)	—	40	—	50
60	20	—	—	—	—	5	5	4	—(3)	—	30	—	70
104	35	192	1,494	c.t.	70	14	14	6	1 (8)	— (1)	68	—	70
55	19	40	40	c.t.	—	9	9	3	2 (3)	—	Club has now ceased to operate		
205	—	2,907	2,907	8	96	55	55	20	6(28)	1 (1)	109	—	120
68	38	248	585	—	—	4	4	4	—(3)	—	26	4	30
€0	8	—	—	—	—	7	7	6	—	—	40	—	60
43	10	9	300	—	—	—	—	—	—	—	10	—	30
100	27	400	300	—	—	11	11	7	1 (2)	—	63	—	70
1,767	614	10,016	15,773	8	166	282	281	157	33(130)	4(12)	1,136	18	1,517
6,398	2,995	100,477	48,858	202	1,755	778	776	497	118(510)	9(42)	5,712	1,118	8,682
						2,240	2,240	77					

Key to aircraft categories: 2S = two-seater; Sec. = secondary; HP = high performance; CO = club operated; PO = privately owned; UC = under construction; N/A = not available; C.T. = continuous training.

WORLD CHAMPIONSHIPS APPEAL

WE are indeed grateful to the following donors who have given contributions to the World Championships Fund since the last issue went to press; the contributions to the Fund now total £422 13s. 3d.

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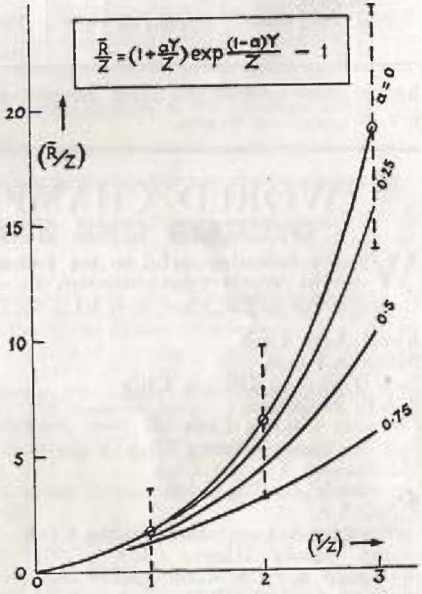
Dear Sir,

I was greatly interested (i.e., infuriated) by Anthony Edwards' stochastic cross-country as I had just worked it out myself. Here is a little more.

One should sum over all values of n, and then the computation of probabilities becomes tedious. However, the expectation distance (the average distance flown) and its standard deviation ("scatter") can be found for the case when pilots fly as far as they can. These are shown on the graph by the uppermost curve and the vertical dashed lines. Also shown is the effect of ignoring thermals when high; specifically, in the upper quarter, half or three-quarters of the operational height-band (curves marked 0.25, 0.5, 0.75). $\bar{R}$ is the expectation distance, Z is the average distance between thermals en route and Y is the distance that will be covered in a straight glide from the operational ceiling to the ground.

As an example, let us look at the case with an operational height-band of 0.6 miles and thermals popping up every 10 miles on average. Glider A (1 in 33) has Y = 20 miles and from the graph we see that the expectation distance is $\bar{R}$ = 10 × 6.4 or 64 miles. Glider B (1 in 26) has Y = 15.6 miles and $\bar{R}$ = 38 miles. In these conditions a 27% improvement in glide angle yields a 68% increase in distance.

Southdown Gliding Club. JOHN LLOYD.



Dear Sir,

Cross-country stochastic
By Edwards, scholastic,
The off'ring erudite
Contracted this tyro
(with paper and biro)
Insomnolence at night.

This piece esoteric
With figures mesmeric —
$s = Av^3 + \frac{B}{v}$, is
omit in S.P., viz.,
Or can it be I've boobed?

I do think that Edwards
afore circling bedwards
Should lucubrate on me,
Myopic'lly, yawning,
yes, seeking 'till morning
The "where" of A and B!

PHILIP HUTCHINGS.

Bannerdown Gliding Club.

THE COMRADESHIP OF GLIDER PILOTS (1)

Dear Sir,

I was most interested to read Chris Wills' letter in the February issue of SAILPLANE AND GLIDING.

Whenever I have visited gliding clubs on the Continent I have been made most welcome, sometimes embarrassingly so!

Derek Piggott no doubt still remembers the time in 1959, when we landed at Beynes, near Paris, in the Daily Mail Race, with our S.G. 38 on tow.

The club at Beynes had two French pilots in Bordeaux that day, with 300-km. goals, but they had kept their trailer at Beynes, in order to take the S.G. 38 to the Arc de Triomphe.

On several occasions Lasham pilots have visited the Dutch National Centre at Terlet, and have flown and lived there, due to the kindness of Mr. Manting.

Recently at Issoire, a French Wave Centre, Mr. Herboud, Chef du Centre, went out of his way to arrange reconnaissance flights in the Jodel with a Dutch instructor and a German pilot to ensure that we should receive the greatest possible benefit from the pre-wave flight briefing; concluded in English.

I would like to take issue with Chris Wills regarding the "differing circumstances" on the Continent. A great many of the clubs are no longer State subsidised as they were in the old days, and have to foot the repair bill.

To refute Mr. Carrow's suggestion, in the previous issue, of "interminable paper work, etc." at Issoire a current P.P.L. and B.G.A. certificate and evidence of flying practice sufficed.

In the case of one friend who had no P.P.L. a B.G.A. instructor's medical certificate was enough.

In each and every case the visiting pilot was made to feel welcome, and given a chance to prove his competence in a dual machine.

Odiham, Hants. H. C. MACKINNON.

THE COMRADESHIP OF GLIDER PILOTS — (2)

Dear Sir,

Christopher Wills' letter is to some extent answered by the preceding letter from David Carrow and also by the Surrey Club News from Tony Barker. I would like, however, to comment on his suggestion that experienced visiting pilots to Lasham should be offered a flight in a Skylark 3.

There are, of course, a number of 3's at Lasham, and also a few 4's. Most of them are privately owned and therefore not likely to be available for visitors to fly. The Army Club owns two 3's, but to fly these one must, of course, be a member of the services. The Imperial College Club has one Skylark 4, but naturally it is necessary to be a member of the College to use the machine. Of the other clubs at Lasham, only Surrey has Skylarks. The finger clearly points, therefore, at the one Surrey Skylark 3.

Some years ago I too was at a small Gliding Club in Germany. They were few in number and their costs were low, and had Chris visited them, I am sure that a quick "Annual General Meeting" at the launch point (they were that few in number) would have agreed to invite him to fly. I doubt if payment would have been accepted from him, and probably the only person to have asked his name would have been the log-keeper.

In the Surrey Club, however, there are 368 members, all of us ambitious (although not yet all allowed) to fly this single Skylark 3, and costs are relatively high. The situation is, therefore, very different.

As Chris mentions, the Surrey Club has recently abolished daily membership and the shortest term of membership is now weekly. This does not increase the cost of gliding to one-day visitors who are well catered for by Lasham Gliding Society, who still offer daily membership, and whose instructors will inspect the visitors' log books, check them out dual, and if acceptable, allow them to fly the Society Swallow. Before the Club can clear visitors to fly Skylarks they feel they need to know more of the visitors' flying ability than can be found out in one day, and therefore it will be of no advantage to one-day visitors to take out weekly membership. A further point that should be mentioned is that the Club will not normally clear visitors for Skylarks who have not already had Skylark experience, or experience of a comparable type.

This I feel is the best compromise that can be made between the interests of

a large membership and the hospitality the Club would like to extend to visitors.

Chris's foreign visitors may, therefore, be able to fly the Surrey Skylark 3, but not on a one-day visit, and, in the circumstances, I cannot think that they will consider this attitude on the part of the Club unreasonable.

Leatherhead, Surrey. TED HATCH.

Dear Sir,

The award list for cups and trophies for 1962 is flattering to the Olympia EON gliders. This mark figures in five out of six flying awards made. This is, however, somewhat concealed to the uninitiated by reason of the fact that the mention of the glider type used in winning these awards is omitted, except where a Skylark preponderates. Is this accident or design?

It was reported in the *Daily Telegraph* dated 16th February, 1963, that the British pair at Junin were lacking in penetration on the second contest day, 220 miles out and return.

It is admitted that the writer may be biased in favour of the Olympia EON Series 419.

Speenhamland, Newbury. J. E. CRAMP.

The B.G.A. Secretary writes: Mr. Cramp, as Chief Inspector of Elliotts of Newbury, is naturally interested in the correct reporting of Elliotts' aircraft. When the list of claims for the Annual Awards was prepared for the Flying Committee no information was added to that given by the claimants. In the case of Mr. Warminger's two flights, which gained him three awards, he did not mention his aircraft. From this list was prepared the Awards list agreed by the Flying Committee.

Certainly no one stood behind me and ran a blue pencil through any item!

BOOK REVIEW

Extremes of Wind Shear, by A. F. CROSSLEY, M.A. Meteorological Office Scientific Paper No. 17. Published by H.M. Stationery Office, London. Price 3s.

WIND shears described by the author are well-authenticated and accurately-measured examples from the literature that has come his way. They do not include the notable one during the 1952 World Gliding Championships at Madrid, when several pilots, approaching to land, were caught out by a complete reversal of wind direction at only 150 ft., due to a shallow katabatic wind flowing out of a thunderstorm over the hills to the north.

Nearly all the author's examples are of shears in the neighbourhood of jet streams, and the paper will interest sailplane pilots who hope to break the distance record by using a wave, such as the Bishop wave, to climb into a jet stream. Vertical shears above and below the jet core are much more violent than horizontal shears to either side of it. The most exceptional case over England was with a 178-knot jet stream at 25,500 ft., when the strongest shear was between 15,000 ft., 57 knots, and 17,500 ft., 127 knots, giving a rate of shear of 30 knots per 1,000 ft. Even this would be nothing like enough for dynamic soaring, for when the albatross rises into a 30-knot wind blowing at 40 ft. without loss of air speed, the average rate of wind shear he needs works out at 750 knots per 1,000 ft. A.E.S.

Ein Segelflieger: Robert Kronfeld, by THEODOR HANNEN. Published by Luftfahrt Verlag Walter Zuerl, Munich. Price DM 7.80.

THIS biography, apart from a few additional chapters, was first written in 1932; but it was published just as Hitler came to power, and had to be withdrawn because Kronfeld was Jewish. Not everyone will like its florid style; for instance, Robert Kronfeld was born on May 5th, 1904, during a storm in Vienna, so we have first to be treated to a detailed description of the storm, which may or may not be authentic, before Kronfeld at last arrives. His various activities are similarly treated, except that we are allowed to read about his first thunderstorm flight in his own words.

Kronfeld's first interests, on growing up, were ski-ing and sailing. Then, in 1927, he was one of three young men chosen by the Austrian Aero Club to be sent on a course at the Rossitten Gliding School on the Baltic coast, apparently because they had heard him lecture on his canoe trips around Europe. It was an odd way to get into gliding. Once at Rossitten, he stayed on into the winter in order to get his C certificate, doing odd jobs at the school to keep himself while waiting for the right wind. Eventually it came, and he soared for 1 hour 17 minutes in an open glider in a temperature of minus 7°C (19°F).

Kronfeld's first 100-km. flight and first use of up-currents below clouds in 1928 are not mentioned in this part of the book, though his outstanding feats from 1929 onwards are. But his double downward glide across the English Channel for a *Daily Mail* prize in 1931 is ridiculously described as "his best performance" (*seine beste Leistung*), as if it was as epoch-making as his pioneer soaring flights.

The additional chapters include a description of his glider mail flight in Austria in 1933, and a good summary of his whole flying career. There are 16 pages of excellent photographs.

A.E.S.

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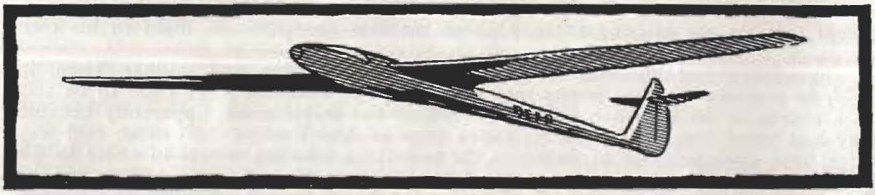
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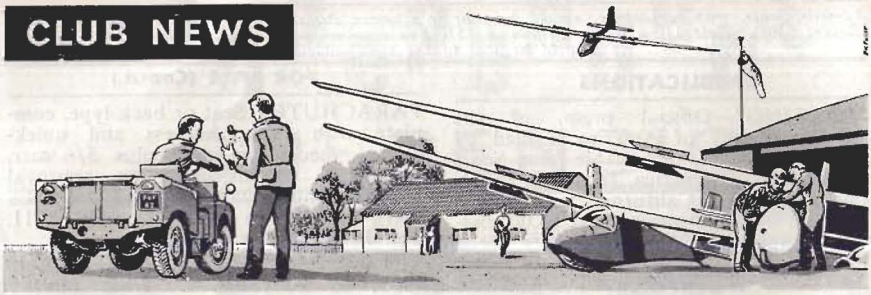
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CLUB NEWS



I do not think I can do better than quote Arthur Speechley's "Ode to a snowed-up aerodrome" which sums up most of the U.K. clubs' activities for the last couple of months.

On the icy plains of Oxford, north of Weston on the Green
There were penguins struggling boldly to and fro.
Where there should be tracks of tow-car and a piebald Skylark 3
There were signs of fox and partridge in the snow.

The club room was an igloo and the hangar was a 'fridge
And noses were worn red and fingers, blue,
But it's not the time or season to lie snugly home, abed,
There are lots of things that someone has to do.

So they battled through the snow-drifts to the workshop with the parts
Of aircraft due for annual C. of A.
Whilst the ring of saw and hammer echoed loudly through the air
As trailer building went on day by day.

For that little band of penguins it was really rather fun
Since they knew the spring was sure to bring a thaw,
And when the thermals blossom in the early morning sun
Those penguins will have earned the right to soar.

Apologies to the Oxford club for not including the above under their own heading.

The June issue is coming out early because of the National Championships, therefore the last date for copy to reach me at 14 Little Brownings, London, S.E.23, is Wednesday, 3rd April.

YVONNE BONHAM,
Club News Editor.

ABERDEEN

SINCE our last report annual and 10 year maintenance on the club and syndicate aircraft has progressed well. The vagaries of the weather of late have provided the ideal opportunity for this type of work and not one week-end has been wasted.

The long-awaited Kranich and syndicate G.B. have arrived and both should be airborne by the time this appears in print. Very few launches have been made this year so far and progress on our new site has also come to a sudden stop due to snow and ice-bound conditions, but a big effort will be made as soon as a thaw permits. Gliding types who are likely to look us up this year should note that as from 1st April, our seat of operation will be at Litterty, near Turriff, and not at Aberdeen Airport.

Courses will once again be in operation this year, and Country Hotel accommodation has been arranged. Our new

Course Secretary is Keith Kirk, and we thank him for having so willingly accepted this task. F. C. M.

BRISTOL

AT the time of writing there has been no flying this year at all, and with a foot of snow on the field and several feet along the hedges there is no prospect of flying for some time. The most serious effect of this Cotswold freeze-up is the loss of income. A little work has been done in the workshop but the sub-zero temperature is not conducive to much effort.

However, on the less serious side, several members achieved their ambition of being snowed-up in the clubhouse, at the New Year, and were finally released by a large snowplough after four days.

C.F.I. Alwyn Sutcliffe was married to Miss Jean Williams on January 19, and yet another club pair have announced their engagement — Rosemary Storey and Ron Sandford. Congratulations to them.

We are now retiring into our igloo to hatch plans for the comps. until the next issue. A. L. S.

CAMBRIDGE

THE arctic spell, which has already been reviewed in the national Press, plunged us straight from our most active year into the deepest coma of hibernation the club has so far experienced. For full measure, the frost lifted the concrete floor under the hangar doors and jammed them solid, so that nobody got any exotic ideas about playing with the gliders on the snowdrifts.

However, there is no lack of ambitious plans for this summer. There will be two camps at the Long Mynd, one in June and another one in September, and at Marshall's we shall hold five gliding courses in July and August. An effort will be made to provide aero-towing facilities on every day of these two months.

For the second year running the club managed to secure one of the National gliding awards, this time the Douglas Trophy, which was won by John Brenner, Peter James and Peter O'Donald. It is rumoured that we gained the award only because Peter O'Donald didn't quite manage to fly back to his 224-mile goal which he had over-shot.

Of the seven club trophies, the Mug Metal Machin, which is offered for "going nowhere by the most tedious route", aroused the keenest competition; for no less than 36 closed circuits were flown. The award was eventually bagged by Simon Redman with a 125-mile out-and-return flight. The contest for the President's Trophy, for which pilots collect marks for their cross-country flying throughout the year, finished up as a neck-and-neck race between John Firth the Siegfrid Neumann, who finally won the pot. The highest-placed undergraduate on the same marking system, known as the President's Ladder, was Ralph Ismail, who thereby won the Undergraduate Trophy and the Paget Prize for the second time. G. S. N.

CORNISH

THERE seems to have been some lack of interest in flying by many members during the last two months, their enthusiasm being numbed perhaps by the bitter east winds.

One can only conclude that there are still people who would rather sit in front of a warm fire than do sub-zero circuits and bumps — are we going to the dogs or just getting soft?

What can one think of instructors who would rather sit under a canopy in the T21 than breathe good fresh air in the back of the T31?

Aero-tows have been available on three weekends in January and although waves have been seen in the lee of Bodmin Moor no one has contacted them in a glider this year.

In the absence of lift, aerobatics have become popular and Ron Brewer, Ernie Hayman and Bill Lewis's names are now added to the solo aerobatic list.

If glider pilots think that they are dicing with death on the end of a fragile piano wire, at least they spared one thought for the poor old Tug Pilot recently. George Collins had the Tiger engine cut shortly after take-off (fortunately no glider behind) and pulled off a "dead stick" landing, without air-brakes, wheelbrakes or any other breaks.

One can only have admiration for those Tutor pilots who have been trying to pile up a large number of launches during the winter. Terry Lewis and Ginger Noonan come to mind in this respect. One notices that Ginger's tears

freeze on the slant due to his slipping approaches.

Work on furnishing the club house is progressing and now that the thaw has arrived we can look out of the window at the "clag" sitting on St. Agnes Beacon and let our hopes soar.

J. E. K.

COVENTRY

IN the first six weeks of 1963 we have only managed 10 launches; this very unwelcome club record is a particularly severe blow to us as flying is our only source of income and we have big expenses coming up, the course open to us is harder work in the coming months to make up.

On a more cheerful note I am happy to report that the dinner-dance, just before Christmas, was just as big a success as the previous year's, thank you Gus, Bill and Elsie for laying it on. Prizes were awarded as follows: the outstanding flight of the year went to Ron Gardner; the best progressors were Elsie May (ladies' prize) and Mike Bagnal (the mens'); longest distance in a club machine to Mike Smith; whilst the longest closed circuit prize went to Mike Hunt; the new Performance Pile was won by Ken Owen.

Comparison of 1962 and 1961 figures shows a healthy interest in competition flying increased the mileage figures last year and that more Silver C legs were gained. However, the number of launches was down although flying hours were nearly identical. The number of aero-tows was very satisfactory when we remember the loss of use of the tug on a very long engine change; this number of launches is to the credit of our happy band of tug pilots.

C. D. D-J.

DONCASTER

PREPARATIONS for the next flying season, should we be fortunate enough to get one this year, are in full swing, and if all our plans come to fruition, we should have our most successful year yet.

The 1963 fleet will comprise four club aircraft, seven syndicate aircraft, and the latest acquisition, the Jackaroo syndicate of Messrs. Tarr, Bower & Robinson, which we hope will give us many happy aero-tows.



"Anyone for an air tow?" asks Susan Tarr of Doncaster Gliding Club.

Of the syndicate aircraft, the Gee/Horner Kit-built 2B is now lying resplendent in its new coat of jade green and metallic blue in the hangar, waiting for its C. of A., and the Rhön Buzzard should cleave its way to the "Seaside" more efficiently since its respray in brilliant red and shining white plastic paint. The surface finish and brilliance of colour of this new paint has to be seen to be believed.

A recent escapade by the M.T. Committee was the collection of a single-deck A.E.C. bus, and a Leyland double-deck bus, during the height of the Christmas freeze-up. The former is in process of conversion to diesel winch No. 4, and the latter to a restaurant car, now almost complete.

The restaurant car is our "pièce de résistance" having battery or mains lighting, fluorescent lighting, gas cooking and running water from 50-gallon built-in tanks. "Feeding" capacity of the conversion is 24 seats and tables on upper deck, and "mind my toes" in the snack bar below.

In between bouts of vehicle conversions, repairing burst water pipes, repairs to aircraft, repairing burst water

pipes, modifying winches, repairing burst water pipes, we do get an occasional circuit to keep us invigorated. With the airfield alternately snow-bound and mud-bound, landings are a combination of Cresta-Run and Rhino mud-hole.

B. H. F.

ESSEX

AS with most clubs the limiting factor of gliding during the past 3 months has been the weather, yet in spite of this, our turn-out every weekend has been, and still is, terribly strong.

Four members of the club, namely P. Treadaway, E. Pagram, R. Collis and B. Hockley have now been promoted to dual instructors. Both Messrs. Collis and Hockley only started gliding some 18 months ago and the whole of their gliding career has been with the E.G.C., this is no mean achievement and they must be congratulated.

Whatever the success, acknowledgment must be made to our instructors, under C.F.I. J. D. Robinson, for the large part that they have played in assisting the four new instructors.

LAKES

OUR last report recorded the unhappy loss of the two-seater. We now start with the news that the pilot and pupil involved in that misfortune are back in circulation, and the ill-fated Venture has been replaced by a split spanking new T-21B.

The Club's annual dinner dance at Carnforth was an outstanding success and we were privileged to entertain Mr. F. N. Slingsby, accompanied by Mrs. Slingsby, as guest of honour. Mr. Slingsby presented the Lonsdale Trophy to David Millet; the Leighton Hall Trophy to Howard Woods, and the Dodd Trophy to Reg Wolff. We offer our congratulations to the recipients on their well-deserved success.

At the Annual General Meeting our President, Lord Lonsdale, generously offered us the use, when required, of a first-class site at Bampton as an alternative to the home fell at Tebay. It was also reported that thanks to Messrs. Vickers we were to be allowed to fly from their aerodrome at Walney Island, for the winter months.

During the last weeks of November the faithful assembled at Tebay to organise a wholesale flit to the winter quarters where we started flying on December 1st. The occasion was marked by the highest launch rate achieved for some considerable time, and in spite of weather which made operations at Tebay out of the question, few weekends have passed without an aircraft in the air at Walney.

Perhaps the Tebay gremlins objected to the unaccustomed quiet, for on the 16th January they summoned up a blizzard and stove in the hangar doors. In spite of all that could be done, a large section of the roof took off and made a heavy landing on the fell side. Thus ended the useful life of forty-two asbestos sheets, and the only recorded flight from that site since November!

The weather notwithstanding we have managed to keep flying at Walney, although on more than one occasion the absence of some particular enthusiast has been explained with the words "He can't get out of his igloo".

F. G. R.

LASHAM

THE forthcoming Nationals feature large in our minds as does the official opening on the first day of the Championships of the "Commonwealth Gliding Centre". Here we are, in February, with snow on the ground and the builders unable to start our new Centre building which is to be opened on 25th May. However, we have great faith in modern building methods and hope to show the fruits of our labours — or rather the vast sum of money we have had to raise — to our visitors later in the year.

Much has lately been written about the

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inability of visitors to fly at Lasham. In point of fact it simply is not true as all visitors can fly with the "School" operated by the Society. Gliders available are T21, T42, our new T49, which should arrive shortly, and Swallows. If a visitor joins one of the clubs which make up Lasham but retain their own soaring gliders, then the Club fleet is available. Visitors are always welcome and we are currently preparing a table of charges and gliders available for them. One of the objects of the Commonwealth Centre is to offer advanced courses in all gliding club operations which will include not only gliding but all other aspects of the sport as well.

Peter Vaughan has joined the staff as our third full time instructor in place of John Everitt who has become the National coach and Jeremy Brock is joining us next month as the fourth instructor for the soaring season. A number of new syndicate gliders will be seen at Lasham this year bringing the total number of gliders to nearly fifty. All we want now — guess what — good weather and lots of "high, wide and handsome" thermals.

W. K.

LONDON

THE paralysing snow and ice have left us little to say about flying achievements since December.

To keep the club spirit going the House Committee, under Roger Barrett, have briskly organised concerts, parties, film-shows and even a car rally! All were a great success and encouraged members to slither up to Dunstable when all hope of flying was gone.

The usual crop of new trailers are a-building — three for Skylarks, one for a 463, one for a Standard Austria and one for an Olympia.

The brothers Tull have nearly completed their kit-built Skylark 3B and the primrose Kite 1 is ready for the air after a long spell in the repair shop.

John Argent is constructing a new winch and Norman Miller, architect, has re-designed a large section of the clubhouse to accommodate new showers and other amenities to be built in the near future. So the cold has not ground us down to a complete halt.

All the same, we look forward to that "scorcha" which some soothsayer has predicted for summer 1963.

M. B.

SCOTTISH GLIDING UNION

DESPITE weather hazards the club maintained respectable continuity in December and January with only two weekends where no flying took place.

One of the recent good weekends (2nd/3rd February) produced more flying than all others in the period and was noteworthy in that Charlie Ross in the Skylark 3F achieved what he failed to do some years earlier, a flight to Ireland. He reached 14,200 ft. in wave and after a tour of the West coast reached Toome airfield in Northern Ireland.

The summer course bookings are well ahead of previous years, and in addition a good number of bookings from club groups for private flying are noted.

It is hoped that a series of inter-club competitions can be arranged with the Scottish clubs and preliminary discussions have started with this in view.

W. A. S.

WEST WALES

AFTER a two-issue gap in these columns our recently held A.G.M. provides a good point to bring us up to date.

The statistics were up to expectations; over 4,000 launches, 20 members trained to fly solo, 6 C certificates, 2 cross-country and 4 five-hour legs toward Silver C and membership increased by 50%. Our fleet at present consists of a T21B, Swallow, Sky and Skylark 3F, whilst the Power groups' Tugmaster is kept very busy providing aero-tows. Ground equipment is being improved with a new wire-winding device and a modified reverse launch system. At the time of writing (February), we are still without a clubhouse but have reason to hope that our next letter will contain better news.

1962 has been a very exciting year despite a generally poor and disappointing season's weather. As a club, practically everything we do breaks new ground (metaphorically only, so far) and the local general public have taken a surprisingly keen and sympathetic interest in our activities, shown by support given to our public days and successful raffle. We had our fourth appearance on T.V.

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in January and our new Chairman, David George, and C.F.I. Gil Phillips went to the Cardiff studios to be interviewed.

Perhaps the most exciting prospect before us is the development of cliff-soaring around the Pembrokeshire coast. Two members, Bill Sheppard and John Thomas have already done their 5 hours over the North Cliff at Tenby and a number of trials have been made elsewhere in various wind strengths and directions.

There have been two safaris, one to the Mynd which produced two 5-hour legs, and one to Fayence in Southern France, which produced nothing more tangible than a crop of excellent stories and was probably responsible for De Gaulle's attitude on the Common Market.

We now have a husband-and-wife team since Marian Thomas went solo on her 69th flight, the club's second lady pilot. Other first solos are David Darke, Wynford Evans, John Hosker, Brian Williams, Dennis Barnes, Bill Price, John Horner and John Davies whose first flight was later televised.

N. J.

YORKSHIRE

THE Yorkshire Club has suffered as much as most from the Arctic snows. The approach road has been ten feet deep in snow for some days and the airfield has had its share of drifts, which reminded one that Hilary got across the Antarctic on a tractor like ours. However, he didn't take our winch, and after two hours to get it to the launching point one Sunday morning, we could see his point. A double-decker bus or, rather, what is left of it after we had turned it into a winch, is not really suitable for these Antarctic conditions.

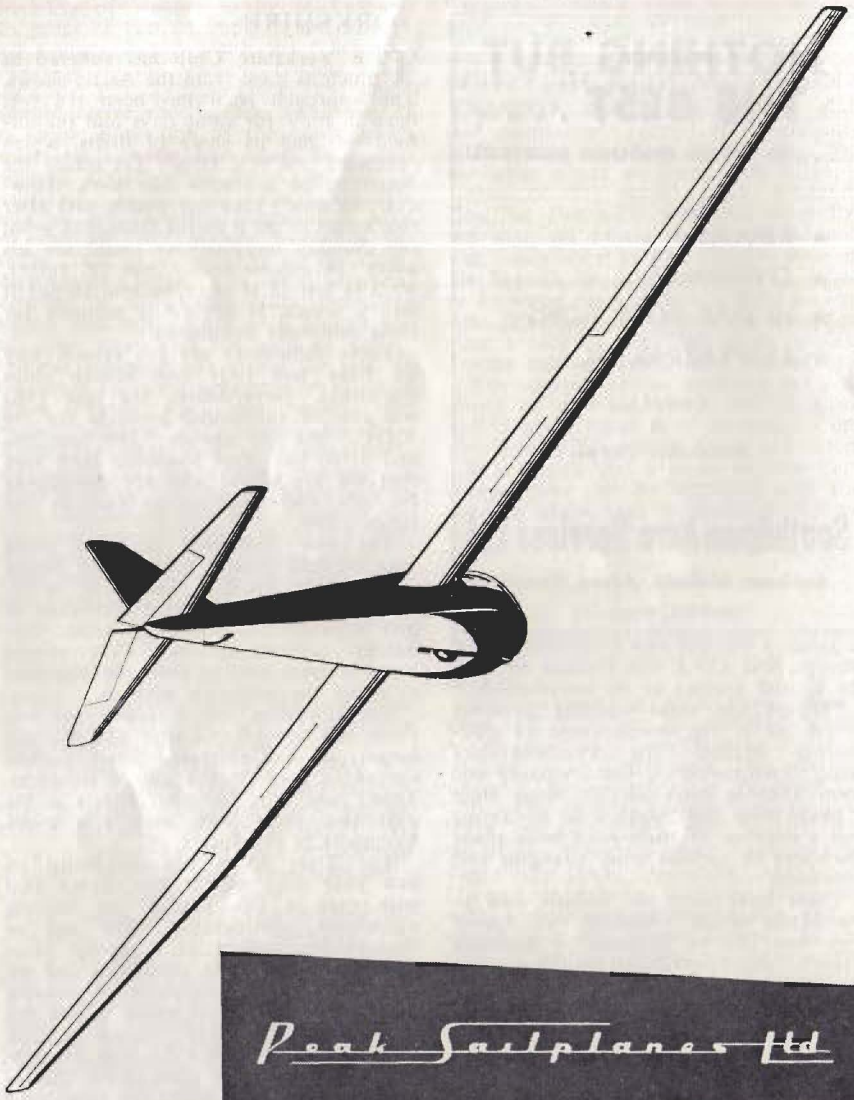
These difficulties are the reason why we have had only one launch since Christmas. Nevertheless, the year 1962 was one of substantial progress for the Y.G.C. We did almost 5,000 launches and 1,500 hrs. Our treasurer feels sure that we are sound and are developing the site and facilities as fast as the funds allow.

The new clubhouse is being fitted with oil-fired central heating and Henry Doktor, our resident instructor, is refurbishing the old wooden clubhouse to give separate bedrooms and better dormitory accommodation. This should prove a great help to persuade members to spend the weekends with us.

Jim Hodsman, our treasurer for two years, has now taken a wife, and Michael Jaeger, an ex-Cambridge Silver C, has agreed to take on the job of treasurer. Thank you, Jim, for your efforts in the past two years: we wish you every happiness in the future.

The Tiger Moth has completed its first year with us. It has shown that with care it can extend our soaring operations considerably. The use of Wombledon airfield as a second aero-towing site has been successful and we can now give a guarantee of soaring flight in conditions in which it was not possible hitherto. The interest in club members to get their P.P.L.'s is developing and this is to the good of the club as a whole, for it will widen the experience of senior members in navigation and airmanship beyond their present experience.

One of the most helpful additions to the aircraft strength has been the acquisition by Eric Reed of an Eagle. We have entered into an agreement with



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him to give high performance instruction in cloud flying and cross-country flying. The presence of the Tiger Moth should be of considerable benefit here. In addition to the Eagle we have two T21's, two Tutors, a Swallow and a Skylark 2.

We are organising the Northern Comps this summer and we look forward to seeing our friends at this time. It should be a great occasion.

J. C. R.

SERVICE NEWS

BANNERDOWN (Colerne)

THE last occasion we were in the air was on Christmas Eve, when a number of hardy characters, aviating in 15 below, rediscovered virtue and their circulations in retrieves at the double. Not that our affairs came to a standstill, far from it.

The Christmas party proved a great success, with an attendance of 50, including visitors from Upavon and Four Counties. It seems that a slight misunderstanding in the commissariat resulted in 19 chickens being cooked instead of 9, but "Bottle Putting" and other fun and games produced healthy appetites and not a single aileron was left!

The G.S.A. operations statistics were pounced upon and studied with great care, and we were all glad to see Bannerdown in 4th position with aggregate 3,522 launches and 435 hours, which at once shows solid progress and room for improvement in 1963.

Just before the end of the year Jim Arnold and Dixie Dean joined the wave project in N.1. They flew to Aldergrove to be met by Bannerdownian founder John Prince, a T-21 canopy and a Rover. This equipe survived a perilous journey to Ballykelly, and all was teed up for the wave.

This, however, appears far from permanent; Dixie had 40 minutes with Dave Ellis in the T-21, but it seemed to elude Jim altogether. However, many circuits were flown, the canopy was fitted, and a good time was had by all.

On his return Jim Arnold had the pleasure of learning that he had been awarded the Bannerdown Trophy. He is the novice who has done best in the air and on the ground in 1962, and is a right worthy winner.

It was nice to see him receive the trophy from Air Marshal Sir William MacDonald, the President, at the G.S.A. A.G.M. on January 11; we wish him the best of luck and continued good progress.

At the beginning of January we started a move to our new home just off the south peri. track, and are now in the process of fitting out our new clubhouse and office. All able-bodied members who are keen to exercise their talents are asked to weigh in with the tools of their trade; when the bar is installed the kettle will be released for use!

During the move the Boob's Cup was discovered in a dark corner; to our chagrin we found our name on it, but it seems the present holder is a lady, and we are torn between a gallant wish that she gets rid of it soon and a fervent hope there will be no claimant in 1963.

And 1963, in spite of the deep freeze, is looking good already. Feelers are out for another winch, there is good prospect of early delivery of a spoilered Tutor, and maybe a ditto T-31.

P. H.

EAST MIDLANDS (Swinderby)

LITTLE has been seen on these pages of the R.A.F.G.S.A. East Midlands club, so I would like to take this opportunity to effect an introduction.

Based at Swinderby airfield, on the A46 halfway between Newark and Lincoln, the club has been operating for some six years, and now has a membership exceeding 50. A T-21B, a T-31, a Tutor 2, an Eon Baby, a Gull 4 and an Olympia 2B make up the club fleet.

The Gull is still undergoing repairs, following a rather heavy landing and the subsequent discovery of the failure of some of the glued joints. An eagerly-awaited addition is the Skylark 3F, one of which is due any day from Bicester.

In spite of the bad weather, 1962 was the best year for gliding at Swinderby so far, and 1963 is expected to be better still. The club's ground equipment has been thoroughly overhauled during the winter months, and Bill Harrop has put in a lot of hard work preparing the aircraft.



Before the First Solo.
Photo by Flt.-Lt. A. Price, East Midlands Gliding Club

The club extends a warm welcome to any gliding enthusiasts in the area. You know where we are — drop in any time.

A. W. P.

EAST YORKSHIRE (Driffield)

FLYING has continued steadily during the winter, apart from a few week-ends when the wind and rain has meant a week-end in the hangar.

We seemed to have escaped the worst of the arctic weather during December and January, as we have been flying on a snow-free airfield with an occasional flight of around 14 minutes from our 12-1,500 ft. car launches.

The T-21 has done most of the flying lately, as the Olympia has been laid up for a couple of months and the frozen ground has been too hard to fly the Grunau.

We are hoping to move to Church Stretton or Rufforth shortly, as we cannot fly at Driffield after 1st March '63. All members are in favour of this as either one of these will be a better site than Driffield and should bring us more cross-countries.

J. G. S.

FENLAND
(Swanton Morley)

OPERATIONS have been spasmodic since the last report mainly because of the adverse weather.

We welcome Air Cdr. Millar as our new Club President, and Group-Captain Cleaver as Chairman. Our thanks and best wishes go to Group-Captain Harland, who has been our Chairman since our move to Swanton Morley early in 1961.

We have also lost, temporarily we hope, our two stalwarts, Ian Strachan, C.F.I., and Peter Kevan, Secretary. Flt.-Lt. Dennis Edwards is our new C.F.I., and our Secretary now is Flt.-Lt. Stan Simpson, R.A.F. Watton, Thetford, Norfolk.

Several members attended the Norfolk and Norwich Aero Club's most enjoyable dinner and dance, at which Peter Kevan was presented with the Warminger Trophy, for his Gold Distance and Diamond Goal flight to Yeovilton earlier this year. Congratulations, Peter. Thank you, N. & N.

M. I. O.

MOONRAKERS
(Upavon)

"THERE'S a long long trail a'winding" — up to the top of the Mynd. An enthusiastic team, led by John Williamson, set out on Boxing Day complete with two Olympias and the 401 from Bicester in search of wave-soaring experience at the Midland Club site.

The expedition provided experience of an unforgettable nature, amongst which a gain of height of some 1,400 ft. was achieved by one of the Olympias, whose rate of climb has yet to be calculated since it spread over three days of slithering and sliding, accompanied by occasional grunts and much thermal-provoking language.

At the time of writing, ways and means

are still being devised as to how to get it down again. The 401 got to the top and down again, thanks to strong ropes and strategically placed picketing posts down the Church Stretton road.

The other Olympia eased the situation by conveniently shedding a trailer stub axle in Hereford and consequently not arriving at all. Need it be added that no flying was done?

Little did we realise that those two ridge days at Westbury before Christmas would be the last flying for so long. Not to be daunted, however, our snow-covered airfield was surveyed from the cockpit of the Tutor in January by Bill Owens and a hardy band of supporters, and again on February 3rd, when the T-21 and the Grunau were manoeuvred through the frozen hangar doors and took to the air again.

Meanwhile, each week-end sees activity in the hangar, where Jock Reilly and Ken Edwards are doing a major repair and rebuild on the 419 trailer, an airfield control van is taking shape and much fettling and preparation is going on for the coming season. Our new 463 will require a new trailer, for which Cyril Wride is preparing a design, and £5 worth of Chrysler is almost ready for its 11-plus.

We look forward now to the return from the Argentine of John Williamson, Dave Cretney and Wally Wallington, and if they only bring back some soaring weather, the club will be ready and rarin' to go.

D. H. S.

RED HAND (Ballykelly)

DESPITE the winter weather, December has been a good month at Ballykelly, with a record number of launches by hardy enthusiasts.

To celebrate the arrival of our T-21 on the 16th, "Zot" with a passenger soared to 6,500 ft. in wave over Eglinton and back to Ballykelly. Happily his eyesight and navigation are good, so that car headlights and Christmas illuminations did not spoil his approach.

On the following week-end a S.W. wind of 15 knots again produced wave overhead the airfield, easily contacted from auto-tow.

The T-21, T-31 and Tutor sat at 3,000 ft. over the leading edge of the roll cloud formed above the launch point for almost an hour, giving Joe Taggart and Grenville Hall their C Certs. as a Christmast gift!

We all offer our best wishes and thanks to our departing C.F.I. — John Prince, who has given so much time and enthusiasm to us during the past 18 months. His desire to get on with the job was appreciated by all at Ballykelly. We wish him well at his new club.

We are fortunate to have as our new C.F.I. Dave Ellis, who, apart from being the right man for the job, is also one of our trailer builders.

With the trailer completing soon, and a canopy now fitted to the T-21, we are hoping for some cross-country exploration in the near future.

On Sunday, February 3rd, we were pleased to congratulate and welcome to Northern Ireland Charlie Ross, from S.G.U. Charlie has beaten us to the draw by a fine first-ever wave flight across the Irish Sea in his Skylark 3F.

We hope this is only the first of many such visits in either direction.

G. M. H.

WINDRUSHERS (Bicester)

WE were incautious enough in our last report to boast of our statistics; since then we have been snowbound and our aircraft have stayed in the hangar.

We have still had a considerable number of members who have turned up every week-end, after travelling long distances, and put in two days' hard work.

The diesel engine winch proved to be very economical and we have converted a second winch. Our Secretary has calculated that this conversion will pay for

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itself in 5,300 launches, so we should cover our costs in one more season.

All the winches have been repainted and look very smart. Electric artificial horizons with transistorised inverters have been installed in the Ka-6 and the Olympia 419.

At the moment there is a programme of rewiring the trailers and a standardisation of connecting plugs so that any vehicle can tow any trailer.

"Len" Oatham has been running the bar in a most efficient manner, and this has proved so successful that not only does it pay the overheads of the Tiger Moth but we have even ploughed back some of the profits to improve the amenities of the bar.

R. P. S.

OVERSEAS NEWS

CRUSADERS
(Cyprus)

SINCE the last news-letter, the Crusaders have achieved a measurable increase in output to date, since November last, a total of 891 launches and 96 hours. Unlike the U.K., we have been graced with good weather for our Cypriot winter, in fact, between October and April our best unstable and thermalling conditions occur. Though we do not normally achieve great things, local flights of over 1½ hours have been flown by Hughie Bellingham and Jan Zapasnik and only today Jim Saunders in a flight of 49 minutes in the Swallow rose inside a large cumulus to 9,800 ft., our first Silver leg of the club.

Congratulations to Steve Sanders, our treasurer, Dave Outridge and Dorothy Doidge on their solos, Dot being our fourth solo lady pilot. Our thanks to the ladies for their unstinting efforts to boost morale with refreshments and their valuable timekeeping. A special "good show" to Mike Valentine, our youngest instructor, who has recently chalked up his 1,000th launch at Akrotiri in two years. We shall miss his excellent support when he leaves for cooler shores in April.

Dicky Doidge, Dave Paton and Alwyn Machin got their C's over Christmas, all in the Tutor. Jimmy Blundell had an unusual trip last November in the T-31, when, after a launch to 700 ft., he contacted what he thought was the rotor of a wave system off the Troodos mountains and was whisked aloft to 3,000 ft. with lift "off the clock". The short dusk precluded any record attempts however.

Recent efforts in a 20 knot wind are launches to 2,300 ft., not kited, in the Swallow, using 4,500 ft. of piano wire — surely a record!

Our belated Christmas party, held mid-January at the well-known Kima club in Limassol, was a great success and a superb cup was presented to the Crusaders by Mike Reid of 1853 Squadron A.T.C. on behalf of the late Andy Marshall, a once staunch member and treasurer of the club.

Jock Hay has just returned from East Africa where he joined forces with the Nakuru gliding types, altitude 6,000 ft.!

We welcome our new A.T.C. members of the base at Episkopi. Finally, a grateful thanks to all our hard-working members who give such unselfish support.

J. H. B.

EAST AFRICA
(Nakuru, Kenya)

THE soaring season proper is now in full swing here at Nakuru, and we are anticipating some fine soaring, with all three of our aircraft, the T.31, Cadet Mk. 1, and Grunau Baby, soaring at once.

Mike Garrod, of Dunstable, has purchased a Tutor aircraft, for the club here, and by the time this news is read, it should be soaring with our other aircraft. A firm order has been placed with Slingsby's for a T.21 and we hope to be flying this aircraft by next April.

Our best wishes and grateful thanks go out to our ex-C.F.I. John Ryde who has been forced by pressure of work (and a selfish desire to eat) to vacate this post. Warmest congratulations are also offered on the occasion of John's forthcoming marriage. Our thanks are also given to Tony Stocken who filled in as C.F.I. until the arrival of our new C.F.I., 2nd Lt. David Du-Boulay of the 1st Battalion, the Gordon Highlanders.

Congratulations are extended to Mike Hart who recently earned his A and B certificates. Also to George O'Meara, who got his C with a 16 min. flight in the Cadet. George proved it was no fluke, by taking the Cadet up for a further 43 min. on the same day.

Any gliding types able to spend any time in Kenya, are assured of a warm welcome from our club. We operate most Saturday afternoons, and every Sunday and are situated 100 miles due north of Nairobi, at Lanet Airfield, Nakuru.

C. R. E.

HOLLAND

OWING to the persistent high pressure system over Northern Europe, the Issoire-safari this winter proved not to be as successful as the previous year. Only two days of usable wave occurred and the only diamond height went to Ed Verpraet.

Gold C heights were gained by Elly Jungblut, Aad van Essen, Wim de Boer, Jaap Steinfoorn, Han Munnig Schmidt, Peter Koelemij and J. Kemna.

Elly Jungblut set up a new Dutch women's record for absolute altitude in her husband's Sagitta.

J. Th. v. E.

PHOENIX

(Brüggen)

ALTHOUGH we have not been in the club news for some time, we have been very active nevertheless. Our main effort during the past year has been in replacing the old equipment, both on the ground and in the air.

We have acquired an Olympia 2 and a Skylark 3F and our fleet now consists of two 2-seaters, a Ká 2 and a Rhönlerche, and four solo machines, a Grunau baby, Olympia 2, Weihe and the Skylark.

We have purchased a retrieve winch, which has proved to have several advantages including speeding up the launch rate and saving the airfield grass areas.

By the Spring of 1963 we shall have a new main winch and cable. We use nylon covered cable, which, although a little more expensive, has a much longer life than the plain type.

In 1961 we did 4,300 launches and 460 hours. In 1962 our launches were down to 3,000 but our hours were up to 509. Nine A and B certificates and eight C certificates were gained.

Ten Silver C legs and three complete Silver C's were completed. Two Gold C legs and one complete Gold plus one Diamond were also gained. 2,460 kms. were flown on 25 cross-country flights.

The most outstanding flight was Flt./Lt. Pete Lane's cross-country of 740 kms. in the club Skylark; this was a U.K. distance record.

Lt.-Col. Christy, W.R.A.C., completed her Silver C on her last day in Germany; a good reward for all the work she did for us.

We have at last been allocated a room in the hangar, and the hard-working wives are forging ahead making us a bar and clubroom. In November the club members went down to Zell-am-See in Austria to sample the wave flying.

S. J. W.-F.

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