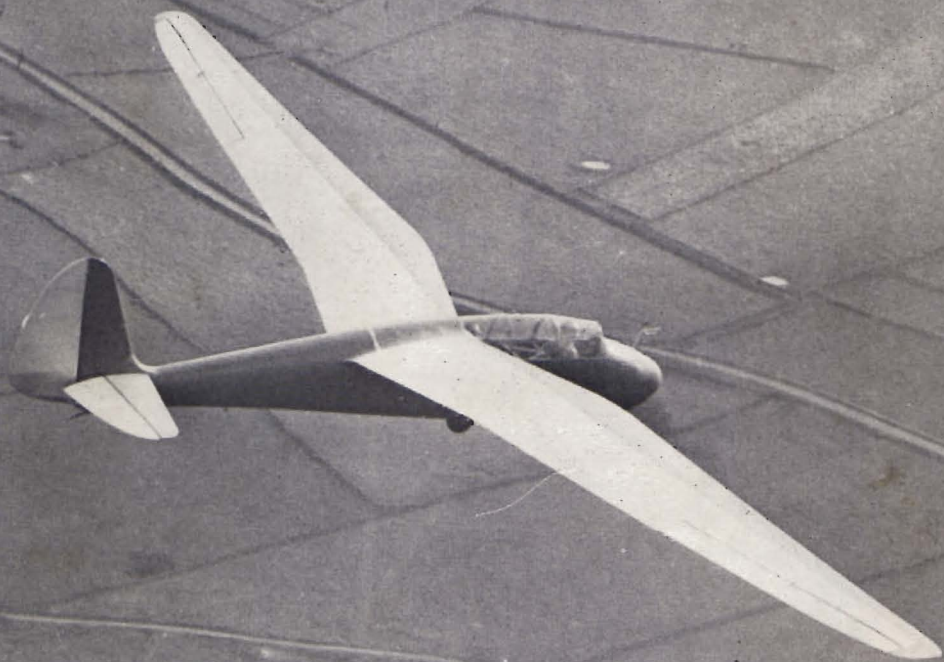


Sailplane and Gliding



April 1959



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SAILPLANE AND GLIDING

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION

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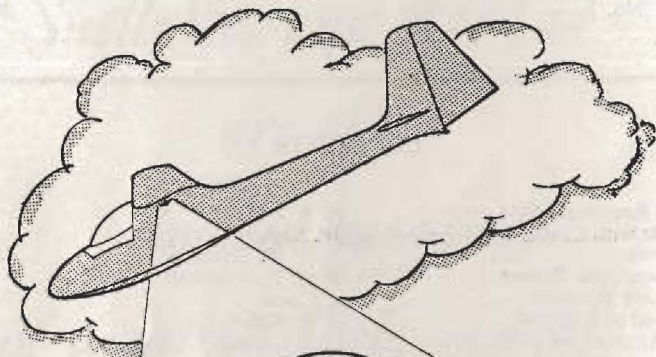
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COVER PHOTOGRAPH.—Fred C. Coleman's Harbinger flying over Bradwell Edge, Derbyshire and Lancashire Gliding Club. Photo: courtesy Sheffield Telegraph.

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British Gliding Association

Chairman's Report on 1958

AFTER the exceptionally good weather of 1957, 1958 produced possibly the worst run of gliding weather on record. Nevertheless, over the remarkable week-end of 12th-13th April, Commander Nicholas Goodhart and David Ince successively broke the U.K. Distance record with the first two flights of over 500 kms. ever achieved in this small country, and on the 21st May, Sgt. Andy Gough broke the British National Distance record with his remarkable 348-mile flight from South Cerney, Gloucestershire, to Heerlen on the Dutch-German border. In addition, Nicholas Goodhart, flying a Skylark III, achieved second place in the World Championships in Poland, first, third and fourth places being won in aircraft costing about ten times as much to build from countries where gliding receives a large degree of State aid.

We need have no doubts, therefore, of the continued competence and enthusiasm which are the special features of this British gliding movement.

I concluded my last report by saying that 1958 might be a crucial year for us, as during this year the Ministries were disposing of a number of airfields on which some of our most active clubs were operating, and everything hung on them achieving satisfactory security of tenure. Developments in this, the basic problem of all, have been mixed, and the reason for this strikes at the root of all our problems. This reason is that in 1958 there is no clear government policy whatsoever in regard to any aspect of Sporting Flying.

Several potential new clubs have foundered during 1958, having found it impossible to secure sites; one such club received consecutive refusals regarding six different disused airfields.

In spite of the absence of over-all direction, we continue to receive support from all parties and a growing section of public opinion.

This was marked in the negotiations ending in the acquisition by the Cornish Club of security of tenure at Perranporth. This club carried out a splendidly successful campaign to mobilize public opinion, in-

cluding an appeal to which they obtained over 4,500 signatures from public bodies and individuals all over Cornwall and adjacent counties. The acquisition of Perranporth has highlighted a situation which would be ludicrous were it not so tragic in its implications. The farmers concerned are protected under the Agricultural Holdings Act 1949. The aerodrome having been purchased once from the Air Ministry, if we or anyone else want to use any of the cultivated parts for aviation they will have in effect to be purchased a second time from the farmers. So much for the "encouragement" the State currently gives to those who are endeavouring to expand Sporting Flying.

A new club, the Lakes Club, has been remarkably fortunate, and through the kindness of Lord Lonsdale has achieved a secure site at Tebay Ghyll in Westmorland.

Two hitherto active clubs, Halifax and Perkins, are facing destruction having lost their sites. Worst of all, because on a larger scale, is the situation of the Kent Club. In three years this club has, at Detling, built itself up to be one of our largest, filling a great need for the people of South-East London and Kent. The airfield, constructed at great expense, has now, under the dead-weight of "normal" procedure, been destroyed as an airfield and reverted to farming. This is not the fault of the Ministries concerned, but a result of the national policies which they have to follow. Detling will, in future, produce about as many head of cattle per year as it could have produced pilots. Can this sort of thing be conceivably in the public interest?

Of the other clubs mentioned last year, the Lasham negotiations are at the time of writing proceeding slowly but hopefully. Coventry and Newcastle are still in doubt. The rest of our clubs remain on shifting sands, and the formation of new clubs is continually frustrated and will continue to be so until a favourable government policy is formulated.

In this connection I am glad to record the setting up of a Ministerial Standing Committee on Private Flying and Gliding,

which started sitting in November, of which your Chairman and Vice-Chairman are members.

On a more positive note, our efforts to obtain official approval to attempt cross-Channel flights have met with success, showing once more how much help our own Ministry can give us when presented with a problem entirely within their competence. A limited scheme was worked out, but the weather has not co-operated, the only cross-Channel flight this year having been the new National Record flight by Andy Gough already reported.

A serious set-back has been the blanket-ing of the Midland Club by a new Aircraft Advisory Route, running directly over the Long Mynd with a base of 6,000 ft. a.s.l. The Long Mynd has been an established gliding site for over 20 years, and every endeavour is being made to attain a diversion of this A.D.R., as was eventually achieved for the Derbyshire and Lancashire Gliding Club at Camphill.

An entirely new and, I anticipate, a most important favourable development has been the formation of the Shaw Slingsby Trust Ltd. After the death of Major J. E. D. Shaw, the founder of Slingsby Sailplanes, in

1955, there was a grave risk of control of this Company, which is by far the major source of our aircraft, passing into less sympathetic hands. The new Trust now owns the entire share capital of this Company, and profits will eventually be available to support the gliding movement on similar lines to that received from the Kemsley Flying Trust, on which so much of our development since the war has been based. I have been surprised and delighted at the widespread support which I received from individuals and bodies associated with gliding and sporting flying during the complex negotiations which took place before the Trust was finally set up, and I should like to take this opportunity to thank the Kemsley Flying Trust, the Royal Aero Club, and Air League of the British Empire, and all those gliding clubs and individuals who once more showed what a fund of enthusiasm is waiting for a chance to do something to help whenever a big opportunity for advance offers itself. The name of the Trust also recognises the gratitude we owe to two Yorkshiremen for what they have done to establish British gliding at its existing high level of successful accomplishment.

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Membership

During the year the following new Clubs were elected to Membership:—

Halifax Gliding Club
Swansea Gliding Club
East African Gliding Association.

Our membership is now (1957 in brackets):—

Full Member Clubs	18 (18)
U.K. Associate Member Clubs		16 (14)
Overseas Associate Member Clubs	4 (4)
Private/Group Owner Members		71 (51)
Individual Associate Members		39 (40)

The Association is currently giving help to the following clubs that are in the process of formation, all of whom are struggling to obtain permission to operate on suitable sites:—Norfolk, Essex, East Lothian, and Dumfries.

The following proposed Clubs that were mentioned in the 1958 Report failed to find suitable sites from which to operate and are now in a state of abeyance:—Dorset, Hertford, Ipswich, and Plymouth Gliding Clubs.

Operations

All our U.K. clubs excepting the Avro and Isle of Wight Gliding Clubs have completed the Annual Questionnaire and they report that from their club sites they have flown a total of 21,536 hrs. involving 135,074 launches. This shows an increase of 1,192 hrs. and 15,050 launches over 1957.

In the United Kingdom 252 gliders are operated (this includes 54 two-seaters and 70 privately-owned aircraft) by 4,015 pilots (1957, 2,992) who flew 30,165 miles on cross-country flights.

Included in these totals are the returns from the nine R.A.F.G.S.A. Clubs (who report 3,664 hrs., 34,719 launches with 59 aircraft and 868 pilots) and one R.N.G.S.A. Club (who report 907 launches, 64 hrs. with 4 aircraft and 100 pilots).

In 1958, 160 Gliding Holiday Courses were held and were attended by 1,285 pupils.

Over and above these totals, the Air Training Corps report 71,713 launches and 4,586 hrs., and they trained 1,625 pilots to B endorsement standard.

GLIDING CERTIFICATE ENDORSEMENTS.—The number of endorsements made to Gliding Certificates in 1958 totals 4,159, which shows an increase of 667 over 1957. This is mainly due to the increased number

of cadets trained to B endorsement standard by the A.T.C.

Endorsements were issued as follows (1957 figures in brackets):—

A Endorsements	..	1,893 (1,504)
B Endorsements	..	1,905 (1,515)
C Endorsements	..	308 (358)
Silver C	..	61 (97)
Gold C	..	9 (10)
Diamond Legs	..	7 (12)

These were made up as follows:—

Endorsements	A.T.C.	Service	Civilian
A	1,411	180	302
B	1,414	184	304
C	45	91	172

Finance

The surplus of £452 2s. 11d. shown in the accounts for 1958 is rather less than that of the previous year, due in part to increase in expenses, particularly as they relate to salaries, rent and secretarial, which are necessarily affected by the ever-increasing activities of the Association. The increase in the number of gliding certificates issued—21.5% over that of the previous year—and increased sales of badges and pilots' log books, which are incidental to them, are noticeable and welcome features of the accounts, which, however, could not be made to balance without revenue from the sale of books, ties, and scarves and the several other items available for sale to members—the books in particular proving very saleable.

The surplus funds of the Association are now all deposited with the Shaw Slingsby Trust.

Kemsley Flying Trust

During the year 1958 the Trustees approved loans to the gliding movement totalling £18,700. Ten Clubs received loans and eight private owner groups. Two of the clubs concerned were new clubs receiving their first year or initial loans for gliders and equipment, and three of the approved loans were for site improvement and buildings. The actual amount paid out by the end of the year in implementation of the approved loans was £10,025, and loans repaid under existing agreements was £6,593.

The Trustees place in the highest priority site development, and are pleased to have been associated with the new site at Tebay for the Lakes Gliding Club.

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Sliding canopy with superb "all round" visibility.

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Work of the Council

During the year the Council covered the usual wide spectrum of work, ranging from the organisation of our first exhibit at the Model Engineers Exhibition to the setting up of a Panel to consider the possibility of designing an Electronic Thermal Detector, involving an investigation into one of the boundaries of scientific knowledge.

Much work was done in organising the National Gliding Week. In the outcome only three clubs were able to participate, but the results were most satisfactory, in spite of very bad weather.

The Clubs at Lasham have undertaken to hold the 1959 National Championships, and as an experiment these are going to take place over the Whitsun week, early in May, since the chances of really interesting weather are statistically greater at this time of the year.

A scheme for Personal Pilot Insurance was worked out at a very reasonable premium.

The First National Aerobatic Contest was organised by the London Gliding Club at Dunstable, and was most successful.

A great deal of time and thought was

given to the subject of Safety. After some years free of major accidents, this year we experienced no less than three: two fatal accidents, and one collision from which all three pilots descended safely, two by parachute. The action taken culminated in a special Safety Conference held in the Kronfeld Club on 13th December, attended by Chairmen and C.F.I.'s from clubs all over the country.

Two major problems confront us. The first is that, owing to the continued expansion of the movement, our office accommodation at Londonderry House is now too small to enable our overworked Secretariat to cope efficiently. We are actively looking for more space, but at the time of writing our efforts are being frustrated by the usual difficulties of obtaining Planning Permission to occupy a very suitable potential office which hitherto has been a residential flat.

The second problem arises also from the continual growth of gliding which results in a simultaneous growth in the size of the Council. It is possible to envisage a point beyond which the numbers of Council members will be so large that efficient

operation within the time available for meetings will be adversely affected. On the other hand, better accommodation if obtained may put off this critical moment, since the Secretariat would then possibly be able to streamline Council paper-work.

Finally, I again have to record with deep regret the loss of another of our stalwarts, Captain Frank Foster, who lost his life in the Viscount accident over Italy in October.

John Parry-Jones in 1957; Frank Foster in 1958. These two men are typical of the sort of people who find the expression and enrichment of their lives giving their spare time service to the gliding movement.

Committees, Panels and Officials

During the year the following Committees and Panels were set up under the chairmen mentioned and other Officials appointed:—

Flying Committee: E. J. Furlong, M.B.E., D.F.C.

Technical Committee: F. G. Irving.

Equipment Committee: P. A. Wills, C.B.E.

Instructors Panel: Mrs. A. C. Welch, M.B.E.

Publicity Panel: Mrs. A. Ince.

Magazine Committee: P. A. Wills, C.B.E.

Design Requirements Sub-Committee: C. O. Vernon.

Airways Committee: Commander H. C. N. Goodhart.

Lasham Site Negotiating Committee: E. A. Moore.

World Championships Master and Pilot Selection Committee: E. J. Furlong, M.B.E., D.F.C.

Ground Equipment Committee: Lt.-Col. Sir Charles Dorman, M.C.

Accidents Analysis Officer: Air Commodore G. J. C. Paul, C.B., D.F.C.

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

Ostiv Representative: A. H. Yates.

Representatives on M.T.C.A. Standing Joint Committee: P. A. Wills, C.B.E., and Mrs. A. C. Welch, M.B.E.

Representative on R.Ae.C. Aviation Committee: P. A. Wills, C.B.E.

Representative on other Ministerial Committees: Mrs. A. C. Welch, M.B.E.

Reports from the Airways, World Championships and Technical Committees, Instructors' Panel and Accident Analysis Officer are published separately.

Equipment Committee.—This year we managed to make a further large purchase of surplus launching cable, which should enable us to supply clubs at considerably less than market price for another year or so. In addition, the purchase and sale of all previous items ranging from second-hand parachutes to ties and books continued on a growing scale, and provide a source of income enabling us to serve our Member Clubs for affiliation fees which now constitute only a fraction of our revenue.

Flying Committee.—The work of the Flying Committee in 1958 was concerned mainly with the drawing up, in conjunction with the organising clubs, of the National Gliding Week Regulations, the National Aerobatic Competition Regulations and the Regulations for the 1959 National Championships.

The Committee recommended to the Council the new system of appointments of Official Observers for Gliding which came into force on the 1st February 1959, when all the original appointments terminated; 200 Observers have already been approved and issued with new appointment cards.

Many claims to Silver, Gold and Diamond Badges were vetted and recommendations made to the Council for homologation of five British National and eight U.K. Records, and also for the Award of the B.G.A. Annual Cups and Trophies.

It is quite an event to receive a claim for a record or badge that is correct in every detail. The Committee again ask claimants to make sure they understand the rules and methods of making claims—it would save us all a lot of time and trouble.

Six awards amounting to £52 3s. 3d. were made to young Soaring Pilots from the Alex Orde Fund during the year. The Whitbread Sports Fund also generously gave £40 to the Association to assist *ab initio* pilots with their training. Four £5 bursaries were awarded.

Magazine Committee.—The circulation and advertising revenue of SAILPLANE AND GLIDING continued to increase in a most satisfactory manner, and our magazine is now purchased and read in no less than fifty-five countries.

Publicity Panel.—During 1958 the main emphasis of the Association's publicity has been directed towards gliding courses.

Good relations have been maintained with and Information disseminated to national and provincial Press, magazines, radio, television and newsreels. This has produced a good return.

The majority of clubs have their own Press Officers with whom the publicity chairman maintains contact. Prior to such events as the National Gliding Week and the National Glider Aerobatic Contest, publicity was handled centrally by arrangement with the Clubs concerned, Press publicity during the event being dealt with by the local Press officer. This arrangement appears to have worked satisfactorily.

Publicity for the 1958 World Championships was run separately by Commander Nicholas Goodhart and Kenneth Owen.

We are greatly indebted to Ann Procter, who has efficiently dealt with our Press Cutting Book since 1952, and who finds it necessary to give up this job for family reasons. We are pleased to say that Beryl Stephenson has agreed to take on the task.

Following the formation of a Royal Aero Club Publicity Panel the Association is represented on this by the Publicity Chairman.

O.S.T.I.V.—We found ourselves somewhat worried by the direction of the development of this International body, which is in theory entirely a Scientific and Technical organisation. As at present constituted O.S.T.I.V. is controlled by voting members representing National Aero Clubs, which are not basically either. In our view it would now be better to alter the Constitution and also give voting membership to Scientific and Technical bodies.

O.S.T.I.V. are currently endeavouring to produce a set of International Design Requirements, which we consider altogether too big a task for such a scattered organisation. Also design is developing so rapidly that we consider it much too early to attempt to freeze requirements in such a way.

The growth and success of our movement since the war has been greatly assisted by the very gratifying degree of autonomy we have been granted by our own authorities, and we do not wish now to have limits laid down by a remote and widely-dispersed International body. We believe the development of International Gliding would be adversely affected by such a code established at this juncture.

Ground Equipment Committee.—No real progress was made during the year towards getting a satisfactory winch into production. An attempt was made to interest one influential benefactor in the project, but to no avail. Mr. M. J. Neale has been asked to advise the Ministry of Supply on winch requirements and design when the Air Ministry decide to place an order for new winches.

It is difficult to see how information can be collected and classified about particular components without a considerable secretarial effort which is not available at present. No action on these lines has yet been taken.

Central Council of Physical Recreation.—During the year very close co-operation continued between the Central Council of Physical Recreation and our Association. Help was given with our Courses in various parts of the country—this help will be available once more during 1959. The question of Rating for clubs was discussed with them, and Gliding Clubs are being circulated in the hope that they will be able to have their rating assessments reduced where they own their sites. This work is being done by Mr. R. Ruffitt of the London Club. At the end of January a very successful Gliding Conference was held in London under the auspices of the C.C.P.R. and we hope that this will become an annual affair and grow in popularity.

The Future

Our future depends largely on the solution of the problems already mentioned.

Most nations encourage gliding, many with very substantial direct financial support. Amongst our neighbours France and Germany, with aid in excess of £1 million per annum, already outclass us greatly in sheer numbers, though not in the field of individual competence and enthusiasm.

We do not ask for direct subsidy, but consider we have a case for indirect support in such matters as the acquisition of sites, airfield and hangar accommodation at reasonable rents, assistance in technical developments, and so forth. *A Government declaration that the encouragement of gliding is to the national advantage would in itself have far-reaching effects.* Given such support we will maintain our present leading position in the world of International gliding.

PHILIP WILLS.

The Struggle with Czapla

by Wieslaw Stafiej

(Illustrated by the Author)

AMONGST many wonders of nature has its place also a fact that being a sailplane's constructor* I was not a pilot. To regulate the order of the world I have decided to learn flying.

After finishing the High Technical School, I began to work in Szybowcowy Zaklad Doswiadczalny (Polish Soaring Institute), taking a solid resolve that my first leave will be devoted for gliding. This took place in September 1958. Then I've arrived at Leszno, place well known to English Competitors. This was the begin of my adventure.

First I was presented to Czapla (Polish school sailplane SZD-10 bis—"Czapla" means in Polish "Heron"). Yes! I was presented to Czapla! Not Czapla to me! Our instructor wants to inoculate the pupils a great esteem for machines.

I was looking at the sailplane with little indulgence. Czapla with its gliding ratio 17—and I am to fly on it!

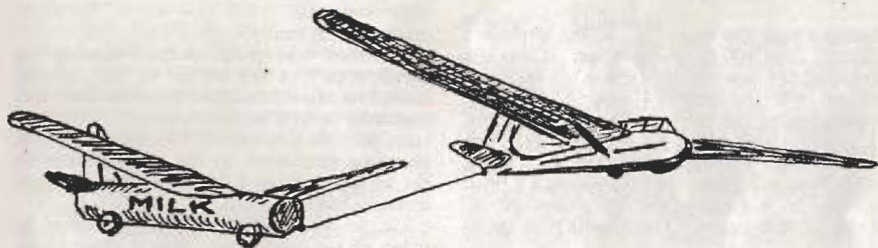
"O Great Heaven!" As a constructor I have made the great part of aerodynamical and strength documentation for SZD-22

These were the sailplanes. But Czapla? A good old mare for milk-transport.

In such a manner this machine was priced by me and the competition between us was standing now 1:0 for me.

Shortly the learning began. The instructor ordered me to take the place in front settle. Somebody had coupled a rope and the signal for start was given to winch driver. After short rolling, Czapla was in the air. But I didn't know what happened to me. My legs were higher than head. What a happy that Czapla is two-seater! The instructor was my all hope. I have given my life in his hands completely. When the rope was released the sailplane came to level-flight. The world was again normal. We were gliding smoothly in gold beams of the sun. I looked down. On the green of the airfield I've seen the dark spots, where two months ago were standing the tents of VII World Championate's competitors. Czapla flew perfectly in spite of its gliding ratio 17.

Now our punctuation was 1:1. This time I was defeated.



A GOOD MARE FOR MILK-TRANSPORT

Mucha Standart and SZD-19x Zephyr.

* In several European countries the "constructor" is not the builder, but the man responsible for the details of design, whereas the "designer" is responsible for the general, over-all design.—Ed.

The time went on. We began to fly better and better, and the instructor slowly changed to a passenger.

One day when I was going to landing, Czapla became again unkind. In spite of constant motion of column it made a dance like "prima ballerina". I was sure it remembered that earlier it was compared

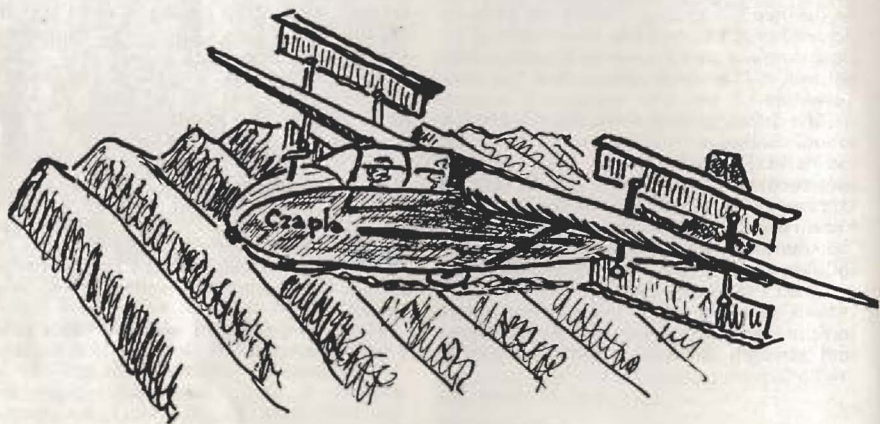
by me with the mare, and now came the time for vengeance.

But I was brave! As a result of our struggle the landing wheel was damaged. It was *my* vengeance. This play finished with 1:2 for me.

Each pupil wanted to fly as good as possible. The task given us now was the

my ears. The shudder pierced my body. I have felt that sweat coronated my forehead. But in Poland we have a good proverb in such an occasion: "The goat dies only once." So I have said, and my fellows helped me to take on shoulders the parachute and placed me in the cabin. The legs lightly vibrated, the hands also; but with a loud voice I've

ONE OF "CZAPLA'S" TRICKS... FINISHED ON A POTATO FIELD



landing near the letter "T" in the circle not greater than 100 m. in diameter. It was the training for use the air-brakes. Making a round over the airfield I wanted to try the operation of the brakes. They opened, but I couldn't shut them on in any way. The occasion for revenge was taken by Czapla with high precision. In consequence I have landed in a potato-field on about 50 m. from airfield limits. The results rose up to 2:2.

Now our connexions were based on greater "take heed". In short time it was quite clear that Czapla has resigned from its tricks, and began to be favourable for me.

After some time came the great day for us. The first flight without instructor. On his place was clamped the radio aparature. The excite took me in possession. Everyone who had made his first flight knows what it is an emotion!

"Take up the place," i've heard behind

cried: "Pilot ready".

The start was good. After releasing the winch rope I've felt myself so pity, alone, leaved by all, surrounded by quite clear air. Suddenly a cry in ear-receiver: "Make a turn, why do you wait?" The instructor was standing enervated by the radiostation in the airfield. Now I have fulfilled all what came to me by radio.

Czapla was kind like sheep. It seemed to guess all my intentions. Sure it came to an agreement with the fact that I was the master of the sailplane.

When we have made about 50 flights on Czapla we were ready to pass on better machine Mucha Ter, but that is just another story.

The struggle with Czapla finished by result 2:2, but thanks to it I can be proud now wearing on my breast "three white mews on a blue circle".

One is sure! Everybody who would name Czapla a mare will be my enemy for ever.

AIRWAYS NEWS

by H. C. N. Goodhart

WITH the 1959 cross-country season due to get into its stride about the time this is published, it is opportune to review the situation with regard to Controlled Airspace.

The following important changes have taken place in the last six months:—

MANCHESTER TERMINAL CONTROL AREA AND CONTROL ZONE.—This area has been enlarged to provide a by-pass airway to the east; however, the base of the new airway has been kept to 5,000 ft. and does not pass over Camphill. This revision came into force on 28th October 1958.

SCOTTISH TERMINAL CONTROL AREA.—A major revision in this area is expected to have come into force before this is published. The amount of controlled airspace is considerably increased.

ADR 160.—This Advisory Route has been moved so that it is now over the Long Mynd. The lowest cruising level near the gliding site has been established at 6,000 ft. a.s.l. to reduce the interference between the gliding and commercial aviation activity.

In addition to the above, the major revision of the South-East England Airways which came into force in May 1958, has rendered the airways information seriously out-of-date on all maps.

A new Southern England 1:500,000 map has been printed. No other new maps are being printed at present, and it is therefore necessary for those concerned with the new Scottish Control Area to mark this on their existing maps.

General Rules for Controlled Airspace

There has been no change in the rules for flying in controlled airspace which remain as follows:—

Gliders must remain in VMC whenever

they are in controlled airspace; i.e., the flight visibility must be 5 nautical miles, the horizontal distance from cloud must be at least 1 nautical mile and the vertical distance (up or down) must be at least 1,000 ft.

When crossing through an Airway, gliders should cross as expeditiously as possible. (This is a special dispensation for gliders and does not apply to powered aircraft, which are prohibited from crossing through Airways without ATC permission.)

Aerobatics in controlled airspace are forbidden.

In applying the rules for flight in controlled airspace, it should be remembered that they do not apply until you actually enter controlled airspace. The following examples should make this clear: you are at 2,500 ft. circling in a thermal under a cumulus over Rugby, i.e. under Amber 1 whose base at this point is 3,000 ft.

<i>Estimated cloud base</i>	<i>You may climb to</i>
3,000 ft.	3,000 ft.
3,500 ft.	3,000 ft.
4,000 ft.	3,000 ft.
4,500 ft.	3,500 ft.

(if visibility is more than 5 n.m.)

Setting of Altimeters

In theory all heights referred to in designating controlled airspace are based on the assumption that altimeters are set to the relevant spot QNH. At gliding sites these figures are not normally available; however (except when abnormal pressure gradients exist) it is sufficiently accurate to set the altimeter to aerodrome height before take-off. *It is not good enough to set the altimeter to zero before take-off unless you are prepared to do mental arithmetic when near controlled airspace.*

Airways Committee Report

THE tragic death of Captain Frank Foster, B.E.A., took from this Committee a most valuable member. His knowledge and background, coupled with his great enthusiasm for the cause of safety in the air, was of the utmost value in progressing the

work of the Committee. We must attempt to fill the gap he has left by even harder work towards the aims on which he was so keen.

The Airways Committee was formed in June 1957, for the particular purpose of

keeping a watch on all matters concerning the control of air space in the U.K. as they may affect the interests of the gliding community, and to make recommendation to the Council for action when necessary.

The method by which the Committee attempts to achieve these aims is by maintaining the closest possible liaison with the Ministry of Transport & Civil Aviation in order to keep before them the airspace problems of the gliding community, and at the same time to ensure that, when new airspace legislation is contemplated, all matters affecting gliding are fully represented, before such legislation comes into force. It must be recorded in this connection that the M.T.C.A. has co-operated wholeheartedly in discussing its plans at the earliest stage and in giving the views of the gliding community the fullest consideration. That their decisions cannot always fully meet our requirements is inevitable in view of the conflict of interest that continuously arises between commercial aviation, the requirements of the Services, and sporting aviation.

The following specific items have been dealt with during the year.

Flight in Airways

The special dispensation continues for gliders, from the requirement that flight in Airways in VMC or IMC is only permissible with Air Traffic Control clearance. This rule is experimental at present but is likely soon to become law; however, we have M.T.C.A. assurance that the law will include the dispensation. It must, of course, be realised that this valuable dispensation would cease at once if it was proved that a glider pilot was not keeping a proper lookout while in an airway.

Manchester Area

The M.T.C.A. has taken considerable trouble in producing their interim reorganisation for the Manchester Control Zone to ensure that gliding at Camphill will not be interfered with. The final version which went into force on 28.10.58 was entirely acceptable to the Derbyshire & Lancashire Club.

Further reorganisation of this area is necessary and the Airways Committee will keep a close watch to ensure that an acceptable solution is reached.

Scottish Area

The revision of the Scottish Control Zone did not immediately affect any gliding

clubs; however, the proposals were watched from the general aspect of ensuring that the amount of controlled airspace was kept to a minimum. The final system which is due to come into force in March 1959, includes some reductions arising from a proposal by B.G.A. and the Royal Aero Club.

ADR 160

An ADR now known as ADR 160 runs from Hawarden NDB to Bristol NDB; in doing so it passes almost directly over Long Mynd. The question of moving this ADR has been discussed at some length but no solution has been reached. At present, the position is that the lowest cruising altitude has been raised to 6,000 ft. within 15 miles of Church Stretton, and special attention is drawn in the Air Pilot to the presence of the gliding site below this ADR.

This position is not considered satisfactory and continues under review.

Base of Airways

The importance from the gliding point of view of raising airway bases to 5,000 ft. is continually impressed on the M.T.C.A. Some gains have been made. It is fortunate that the Services are a powerful ally in this matter.

H. C. N. GOODHART.

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Manager and Ground Engineer
London Gliding Club

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The Dunstable Tornado

by J. Costin

THE day was Sunday 12th October, and I was circling the Olympia merrily in strong lift at about 2,000 ft. below a large and black-looking cumulus which seemed to stretch for miles in every direction. At 2,500 ft. I hit cloud base and the airway simultaneously, so with great regret had to leave the 15-20 ft./sec. lift and cruise away. As the sky seemed full of gliders at the south end of the cloud, I headed north and roughly over Totternhoe came upon a peculiar cone-shaped lump of cloud which seemed to be dangling down about 50 ft. or so. It looked to be about 50 ft. wide at the top, and as I neared it I could see it was spinning round quite fast in an anti-clockwise direction. Circling it clockwise, I found strong lift all round it, and putting the speed up flew down to the point of the cone to see what it was all about. When I arrived at the bottom, I could see that a pipe about half-a-span diameter was growing downwards, and looking up could see that the cone had grown quite a lot.

I tight-turned, using this pipe as a pivot, until I was quite dizzy with seeing this streaky white haze whirling round and round above my head. When I looked down again the pipe had shot down another 500 ft. or so and I could see gliders coming in from all directions to play with it.

It looked quite innocuous, so I flew close and poked a wing into it as I passed. It was quite turbulent but not exceptionally so, and the combination of lift and wind gradient took me into the cone at the top. I promptly whacked open the brakes and dropped out ready for another go.

After several goes at this, I decided to fly through the pipe. I had a good look round, noticed that the Skylark was a good 300 ft. below, pointed the Oly at the whirling line of cloud and pressed on at about 40 knots. The pipe rushed up spinning like a merry-go-round and everything went hazy. I felt a violent jolt or two and then I was in the clear on the other side.

I left the thing then and from a distance of three or four hundred yards could get a really good view. The pipe now hung down about a thousand feet and was surrounded

on all sides by gliders. It sloped between 30 and 45 degrees downwind from the lower end to cloudbase and seemed to be about just over a span in diameter. The top widened out for the last 200 ft. and at cloudbase seemed to be about 150 to 200 ft. in diameter.

On making enquiries later I found that the pipe extended down to 1,300 ft. from cloudbase which was at 2,600 ft. From the time I saw it emerge from the cloud to the time it faded away was approximately 30 minutes. When I landed I was informed it was a tornado, which surprised me rather, as up till then I had assumed it was a very strong thermal. Had I known it was a tornado I should have treated it with much more respect and should certainly not have flown through it. It was apparently a very impressive sight from the ground, and I heard later it had done some damage locally.

The only conclusions I can draw from this are that thermals do rotate and slope. One further thought may be that if one notices the centre of one's thermal filling with a cylinder of cloud, it may be unwise to fly through it unless one is prepared to meet a stream of chicken-houses coming up.

FUNNEL CLOUD AT RENFREW

THE term "funnel cloud" appears to be the correct meteorological name for the phenomenon described by John Costin in his article "The Dunstable Tornado", for this expression is used by A. McEwan in describing a similar event in the *Meteorological Magazine* for September 1958 (Vol. 87, pp. 267-8), in an article entitled "Rapid development of cumulonimbus cloud behind a weak cold front at Renfrew".

The "weak cold front" followed closely behind an occlusion, and passed through Renfrew on 28th April 1957, at 16.30 G.M.T., causing an 8-knot wind from 210° to veer to 330° and drop to 5 knots. Five minutes later, three cumulus clouds began to develop rapidly, and Mr. McEwan writes:—



Cumulus development at 16.45 G.M.T. on 28th April, 1957: looking N.W. from Renfrew Met. Office.

From "Meteorological Magazine", by permission of Director-General of Meteorological Office and Controller of H.M. Stationery Office.

"At 16.35 G.M.T. the observing assistant noticed a funnel cloud protruding from the base of the cumulus cloud immediately above the airfield. From the Meteorological Office, looking north-west, the funnel was clearly visible and although much of this cloud was overhead (base 1,800 ft.), the funnel was silhouetted against blue sky and was approximately 2,500 ft. away (horizontally). The funnel was clearly seen to be revolving in an anti-clockwise direction at

one revolution in 4 seconds, the timing being taken from the ragged edges which, in one part of the funnel circumference, hung further down than the rest of it."

By 16.45 it was noticed, mainly from smoke, that "a circulation had been set up at ground level corresponding to the direction of rotation of the funnel", giving a 10-15 kt. easterly wind to N.W. of the airfield and a westerly wind of similar strength to the S.E.

The funnel slowly disappeared at 16.50 and the space between the three clouds rapidly filled up, while rain reached the ground and, later, hail. Two aircraft, coming to Renfrew from Dublin and London, reported that this was "the only cloud of significant development."

Recent discussions of funnel clouds and related phenomena, such as waterspouts and tornadoes, are to be found in *Weather* (the Royal Meteorological Society's magazine). In the August 1958 issue, Fritz Rossmann writes:—"In an overwhelming number of cases, both tornadoes and waterspouts are first visible on the front of the thunderhead, just before the storm breaks. In other words, they appear when the cumulus stage of the respective cumulonimbus cell is finished, and the mature stage sets in, so that the first precipitation falls and electrical discharges begin."

Rossmann's explanation of the "funnel" stage of a waterspout is: "Inside the clouds, if only limited amounts of small hail begin to descend into the deeper, warmer layers,

incipient vortices are generated. Pushed slowly by the hail, they descend and, finally, emerge from the cloud. Here, this weak, whirling motion becomes visible at once."

But this does not satisfy P. J. Feteris, who writes in the December issue of *Weather*: "The question arises why every incipient shower, in which small hail is descending through a layer of warm and moist air, does not cause vortices and funnel clouds at the base of the cumulonimbus. Even many vigorous cumulonimbus clouds which produce strong down-draughts, thunder and hail, show no signs of tornado or waterspout formation."

Feteris adds: "According to Koschmieder the formation of a funnel can be initiated by the sudden rapid growth of cumulus, such as can happen when they start breaking through an inversion, the horizontal rotation being provided by the air which flows towards the cumulus from all directions."

A.E.S.

Accidents Analysis for 1958

DURING 1958, there have been 74 (seventy-four) reported accidents or incidents, at a total cost of £8,759 (eight thousand, seven hundred and fifty-nine). This is the heaviest yet, and exceeds the previous greatest cost, which was for 1957, by £1,608. The relevant figures are given in Table I, which shows that the rate has risen to 21 pence per launch, representing an increase of 3½ pence over that for 1957.

Generally speaking, the conclusions of this report are similar to those given by the Accidents Analysis Officer to the B.G.A. Safety Conference held in December 1958, and reported fully in *SAILPLANE & GLIDING* for February 1959. This report should, therefore, be read in conjunction with the report of the Conference.

In commenting on 1957, I remarked that the most costly groups of accidents related to that class of pilot having more than five hours, but less than Silver C; to the group concerned with high-performance sailplanes; and to the kind of accidents which take place on the approach to land. At the time of the B.G.A. Safety Conference, it was already apparent that this pattern was continuing; Table I of this report makes clear that this trend is even more marked

than it was in 1957. These conclusions met with some criticism at the Safety Conference; but whatever may be said, there can be no possible doubt that these are the ways in which most money is being wasted, and that they are areas in which examination and improvement of flying techniques will be most profitable.

An examination of the "Over 5 hours Pilots" accidents shows that eleven were accidents on the approach, and that this class of pilot produced half the total cost of this kind of accident. One of these was a fatal accident. The aircraft involved were: Tutor: 5; Olympia: 2; Skylark II: one; T-21: one; Grunau: one; and Prefect: one. The Group relating to high-performance aircraft includes £1,400 attributed to a collision in flight. Of the remaining £5,268, rather more than half, that is £2,738, was caused in six accidents on the approach.

An examination of all accidents on the approach shows that the largest proportion of the cost is due to pilots stretching glides, and consequent loss of flying speed. This was responsible for £2,566 out of a total of £3,900 attributed to approach accidents. In this very noticeable "Stretch, Stall, and Spin" category, two pilots were actually

reported as having spun off their final turn to land; both of these were "Over 5 hours" pilots.

It is notable that there are no accident reports this year relating to really experienced pilots; and none of any great significance concerning pilots with less than five hours. This is a similar pattern to that revealed in 1957, and can leave little doubt that the big money is being lost on the "Post Graduate" pilots, and on accidents mainly attributable to deficient approach techniques. It has, however, been argued that the increase in approach accidents is no more than the result of more flying. It is, of course, quite impossible to agree with this excuse, so long as reports refer to pilots spinning in off turns. Such a thing should never happen and can only be a grave reflection upon the Instructor responsible for the training of the pilot concerned. However, to leave no doubt, Table II shows the cost of Approach Accidents as a rate against total launches, from 1949 onwards. This Table shows that, not only have the costs of this kind of accident risen, but there has been a marked deterioration in actual Rates as well.

My conclusion is that the trouble arises from a widespread failure to recognise that post-solo training is certainly as important as that given before solo, and may very well be of much more lasting effect upon the pupil. As things are now, a pilot in possession of an elementary badge tends to regard himself as "Qualified", and all too often Instructors lack experience to give advanced training, and to teach their pupils all the very important things that come after he has gone solo.

My recommendations to reduce the current high cost of accidents are, therefore, as follows:—

- (i) The British Gliding Association should consider what constitutes a "Qualified Pilot."
- (ii) That all "Unqualified Pilots" should remain under the supervision of Instructors qualified to give Advanced Training Instruction.
- (iii) That steps should be taken as a matter of great urgency, to enable the Instructors' Panel to accelerate its existing drive to ensure that all Instructors are qualified to give Advanced Dual.

CHRISTOPHER PAUL.

TABLE I
1958 Figures

Total Accidents/Incidents reported	74
Cost of above	£8,759
Fatal Accidents	2
<hr/>	
Total Aircraft operated by Clubs ..	190
Total Launches*	99,746
Total Hours*	17,798
Total Cross-country Miles* ..	22,117
B.G.A. Categorised Instructors ..	96
* Excluding A.T.C. and R.A.F.G.S.A.	
<hr/>	
Launches per Accident/Incident reported	1,348
Cost per Launch	21d.
<hr/>	
Accidents on Take-off ..	10 at £1,350
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Accidents in Flight ..	6 at £1,976
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Accidents on Approach ..	21 at £3,900
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Accidents on Landing ..	24 at £1,452
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Pilots under 5 hours ..	8 at £224
Pilots over 5 hours ..	38 at £5,213
Silver C or better ..	12 at £2,343
Instructors, instructing ..	7 at £898
<hr/>	
High-performance Sailplanes	36 at £6,668
Medium types	10 at £1,324
Two-seat Trainers	13 at £1,164
One-seat Elementary types ..	15 at £603

TABLE II
Approach Accident Rates

The "Rate" shown is total cost of accidents on the approach for the year concerned divided by total launches for that year, giving a rate in pence per launch.

Year	Rate (pence)
1949	2.17
1950	6.18
1951	2.12
1952	3.06
1953	11.13
1954	3.08
1955	6.63
1956	5.75
1957	8.80
1958	9.40

WORLD CHAMPIONSHIP COMMITTEES

Master Committee.— E. J. Furlong (Chairman), B. A. G. Meads (Treasurer), Mrs. A. Welch (Team Manager), P. A. Wills (Pilots' Representative), H. C. N. Goodhart (Publicity).

The Committee was responsible for the supervision of all arrangements for sending the British Team to compete in the 1958 World Gliding Championships which were held at Leszno, Poland.

The team left England on 6th June after having the honour of being entertained to tea by H.R.H. The Duke of Edinburgh, and returned on 3rd July.

The placings of our Pilots were as follows:—

OPEN CLASS

Second: H. C. N. Goodhart, Skylark III;
Seventh: A. J. Deane-Drummond,
Olympia 419.

STANDARD CLASS.

Seventh: G. A. J. Goodhart, Olympia
415;
Thirteenth: P. A. Wills, Skylark II.

The British Team have made a name hard to beat in International Gliding. The 1958 Team upheld that tradition, and we are proud of the standard they set which fully justifies our choice and faith. The Pilots in particular did a magnificent job competing against many professionals and some fantastically expensive machines. We offer our hearty congratulations on these achievements which are an inspiration to us all.

The Committee are very grateful for the help received from the Standard Motor Company who loaned the team five Standard Vanguard Estate Cars, Messrs. Elliotts and Slingsby who loaned aircraft, and also to the many other firms who loaned or gave equipment to the team which ranged from such items as a 30-ft. radio aerial to Lilos.

A strict budget of expenses was drawn up, and the expedition cost a total of £1,755. The S.B.A.C. generously donated £1,000 to the Fund and the balance was contributed by team members, the public, clubs, individuals and other sources.

The Committee were greatly encouraged by the help and assistance given by a great many people which contributed greatly to the success of our entry.

Pilots Selection Committee.—The Committee, composed, as in the past, of Chairman of all full member Clubs or their representatives and the last Team Manager, has already met and produced the following provisional alphabetical list of pilots from which the British Team for 1960 will be seeded:—

P. Bisgood	D. Brenning James
G. Burton	M. Kaye
A. J. Deane-Drummond	D. A. Smith
K. C. Fitzroy	G. H. Stephenson
G. A. J. Goodhart	L. Welch
H. C. N. Goodhart	J. S. Williamson
A. Gough	P. A. Wills
D. H. G. Ince	

Philip Wills and Geoffrey Stephenson, who have been in the forefront of British Gliding for over twenty years, have decided to retire from the provisional seeded list and do not wish to be considered for the 1960 British Team. Having reached the top stratum they both feel they should make way for up-and-coming younger pilots. We are very grateful to them for their past efforts and sincerely hope that we will continue to profit from their valuable experience and advice for many years to come. Philip Wills, who has been Chairman of the B.G.A. for the last twelve years, was World Champion from 1952 to 1954, many times British Champion and holder of innumerable records and trophies, does a magnificent job as our leader and we cannot afford and have no intention of losing him. Geoffrey Stephenson, past British Champion and first Glider Pilot to cross the Channel, has had most of the B.G.A. trophies on his mantelpiece at some time and is still giving us the benefit of his vast experience and technical knowledge as a real "back room boy". Geoffrey is not often seen but his advice counts for a great deal.

The final seeding will take place after the 1959 National Gliding Championships.

Finally, I have to record with deep regret the loss of Frank Foster in the Viscount accident over Italy last October. Without doubt he would have been included in the above list.

JOHN FURLONG,
Chairman, Master Committee.

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INSTRUCTORS' PANEL REPORT

FIRSTLY I have to record with very great sorrow the death of Capt. Frank Foster in the Viscount accident. Frank was always a very enthusiastic examiner and often travelled great distances to categorise instructors.

The main work of the Panel in 1958 has been the testing of instructors for categories, which has been carried out entirely by the voluntary examiners. The tests have been done either following an instructors' course at Lasham, or at the candidate's own club. (Both methods are satisfactory, although tests done away from the candidate's own background take longer. On a club visit, where the instructors and his club operations can be seen at the same time, it is possible to test two candidates in a day, but when he is away from his base it is difficult to deal fully with more than one. The ideal, which is difficult to attain, because of the problem of time and expense, is for the candidate to go on an instructor's course, and get fresh ideas and experience as well as training, and then to be tested subsequently in his own Club). Twenty-four new categories were granted, bringing the total of qualified instructors up to 96.

As a result of the Safety Conference held on 2nd December, which was attended by 74 C.F.I.'s and Chairmen, it was confirmed that although training accidents have been greatly reduced, the total number of accidents is still as great because they are taking place instead at a more advanced level of flying, mainly in field landings or

with high-performance gliders flown by relatively inexperienced pilots.

The only answer to this is to have instructors whose background and experience is wide enough to train pupils adequately right through to Silver C (and Cross-Country) standard. To help achieve this it is intended to introduce an additional higher instructor's category which, as a minimum, all C.F.I.'s should hold provided that this can be done without causing hardship in the clubs.

It is also intended to introduce, this year, renewal qualification for remaining an examiner on the Panel. This is intended to ensure that the examiner is not only continuing as an active instructor, but is also doing advanced solo flying, including cross-country soaring.

The Chairman of the Instructors' Panel would like to take this opportunity to put on record the invaluable work done in the Clubs by voluntary C.F.I.'s. The efforts of these people in looking after, in most cases, quite large clubs, as well as doing their own jobs, is enormous. It is fair to say that they are one of the main reasons that gliding in this country is in such a flourishing state.

A. C. WELCH,
Chairman.

Other members of Panel: B. Thomas, K. E. Machin, D. A. Smith, H. T. Testar, D. Darbshire, A. D. Piggott, J. S. Williamson, L. Welch.

TECHNICAL COMMITTEE REPORT

MEMBERS of the Committee are:—F. G. Irving (Chairman), C. L. Faulkner, D. H. G. Ince, J. Leach, H. U. Midwood, P. L. Bisgood, K. R. Obee, R. C. Stafford-Allen, C. O. Vernon, B. Warner, L. Welch.

Advisers to the Committee are:—M. J. Neale (M.T.), J. S. Williamson (Radio), K. G. Wilkinson.

Work of the Committee.—During 1958 seven Meetings of the Committee and one Meeting of the Design Requirements Subcommittee were held; 201 Certificates of Airworthiness have been issued (182 in

1957), of which 45 were initial applications (43 in 1957). Fourteen new Inspectors were approved and 45 Inspectors and firms renewed their approval. These figures reflect the steady growth of British Gliding and represent an increasing volume of work by the Association staff. In the past year, examination of new applicants for Inspection Approval has been carried out by existing inspectors. Most of this work has been done by Mr. B. Warner, to whom the Committee is most grateful.

The Committee is currently considering an inspection scheme for old gliders,

whereby they will undergo a very detailed examination at suitable intervals after attaining a certain age. In conjunction with this scheme, it is proposed to establish a senior grade of inspector and, to facilitate the examination of applicants for this grade, to appoint two new Examiners.

During 1958, a Type Certificate of Airworthiness has been granted to the Slingsby Swallow. Mr. Coleman's Harbinger has been granted a permit to fly, and is currently undergoing flight tests. Three other privately designed and constructed machines are currently under consideration for certification, together with one machine of foreign manufacture. The certification of any one machine involves a great deal of work by the constructors, the flight test group concerned, members of this Committee and the B.G.A. staff. In this connection, special mention should be made of the efforts of Mr. Obee and Mr. Vernon, who have checked all the structural and aerodynamic figures submitted in Type Records. When it is remembered that these investigations are in addition to their work on revising Airworthiness Requirements, it will be appreciated how much the Association owes to such members, who extend their professional talents so freely in the service of gliding.

In August 1958, the Chairman of the Committee was asked to inspect the remains of a glider involved in a fatal accident, since the circumstances suggested the possibility of a technical defect in the machine. An inspection showed no evidence of a defect. The assistance of Mr. D. Cuthbertson, Accident Investigation Branch, M.T.C.A., was quite invaluable in this work.

The Committee has been deprived of the stimulating presence of Roger Austin, who having survived some ballooning hazards

by the exercise of the initiative one expects of a gliding man, lost his life in a motor accident. The members of the Committee extend their deep sympathy to Mrs. Austin.

Pressure of other (gliding) work has caused Dr. Machin to resign as Radio adviser. Mr. J. S. Williamson has consented to take his place.

Design Requirements Sub-committee.—During 1958, three papers have been produced, dealing with ground loads, wing torsional stiffness and miscellaneous points including cockpit design.

All B.G.A. papers, in addition to these, have now been embodied in a revised draft of the complete Section E of British Civil Airworthiness Requirements and, with the lodging of this in the hands of A.R.B., the initial phase of the sub-committee's work is now complete. Work has now begun on investigations of control mass-balancing, in conjunction with the R.A.E., and on a comparison of B.C.A.R. with the requirements of other countries.

As usual, the work of the Committee and Sub-Committee has only been possible with the aid of much data and technical assistance from the long-suffering manufacturers. As implied above, an increasing volume of work has been required of the B.G.A. staff, who find themselves driving a slide-rule as well as a typewriter. We are most grateful to them. We also wish to record the excellent spirit of co-operation amongst the inspectors, whilst gently reminding a few that attention to filling-in documents fully and accurately greatly lightens the burden on the staff.

F. G. IRVING,
Chairman, Technical Committee.

C. O. VERNON,
Chairman, Design Requirements Sub-Committee.

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A Thermal Flight in January

by Capt. D. H. Hinlopen
(Royal Military Academy, Breda)

This flight, made at the Gilze Rijen gliding centre in Holland, on 4th January, is remarkable in that most of the winter thermals utilised were in clear air between cloud. The translation is from "Avia Vliegwereld", official organ of the Royal Netherlands Aero Club.

AT 13.56 I was launched in a Rhönlerche with Miss K. C. H. Hutten. We reached release height at 450 m. (1,480 ft.) but sank slowly to 250 m. (820 ft.). At that time there were five-eighths cumulus with a W.N.W. wind of 8-11 m./sec. (15½-21½ knots).

Just as we were getting into position for the circuit, the variometer showed climb: at first 1½-2 m./sec., but after centring the instrument registered 5 m./sec. (18½ ft./sec.). Within a minute we had reached the base of the cloud at 500 m. (1,640 ft.) and I had to leave it with spoilers out.

Still in the upcurrent region, it was possible to continue climbing by the side of the cloud. Here also the variometer showed an almost consistent 5 m./sec. climb, so that we arrived a minute later at 860 m. (2,820 ft.). With spoilers out we again had to move off, because even the rising dry air had reached its own condensation level and began to form a new cloud base.

Continuing to fly outside and between the clouds, keeping above the flying field as much as possible, we completed 30 minutes of blissful thermal flying—half the time with spoilers out.

As the cumulus area moved rapidly away into the distance, I flew back to the field so as not to risk an away landing.

In reply to our request for further details of this flight, Capt. Hinlopen has added the following remarks:—

Nearly the whole flight was made between the clouds and also above the normal cloud-base.

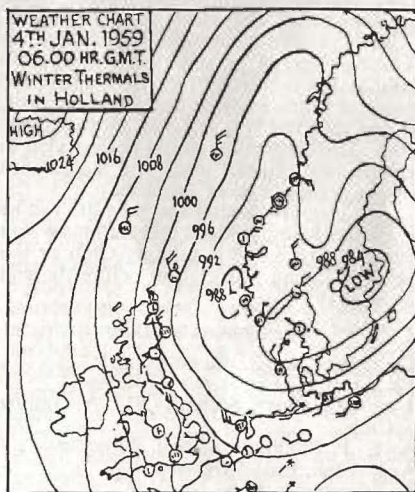
As in this country the Rhönlerche is not permitted to fly in clouds, and as consequently this sailplane is not equipped with a turn-and-bank indicator, I had to leave the cloudbase diving and with full spoilers, to prevent being sucked into the cloud, during the first part of the climb.

The second part of the climb was per-

formed on the sunny side (at the same time windward side) of the cloud in the mantle of rising clear dry air. In this area the climbing speeds varied between 12 and over 16 ft./sec. The climb was continued up to 2,800 ft. altitude, until the rising dry air reached a separate condensation level.

At this time I had to leave this area rapidly. During this part of the flight I noticed between the clouds areas of rising dry air as well. In my opinion, it was dry air that started from the earth's surface at about 3° C. higher temperature, in comparison with most of the temperatures of the air at the surface of the earth.

At an altitude of about 2,600 ft. a new cloudbase was formed in some places. My altitude varied between 2,800 ft. and 2,600 ft. for twenty minutes, during which time I had to use spoilers rather frequently to keep flying under visual meteorological conditions.



During this flight I had no barograph in my sailplane, because we did not expect a thermal flight at all at this time of the year.

Perhaps the American pilots are right that the best lift can be found on the sunny side of the cloud. I have the same experience, as far as big clouds are concerned.

Perhaps the explanation will be the difference in earth surface temperature on the sunny side and on the shadowed other side of the cloud. The differences in air temperature are in this case responsible for the differences in rising speeds of the air.

Below the altitude of approximately 2,000 ft., I prefer in thermal flights the windward side of a cloud to the lee side

and also to the sunny side, because of the rotation of the air-mass around a horizontal axis, caused by the increasing wind velocity at increasing altitude. During my flight both circumstances were to my advantage.

It was a pity I could not carry out an overland flight due to the absence of the necessary documents aboard, as well as the prescribed parachutes for me and my pupil. The thermals were strong enough to fly for over an hour, and it would certainly have been possible to fly to Eindhoven airbase.

I had to cut off this flight because I did not want to take the risk of a useless landing outside the airbase.

FRANK FOSTER MEMORIAL FUND

A COMMITTEE was set up by the London Gliding Club to consider what should be done with the generous donations made by members of the gliding movement to the Memorial Fund for Frank Foster, and it has been decided that the money shall be put towards the purchase of two Trophies. One is to be a National Trophy, awarded annually for the best speed achieved round a 100 km. triangle in the United Kingdom. The second trophy is to be awarded annually by the London Gliding Club for the best out-and-return flight made by a member of the club flying from Dunstable.

The Committee are most anxious that the Trophies should be not only beautiful to behold but contemporary in design and made of some material that requires little, if any, cleaning (i.e. not just another silver pot). The Committee would be very glad to receive any original ideas and suggestions on the design of these Trophies.

Any further donations to the fund will be gratefully acknowledged and should be sent either to the London Gliding Club or the British Gliding Association before the end of May 1959.

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The Mud of Mazanoovka

by Philip and Kitty Wills

(concluded)

At the end of the first instalment, published in our last issue, Philip Wills had just landed in Eastern Poland after a 7½-hour flight from Leszno during the 1958 World Championships, and a young man with a motor-bike had offered him a pillion ride to the nearest telephone. They have just set off along a muddy track towards some distant woods. His wife Kitty, whose contributions to the story are printed in italics, is at a village police station east of Warsaw with Harry Midwood and the car and trailer, waiting for news of Philip by telephone from Leszno. They have already encountered Frank Irving who is retrieving Tony Goodhart.

The track was slightly raised above the level of the fields, which seemed very wet, and the potholes were full of mud and dirty water which made it quite impossible to judge their depth. We skidded and weaved along at about 10 m.p.h. for about 700 yards and then my driver misjudged one and we slipped into it and fell off with a loud splash, whilst the engine spluttered to silence. The carrier bracket caught my chin with a gristly crack, and for a short time I wondered if I had suffered structural damage, but, after hobbling about a bit and wiping the mud off the more important parts, decided I was still operational.

However, the bike did not seem so certain of this, and refused to go again in spite of determined kick-starting, until I pointed out that the carburettor intake was blocked by a film of mud. After cleaning this off very roughly (everything had got very rough by now), it stuttered to life again and we set off again more gingerly than ever, with me hanging on to the waist of my driver for dear life. By now I had discovered that the nearest telephone was some 10 km. away, and I was exceedingly worried that I had left my machine untethered in its field, but it was more than I could face to return to it after having suffered so much already.

And so we slithered and skidded through the fields and entered the woods, upon which the track got even worse, and suddenly we were off it altogether and weaving a crazy path along a narrow sheep-track amongst the trees, with branches whipping my face and tree roots shaking my weary bones. This produced another and horrible problem.

It was blindingly obvious that, whether or no there was a route by which Justin might reach the Skylark, this was not it, and, furthermore, it seemed more than likely that I was not going to get back to the machine that evening. And so it became quite vital that the message on my "Understanding Form", to be telephoned in Polish to Leszno and then passed back to Justin, must *not* be to go to the machine, for if that got through Justin might spend the evening of its days hopelessly bogged in the edges of what I now realised were the famous Pripet Marshes. I was going to the village of Tuczna, which I gathered was on a possible road, and clearly this is where Justin must come. Then it could pick me up and we could set off to try and find a way back. But could I get this essential alteration to the Understanding Form across to my Polish friend?

After an age, the wood track led back to a sand road and then to a rough metalled surface which led into a rather larger version of Mazanowka, but boasting a navigable connection to the outside world. We halted in a cloud of smoke outside the militia post and went in. I produced my form to the uniformed militiaman inside and started trying to explain the vital variation in my few words of German. My motor-cycle friend joined in, also the assistant militiaman, but after a quarter of an hour's hard pounding I had not the slightest idea as to whether I had been successful or not. But the telephone was seized, a number obtained, and much shouting went on—shouting over the Polish telephone system being an absolute necessity. When it was all over the militia-



man managed to convey to me (a) that he had been talking to his chief in Wiznice, and (b) that he could not get Leszno that night, but I would now be advised to "schlafen".

Appalled by this prospect, I pointed once more to the bit on my "Understanding Form" underlining urgency, and produced all the other documents I could think of. This resulted in us leaving the house and clattering off down the village to the Post Office. After beating on the door for a while the Postmistress let us in and led us into a tiny wooden room with a small exchange, which she started to manipulate.

Time went on, and news filtered in from the outside world. Two other glider pilots were down in the vicinity, one a bearded Englishman whom I had no difficulty in identifying as Tony Goodhart. At Miedzyles Pani Tomawicz's baby had been born and was well. I was clearly in the very centre of the village life. But Leszno was still far away.

One or two other folks edged their way into the tiny room, one man with a few words of English; him I seized and tried again to explain—please could my team come to *Tuczna*, not go to *Mazanowka*—*die Strasse ist nicht gut für die Wagen*—do you understand? It is *very important*—please? Yes, yes, I understand—I think. Oh hell!

With a crescendo of shrieks, Leszno was announced, and everyone seized various telephones and started talking at once. A brief silence straining for the reply; more, louder shrieks; then someone thrust a phone

into my hand. It was now nearly dark in the tiny brown room, and the noise and heat were almost insupportable. I clapped the receiver to my ear, and above the roar of electric crackles heard, faint and far off, a very canned rendering of "Body and Soul". Later on I learnt that through some diabolic technicality the Leszno telephone picked up Warsaw radio, but at the time I thought this was the aerodrome public-address system engaged in broadcasting music to the locals. But whatever it was, it added the last touch to the nightmare.

For exactly 25 minutes we each took turns to shriek into the instrument, trying to get our message through the barrier of jazz. My efforts got no further than to elicit a broken English voice repeating, "What is your telephone number?"—a number I howled back unendingly at least 20 times.

Now, I like Kitty—in fact, I don't know what I would do without her. I have nearly lost her once or twice during our reasonably long married life, notably to a rogue hippopotamus in Zululand, who once chased and very nearly caught her (but that is another story), and I could not bear the idea of her finally sinking without trace in the Pripet Marshes trying to the last to reach my glider, whilst I was dry and safe ashore in Tuczna. And whether or no this happened seemed to depend entirely on whether or no I could shout down Mr. Elvis Presley. And so I shouted—how I shouted—I was hoarse for days afterwards; but when it was all over, and in

despair and exhaustion we hung up the instruments, the handles moist with perspiration and the mouthpieces with saliva, I still had no idea whether my message had got through. As a matter of fact, it hadn't.

I had had 7½ hours in the air, nearly an hour on a skidding motor-bike carrier, followed by two hours' shouting and gesticulating. I had shot my bolt and was very tired. A guide led me out of the tiny Post Office and down the dark rutted road until he dived down a footpath between two decrepit small houses which led across the muddy fields to a farmhouse. Here I was greeted by the farmer, Pan Jana, and his wife and numerous small children and relatives, and in a steamy warmth took off some of my muddier clothes, washed and



sat down to a blessed meal, my first since breakfast. Soon we were joined by my friend the Militiaman and his assistant, and a bottle of vodka. We ate enormously, talked broken German, and I got very sleepy indeed. Finally I was put into the Jana's double bed, and the light switched off, and the last thing I remember was the double doors opening and a tin jerry being courteously poked inside. The Poles are a dear people, and they like the English.

At last, news. Both pilots close to each other and near the border straight ahead, so we had guessed right. Philip is at a village

called Mazanowka; it's not on our map but the policeman puts a cross on where it should be. It's now dark, 10.30; we dash on to Biala Podlaska and turn off the main road south, as Harry thinks we had decided to get to our pilot from that side. Frank, however, calls us on the wireless to keep straight on; Harry and I have another look at the map and decide he is probably right, so we back and follow Frank.

This turns out to be a very important decision; if we had tried to reach Mazanowka from the south we would almost certainly not have got to the glider, but even if we had we shouldn't have found Philip, who was by now in a village some way north of it, along a quite impassable track.

Some way on, we turn off on a secondary road, and immediately our speed is enforced to 15 m.p.h., mile after mile of it. We reach a fork and suddenly a man looms up with a bicycle. He says, "Piloten schlaffen". We think: how lovely—they must be in this village. We all rush after this policeman, go into a house expecting to hear snores at every turn, and walk right through it to find that we are mistaken; the policeman is only putting his bike away in a shed at the back.

Out we go again to the trailer; the policeman climbs into the car smelling strongly of beer and we go off further along the road.

We stop; the policeman gets out and dashes off down a grassy path; we follow him this time a bit doubtfully. However, after what seems a long time, there is a house on our left, the policeman dashes up to a window and says, "psst", and like a miracle out pops Philip's head!

By chance, by intuition, by good judgment, by a miracle, Justin had come down towards Mazanowka by the track passing through Tuczna, and so had found me on the way. The situation was saved—that is, if there did actually exist some track smooth enough to enable us to reach the Skylark and get her out again in the trailer in one piece.

In our combined broken German we again tried to explain our problem. The militiaman did, we thought, indicate that we might get through by going first to Miedzyles and then striking for Mazanowka from the west; but to our disappointment he failed to underline his confidence in this course by accompanying us to show us the way.

Saying good-bye to the blessed Janas, who indignantly refused all idea of payment, we set off back over the fields to where Justin and Frank loomed out of the dark like two prehistoric monsters, and, waving good-bye to half the village who, in spite of the hour (it was now 2 a.m.), had assembled to see us off, we set off down a new road to the east. We reached a fork where we said farewell to Frank, and bumped off to the south-east towards Miedzyles. The moon had risen and shed its quiet light over the lonely flat land on each side of us, and eventually we came to a few cottages, and a rough earth road leading off on our right towards our goal. It looked a hopeless prospect, but we saw a dim light in a cottage and stopped to ask if it was likely to be navigable.

As we stopped the engine, the night filled with the croaking of frogs, and two weed-covered ponds beside the track reflected the moon overhead. I opened the gate of the tiny garden, walked between tall bushes to the door and knocked. Instantly the light went out, there was a scuffle inside, then silence. I knocked again and peered in through a window. For a second I saw the dim shape of a large old crone rolled up in a mass of greyish knitting, peering at me through a door, but instantly she vanished. I tried a few words of my halting German, hoping my voice would sound friendly and unafrightening, but without result.

Later we were told we had possibly interrupted an illicit still in operation; but at the time I was stumped, and eventually sadly returned to the car. We decided the side-road looked too risky and drove straight on to the south. After a few miles, however, this intersected a fairly good road running east-west, which clearly was the main road from Wicznice to the border, and indeed a mile or two along it to the east we saw the powerful beam of what looked like a searchlight at the frontier post. We were very surprised to think that the Polish-Russian border was protected in such a drastic fashion, but two days later the news of Nagy's murder in Hungary and the associated political repercussions made me wonder whether, just at that time, this border was as friendly as I had imagined, and what might have happened to me if that one additional thermal had after all appeared and wafted me over to the Russian side of it.

Evidently we had overshot, and the earth-

track in the village was the one which appeared on our map and had been recommended to us. Wearily we reversed and drove back, and turned left along it. It got rougher and narrower, and banked up from the surrounding muddy fields, and after some miles we realized it was far too dangerous to risk going further.

The moon had set; it was 4.30 a.m., and in the darkness we unhitched the trailer again and gingerly hauled it round on the embankment to face the other way. Now came the problem of turning the car and getting it round again to the front, but various perambulations down the ramp into the adjacent fields showed a possible way which proved just navigable. We hitched up again and set off. The last hope was to go back through Miedzyles, on to the cross-roads, turn west towards Wisznice and try to get up to Mazanowka, this time from the south. If this failed, we should have to think in terms of horses and days.

We reached the cross-roads and turned right, and as we did so a faint light appeared in the east—the sun was rising and with it rose our weary spirits. Somehow we felt if we got bogged we could push harder in daylight, and, anyway, we could always find help.

* * *

Harry and I decide to open and eat our reserve of food—the cake. It's delicious, like plum pudding, and puts heart into us. We try another road. I lie flat in the back on the mattress while we rush boggy holes, one at a time, and Philip and Harry get out after each one to see how best to get through the next, prodding it with sticks to see where it is shallowest. I hit the ceiling and it's a miracle the trailer hasn't gone over.

We reach a village with a main street like a tank-exercising ground and, at last, there is the Skylark sitting looking very charming in the dawn at the edge of a maize field. As we get to it, two old bearded shepherds dressed in ragged sheepskins rise up—I think they have been looking after it all night.

It's now 6 a.m.; the village turn out to see it put away. Last of all a small boy of five, who has obviously woken up to find the house empty and leapt into his elder brother's clothes—long holey black trousers, coat and enormous cap with a peak. He's such a comic figure we all laugh and feel sorry when he

turns back pouting and, shuffling each bare foot, makes off back to the village. However, he is coaxed back and I give him one of Philip's sweets out of the cockpit for each cheek and he's happy.

We put the machine away with intelligent and kindly help and we are shown a way out through the fields which on the face of it looks no better but turns out to be not half so bad.

We then start off on an endless drive and a deviation which we should have thought impossible if we hadn't met an old bus coming along it the other way. Back on the main road I drive till 8 a.m., the other two are too far gone to notice that I'd fallen asleep twice and found myself on the wrong side of the road. At last a town and we ask

career in this field occurred in Yugoslavia on 17th July 1955, when I established a record that will stand possibly for years. So far as I know I am still the only British pilot who has flown a Bosnian flea from Rosario to Krusevac in a Weihe on a Tuesday. And when Kitty caught it, such was its size that the cake of soap in which it was embedded could be seen to febrilate. But that again is another story.

The trouble is that, once aboard, I find all the discoveries of modern science all too inadequate to persuade my unwanted guest to abandon me, and he raises such bumps that I have sleepless nights which, in a gliding championship, can easily destroy one's chances of success. But all my Great Deterrents were nestling in our tent in



for a restaurant for breakfast. A man shows me where there is one, and after breakfast we find him outside and I am presented with a bunch of flowers, roses and all, the best out of his garden. They are like that in Poland.

* * *

Not long after leaving Biala Podlaska, it became all too clear that, in addition to breakfast, I had there also acquired a flea. Now to many people this would be a trivial matter, to dismiss with a light laugh, but not to me. For I have a peculiar effect on fleas, and they on me. Whatever my attractions may be in other directions, any flea within half a mile of me acquires all the homing instincts of a carrier pigeon. I have been known to get into a Continental railway carriage with six friends, and get out with 15 fleas, whilst not one of my companions had one. The summit of my

far-away Leszno, so there seemed nothing to do but grin and suffer.

Around 11.30 we entered the outskirts of Warsaw, that extraordinary capital city rising from the ruins of the war. Here the Poles have performed miracles of reconstruction, but the old scars are all too visible, and the whole city is dominated by the fantastic Palace of Culture, built and presented to Poland by the Russians. This cloud-piercing elephantine wedding-cake may or may not indicate a high level of Culture on the part of the donors, but it is a sad reflection on their sense of humour.

In Warsaw we met the Goodharts on their way home. They were lunching grandly at the British Embassy, but I was in a fever to get back to my D.D.T., so we went on. We also met a very sad Swede still searching for his pilot, having so far been completely defeated by the Polish

telephone system, so felt we were amongst the lucky ones.

Racing along the first-class Warsaw-Poznan road, I tried stern measures on Algernon: I removed my trousers and hung them flapping out of the window. Turning a corner, we flashed past the Deane-Drummond team drawn up by the side of the road, and I retain a vivid memory of Evie's look of consternation as she took in our flying caravan with its unusual banner streaming in the gale of our passing.

We took turn and turn about to drive and doze in the back for the rest of the day. This is the dangerous part of a retrieve, when tiredness steals on the driver and, before he knows it, car and trailer start to sway and snake into an irrecoverable skid. We met one such unfortunate, with his car and trailer destroyed but the all-important glider miraculously undamaged, and when we got back heard of two teams hopelessly smashed and out of the contest. But we soldiered on and at last, in the evening, as 800 miles came up on the speedometer, we crept into the airfield, tethered our mud-splashed trailer in the still empty park, then I fairly fled for our tent, the D.D.T., the showers, and a complete change of clothes. We ate, half asleep, and fell into bed.

Epilogue to Algernon

It is possible (though perhaps barely conceivable) that the reader would like me to conclude, so far as I know it, the life history of one of the characters who hopped unexpectedly into the story of the flight just recorded—Algernon, the flea of Biala Podlaska. In any case, it is one purpose of this chronicle to show those interested the full scope of those problems of Nature with which the ambitious sailplane pilot must be prepared to contend.

On 27th June I got up after a fairly dreamless night and, although still a little thick in the head, I was delighted to find that the depredations of Algernon appeared to have ceased. Possibly he was even now ambling in a puzzled way along the Warsaw-Poznan road, or maybe he had succumbed to the stifling clouds of D.D.T., or even be still sharpening his fangs in my discarded clothes. No matter, I appeared to be alone again.

At briefing, although exhausted pilots were still arriving back from the Russian border after the flights of two days before, a task was set to fly as far as possible along a line to the north-east crossing the town of Inowroclaw.

Once more my ever-faithful team and I went through the preliminaries, and as I walked up to the Skylark, again parked for take-off in the back row, my epidermis flashed a ghastly suggestion to my brain. Could it be?—no—yes—it was—a hasty examination produced conclusive proof—Algernon was back. How the little devil did it I shall never know, but without doubt he was back in residence again.

I had about half an hour before my take-off time arrived. Was I to go off on a tricky flight carrying my little incubus, which might well take my mind off the all-important green ball of the variometer? No—I must act, and quickly. Leaping into the car I rushed to our tent, snatched the tin, fled to the wash-house, stripped to the bone in the tiny cubicle of the shower, seized the tin and peppered myself liberally—with Nescafé. I had grabbed the wrong tin. I flung on my clothes again, ran back to the tent—the right tin this time—back to the showers—further powdering operations—re-dress—hurry back to the Skylark—just in time—I jumped in, sat down, producing a puff of smoke like a tiny explosion—straps on, shut the cockpit cover—we are off. Are we alone? . . .

Time brought the answer—we were. What did the trick, the Nescafé, the D.D.T., or the sheer, breathless determination of the onslaught? I do not know. I like to think of Algernon marching indignantly away, muttering under his tiny breath, "Not at all the thing—definitely non-U."

Whether or no this was the reason, this day proved my best, and also Justin's triumph. For as I came in to land over some trees into a field 120 miles away, to my amazement I saw, waiting in the road below, Justin and my incredible team. Another 300 miles' motoring after the 800 miles of the previous two days' saga produced in Kitty a state of mind akin to telepathy, and she was there. As I have said before, I don't know what I should do without her.

Text and illustrations reproduced with acknowledgements from "Flight".

British Gliding Association News

National Championships

Helpers are wanted urgently for the National Gliding Championships from 9th to 18th May. Please apply to Lasham Gliding Centre, near Alton, Hants,

Cloud Flying

The Council has agreed that the following new Operational Regulation should apply to all gliding clubs in the United Kingdom:

No glider shall enter cloud within a radius of five miles of a gliding site except from at least 200 ft. below the lowest part of the cloud.

Annual Awards

The following Annual Awards for 1958 are being presented at the B.G.A. Ball:

DE HAVILLAND CUP for greatest gain in height: to Flight Lieut. Anthony Morgan, R.A.F., for climb of 15,340 ft. in an Olympia at Nympsfield on 2nd August.

MANIO CUP for best goal flight: to Paul Minton for dog-leg flight of 204 miles from Lasham via Edgehill to Great Yarmouth, in a Skylark III on 11th May.

WAKEFIELD TROPHY for longest flight: to Sgt. A. W. Gough, R.A.F., for flight of 348 miles from South Cerney to Heerlen, Holland, in a Skylark III on 21st May, setting up British National and U.K. distance records.

CALIFORNIA IN ENGLAND TROPHY for longest flight by a woman pilot: to Mrs. Anne Burns, for flight of 192 miles from Lasham to Perranport in a Skylark III on 12th April, setting up National and U.K. feminine records for distance and goal flight and U.K. feminine record for speed over 300 km. (39.3 m.p.h.).

VOLK CUP for best out-and-return flight: to Sgt. John Williamson, R.A.F., and Mrs. Ann Welch, for flight of 102 miles from Lasham to Westbury and back in a T-42 on 28th May, setting up National and U.K. two-seater records for out-and-return.

SEAGER CUP for best two-seater performance: to W. A. H. Kahn and Sgt. J. Williamson for goal flight of 195 miles at 43 m.p.h. in a T-42 from Odiham to Perranporth on 12th April.

International Glider Trade Fair

A TRADE Fair will be staged this year for the first time at which all forms of gliding equipment will be on show. It will be held on Saturday and Sunday, 9th and 10th May 1959, at Lasham Aerodrome near Alton in Hampshire, and will coincide with the first week-end of the 1959 National Gliding Championships.

The Fair will be housed in a new hangar which is 70 ft. by 50 ft., and it is hoped that all British and many foreign manufacturers will exhibit their wares. These range from Oxygen to Barographs, Parachutes to Paint, Instruments to Gliders.

The Fair will be sponsored by the British Gliding Association and stands will be available to firms in the same way as at the S.B.A.C. Static show.

It is hoped that all members of the Gliding Movement will visit the Fair as it will give them a unique opportunity of seeing all the equipment produced necessary to gliding operations. Foreign buyers and visitors are particularly welcome. There is

ample accommodation in near-by towns and visitors will also be able to watch the National Gliding Championships and inspect the many machines on show.

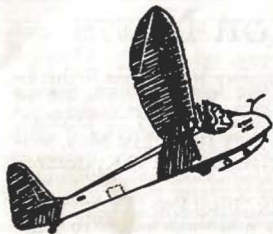
It is the intention that this show will be held on the first week-end of every forthcoming National Championship meeting, wherever they be held.

R.Ac.C. MEDALS

The Silver Medal of the Royal Aero Club has been awarded to Mrs. Ann Welch "for her contribution to the gliding movement and as manager of the British teams competing in the World Gliding Championships."

The Bronze Medal has been awarded to Sergeant Andrew W. Gough, R.A.F., "for his selfless devotion over a long period of teaching others to fly and for his British Distance record flight of 347 miles during the R.A.F. G.S.A. contests last year."

Congratulations to both!



ITS - ALL - YOURS

For and About Instructors



IN recent years the concentration of design and development effort in Britain has been on improving the performance of cross-country and competition gliders. This policy has produced excellent results internationally, and has been responsible for tremendously progressive soaring at home. But if we are to reduce the growing number of accidents which are occurring on performance gliders when flown by

relatively inexperienced pilots, it will be necessary to have school aircraft whose handling characteristics and performance fit in with modern practices and technique.

I feel that it is a matter of urgency that the best brains of our gliding industry are now given to this problem.

The following are some thoughts of my own on the subject, written in the hope that other instructors will contribute their own ideas.

A MATCHED FLEET

WHAT is the best combination of aircraft for training pilots? Some instructors favour the minimum of types. They argue that the more people who can fly any aircraft at the launch point the better, and that maintenance and spares problems are eased. Others say that a variety of types is desirable because the pupil feels that he is really progressing, as he advances from mark to mark. At the present level of frustration in gliding operations this is obviously a valid point. But would it be if club members had to wait less long for a glider and then be free to use it to the maximum of its (good) performance?

In most clubs the above argument is in any case purely academic because instructors have to make the most of what the club already possesses, or what it can buy with existing funds, which may not necessarily be what it would really like to have.

But if instructors could choose, what club gliders would they have? How many C.F.I.'s spend hours thinking about THE IDEAL FLEET in their baths, particularly after a day when the pupils have seemed all wrong for the gliders, or the gliders unsuitable for the weather? As all the best sports thrive on a spot of controversy, I am going to give my ideas of what I think is

needed for the immediate future to satisfy the instructor, the customer, and as far as operations are concerned, the club purse.

I would hastily add here that I am not complaining about existing gliders. Many of these, such as the T-21b and Olympia, have been and are of immense value, but with the passing of time more knowledge exists, and equipment incorporating this experience is required.

In general, I think that three gliders are needed for club use. A two-seater, a general-purpose single-seater, and high-performance single-seater. Other variations will, of course, be wanted by some clubs, and by private owners, but production efforts could be concentrated on these three types with resultant financial benefit.

The Two-Seater

1. PERFORMANCE.—This should be at least as good as an Olympia so that the aircraft can be used for all aspects of club training—elementary instruction, cross-country soaring, aerobatics and cloud flying. It will of necessity have an enclosed canopy and speed-limiting air brakes. It should have a full set of controls for each pilot.

2. SEATING.—Long experience both in aeroplanes and gliders has shown that the benefits of side-by-side seating overcome any disadvantages of possible poorer performance and view.

3. HANDLING.—The aircraft should be docile, but capable of spinning for demonstration purposes. It should have a low minimum speed, and be fully controllable near the stall without developing a high rate of sink. The stall speed should not be higher than 32 knots. The controls should be well harmonised, light and responsive.

4. SIZE AND WEIGHT.—There is no problem in handling a big glider provided that the wing-tip ground clearance is good. The weight, however, should be kept down to 700 lbs., otherwise ground handling and launching problems become considerable.

5. MISCELLANEOUS.—Quick and easy ballasting arrangements are necessary so that solo flying is uncomplicated. A simple wheel brake is desirable, and the glider, of course, should be of rugged and simple construction. De-rigging should be straightforward.

General Purpose Single-Seater

The ideal would be a glider of Skylark II performance, with the low-speed handling of an Olympia. There is no problem in putting inexperienced pilots on gliders of good performance, provided they are not

allowed away from the site, but it is obviously advisable that such gliders should be very tolerant of inexperience near the stall and during the landing. The pupil pilot needs time to think during his approaches and landings for quite a while after he is solo, and if everything is happening too fast for him he will be more inclined to make a mistake.

These two gliders should be enough for all club needs, and they should be designed to have as similar handling characteristics as possible and be similar in other ways, such as cockpit layout, view, seating, etc.

The third aircraft—the high performance single-seater—may only be needed in the larger clubs, either for general advanced soaring or as a “perk” for instructors, and the Skylark III or equivalent is likely to be more than adequate for the purpose for some time.

Finally, the first two gliders should be designed primarily for English conditions, and be able to soar in weak lift—either hill or thermal. It should not be impossible with the knowledge that exists today to widen the performance range of gliders. Gold C's should be possible on both gliders in good weather, but on the marginal days which are much more prevalent, the mediocre pilot should be able to stay in the air despite his fumbblings, because in this way he will learn to soar sooner and better.

ANN WELCH.

Gliding Certificates

SILVER C CERTIFICATES

No.	Name	Club	Date of Completion
772	T. F. Smith	Avro Gliding Club	4.1.59
773	R. A. F. Farquharson	Salisbury Gliding Club (S. Rhodesia)	8.11.58

C CERTIFICATES

Name	Gliding Club or A.T.C. School	Name	Gliding Club or A.T.C. School	Name	Gliding Club or A.T.C. School
L. G. Savory	Northampton	S. R. Tomlin	London	D. Doong	Perak
J. T. MacArthur	621 G.S.	D. M. Macpherson	Wessex	A. F. Casbon	Perkins
G. C. Stringfellow	Windrushers	F. S. Lipman	Cornwall	R. B. Grant	Kent
A. J. Brown	Sherwood	W. T. Lewis	Cornwall	I. L. Salmon	Windrushers
H. Andonian	Empire Test Pilots' Sch.	M. Greenwood	631 G.S.	G. B. H. Collinsplatt	London
K. Moseley	Derbyshire & Lancashire	M. G. Ashford	621 G.S.	R. Q. Barrett	London
		F. B. Rielly	East Anglian		
		H. Wright	Perak		

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| (2) Keel. | (7) Seat bulkhead re-designed. |
| (3) Stringers immediately aft of trailing edge. | (8) Plain release cable. |
| (4) Bulkheads supporting tailplane. | (9) Full A.R.B. rough gust category. |
| (5) Two-point fixing to tailplane. | |

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GLIDING CLUB STATISTICS FOR 1958

I. AIRCRAFT & FLYING

Gliding Club or Association	Aircraft Owned				Launches		Hours		Flying days		Cross-country miles	
	Two- seat	High perf.	Secon- dary	Private	On club site	By club gliders	On club site	By club gliders	Total	Soaring	From site	By club gliders
AIR TRAINING CORPS	—	—	—	—	71,713	71,713	4,586	4,586	—	—	—	—
BRISTOL	2	2	4	6	7,170	5,765	1,411	793	201	89	6,306	1,009
CAMBRIDGE UNIVERSITY	1	2	2	1	3,371	4,209	408	674	187	94	631	909
COVENTRY	3	—	3	4	6,764	6,327	969	482	125	77	560	163
DERBYSHIRE & LANCASHIRE ..	2	1	4	7	4,517	4,006	911	542	130	65	113	771
KENT	2	1	1	1	5,918	5,818	600	520	140	57	18	17
LONDON	3	4	4	9	10,280	9,488	2,985	2,208	259	85	7,673	2,907
MIDLAND	1	5	2	2	6,522	5,022	2,560	1,680	175	154	2,236	780
NEWCASTLE	1	1	2	6	2,208	1,810	265	180	104	32	75	—
OXFORD	1	1	1	2	3,865	3,320	430	325	98	53	154	117
SCOTTISH G.U.	1	2	3	2	2,801	2,660	668	521	139	82	1,606	576
SOUTHDOWN	1	2	1	1	3,295	3,511	317	372	80	38	6	142
LASHAM CENTRE	4	8	—	18	23,000	21,000	3,880	2,830	322	157	1,924	1,924
YORKSHIRE	2	1	4	5	3,544	3,184	1,069	792	130	83	438	252
ABERDEEN	1	—	4	—	2,237	2,237	142	142	71	6	—	—
AVRO	—	—	—	—	—	—	—	—	—	—	—	—
BLACKPOOL & FYLDE	1	—	2	—	911	911	—	—	45	—	0	0
COLLEGE OF AERONAUTICS	1	1	1	—	351	441	32	44	37	12	20	220
CORNISH	2	—	1	3	5,117	5,057	532	503	170	103	324	274
HALIFAX	1	—	1	—	649	649	34	34	37	0	0	0
HANDLEY PAGE	1	1	1	—	910	957	—	109	59	15	33	225
ISLE OF WIGHT	—	—	—	—	—	—	—	—	—	—	—	—
LAKES	1	—	2	—	611	602	45	43	30	8	—	—
NORTHAMPTON	1	1	5	2	1,798	1,615	173	167	65	25	0	0
PERKINS	1	—	2	—	2,109	2,109	200	200	84	36	0	0
TAUNTON VALE	1	—	1	1	1,500	1,250	100	75	48	15	0	0
R.A.F.G.S.A.	18	13	28	—	34,719	34,719	3,664	3,664	—	—	8,048	8,048
ROYAL NAVAL G.S.A.	1	—	3	—	907	907	64	64	42	6	—	—
TOTALS	54	46	82	70	135,074	127,574	21,536	16,964	—	—	30,165	18,328

NOTES.—Totals given do not include A.T.C. figures. Lasham Gliding Centre includes statistics of the Army, Imperial College, Surrey, Crown Agents and Polish Air Force Association Gliding Clubs. Kent G.C. figures include those for the Royal Engineers G.C. The R.A.F. Gliding & Soaring Association includes East Midland, Wessex, Moonrakers, Fenland, Windrushers, Four Counties, Red Dragon Clevelands and Chilterns Gliding Clubs. The R.N.G.S.A. includes only Portsmouth Naval G.C. Membership of the Army, Avro, College of Aeronautics, Crown Agents, Handley Page, Perkins, Polish A.F.A., R.A.F. and R.N. Clubs is restricted to the organizations concerned.

GLIDING CLUB STATISTICS FOR 1958

II. MEMBERSHIP, CERTIFICATES & CHARGES

	Courses		Certificates (Legs in brackets)					Membership			Charges			Flying fees		Temporary charges
	No.	Pupils	A	B	C	Silver	Gold	Flying	Non-fly'g	Potential	Entrance	Ann. sub.	Assoc. sub.	Launch or Circuit	Hourly	
AIR TRAINING CORPS	—	—	1625	1625	32	—	—	—	—	—	—	—	—	—	—	—
BRISTOL	21	165	13	13	11	5(17)	2(5)	156	74	200	4 gn.	6 gn.	5s.-£2	4s. L & C	18s.	5s. day.
CAMBRIDGE UNIV.	2	—	11	11	9	5(17)	—	240	1	250	nil	7 gn.	1 gn.	4s. 6d. L & C	£1 or less	2s. 6d. day
COVENTRY	—	—	24	24	9	6(14)	1(1)	113	20	150	2 gn.	5 gn.	1 gn.	4s. L & C	12s.	5s. day
DERBYSHIRE & LANCs.	7	70	16	16	14	1(6)	1(2)	178	102	300	4 gn.	7 gn.	2 gn.	2s. L & C	18s.	10s. 3 days
KENT	3	19	—	—	—	(7)	—	150	48	250	4 gn.	6 gn.	1 gn.	4s. L & C	9s.-12s.	5s. day
LONDON	17	200	22	22	12	7(20)	2(8)	350	65	500	6 gn.	7 gn.	1 gn.	3s. 6d. L & C	15s.	5s. day
MIDLAND	10	150	14	14	16	2(12)	(3)	220	50	250	£2	£7	2 gn.	3s. L, 4s. C	12s.	—
NEWCASTLE	—	—	9	8	2	1(4)	1(1)	70	36	100	1 gn.	5 gn.	1 gn.	3s. 6d.-5s. 6d. LC	15s.	5s. day
OXFORD	—	—	17	17	4	(2)	—	74	—	100	nil	£5	£1	3s. 6d. L	12s.	5s. day
SCOTTISH G.U.	6	48	8	8	3	(8)	—	75	6	100	3 gn.	6 gn.	2 gn.	3s. So., 4s. Du., L	15s. So., 20s. Du.	—
SOUTHDOWN	3	36	3	3	3	1(7)	—	87	55	100	4 gn.	6 gn.	2 gn.	4s. L & C	15s. or 20s.	5s. day
LASHAM CENTRE	60	325	56	65	22	(20)	(5)	659	139	—	4 gn.	6 gn.	1½ gn.	4s. L & C	15s.	1 gn. week
YORKSHIRE	6	72	4	3	8	5(18)	—	121	36	500	1 gn.	6 gn.	1 gn.	5s. L & C	12s.	1 gn. month
ABERDEEN	8	42	13	13	2	—	—	36	4	50	2 gn.	4 gn.	1 gn.	3s. 6d. L	15s.	1 gn. month
AVRO	—	—	3	3	—	(1)	—	28	250	—	3 gn.	4 gn.	1 gn.	3s. 6d. L & C	—	—
BLACKPOOL & FYLDE	—	—	4	4	2	—	—	19	2	28	nil	£3	nil	2s. 6d.-3s. L	6s.	—
COLLEGE OF AERO.	—	—	—	—	—	—	—	102	21	200	2 gn.	6 gn.	1 gn.	4s. L & C	15s.	5s. month
CORNISH	14	121	31	31	17	(12)	—	102	21	200	2 gn.	6 gn.	1 gn.	4s. L & C	15s.	2 gn. month
HALIFAX	—	—	4	4	—	—	—	35	4	60	nil	5 gn.	£1	5s. L & C	—	1 gn. month
HANDLEY PAGE	—	—	4	4	1	1(4)	—	25	—	50	nil	3 gn.	nil	2s. 6d. Du., 3s. So.	9s.	2s. 6d. day
ISLE OF WIGHT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LAKES	1	14	2	2	3	—	—	43	19	12	2 gn.	6 gn.	2 gn.	4s. 6d. L & C	16s.	—
NORTHAMPTON	—	—	17	17	5	—	—	66	19	150	1 gn.	6 gn.	1 gn.	3s. 6d. L	15s.	5s. day
PERKINS	—	—	7	7	6	(2)	—	40	—	75	nil	3 gn.	—	2s. 6d. L & C	9s.	5s. day
TAUNTON VALE	2	17	—	16	1	—	—	55	6	100	2 gn.	£4	1 gn.	3s. L	15s.	—
R.A.F.G.S.A.	—	—	193	193	79	(32)	(4)	868	—	1000	—	—	—	—	—	—
ROYAL NAVAL G.S.A.	—	—	6	6	—	(1)	—	100	—	—	—	—	—	—	—	—
TOTALS	160	1285	481	504	234	28(204)	7(29)	4015	957	4525						

NOTES.—The figure of 4,525 for total potential membership does not express the full potential, as Lasham, Blackpool and the Royal Navy have not stated any limit to their potential membership. Totals do not include the Air Training Corps. For individual clubs comprising Lasham, R.A.F. and R.N. organizations, see notes to Table I.
Sailplane and Gliding. 21 W.S.S.

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We are indebted to Joseph Bistany and Zein a Zein Gliding Club of Damascus for the stamps from Syria, U.A.R. Also to Christine Graham-White for the stamps in our last issue and the Polish one in this. Teddy Proll of the Midland Club also sent Polish stamps. If you have any other stamps, do please send them to Wally Kahn, care of SAILPLANE & GLIDING.

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Some Reflections on Phoenix

AND THERMALABILITY

by Air Commodore L. P. Moore

IT is commonly accepted that "minimum Sink", as normally defined, is the criterion of a sailplane's ability to climb in rising air, and that "best gliding angle" is the measure of its ability to penetrate across country between climbs. And so indeed they are when related to successive climbs and cruising in level flight as, for example, between standing waves. Ideally we seek a sailplane combining both qualities in supreme degree, and as it has been possible to achieve super-fine gliding angles at very high speeds without unduly increasing minimum sink, there has grown the modern fashion which has scant regard to weight-saving, abnormal span and high cost. The August, 1958, issue of *SAILPLANE & GLIDING* now, however, raises the curtain on the new German "Phoenix" which sets quite a new standard and comes within a category one can best describe as out-of-this-world.

Setting aside for the moment, however, the astonishing fact that this 16-metre Phoenix has a performance at least equal to the best laminar-flow 17-20 metre sailplanes in the world to-day at between half and two-thirds of their empty weight, and skirting for the present round the ingenious form of construction by which this has been achieved, I would like to dwell for a while upon the basic philosophy behind the design: and may I here quote from the article I have mentioned: "... under certain circumstances" (qualified as average thermal conditions—presumably for Continental weather) "a gain in climbing speed in a thermal is more important for cross-country cruising speed than an extremely high speed in level flight. Great importance was therefore laid on especially good circling flight . . . From the beginning the intention was to get away from the common contemporary trend towards heavy sailplanes with high wing-loadings and to achieve this by reducing the weight rather than increasing the wing area".

The figure of minimum sink is normally quoted for level flight in still air. This usually occurs at a speed fairly close to the

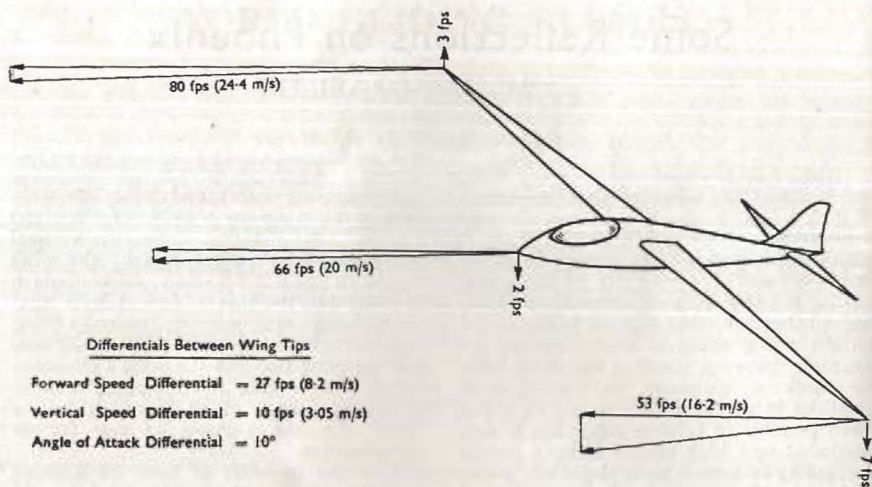
stall (ignoring flaps) and holds good in circling flight up to a bank of about 30 degrees. Beyond that angle, the vertical component of the air forces on the wing begins to taper off rapidly, demanding a considerable increase of speed over that for minimum sink in order (amongst other reasons) to avoid a stall of the inner slower-moving wing tip, and the wing's efficiency rapidly deteriorates. I would like, therefore, to assume a bank of 30 degrees to be the "best" for the purpose of our further consideration.

Now the diameter of turn for a given bank increases with speed, and it would therefore seem to be appropriate to take the circuit flown by a given type at a bank of 30 degrees and a speed of that for nominal minimum sink as being its "best circuit", and then to relate this to climb performance in thermals, which, if I may be forgiven for inventing a cliché, I will call "thermalability".

Because air in the core of a thermal rises faster than air near its perimeter, it matters a good deal as to how closely efficient circling flight can be confined towards the core. Thus a sailplane of nominally superior minimum sink but having a fast wide-diameter best-circuit is frequently out-climbed by one having inferior minimum sink but a tighter best-circuit.

Obviously, therefore, minimum sink must be related to best-circuit before we can assess the thermalability of a sailplane. Alternatively, it could be related to speed for minimum sink—as it so often is; e.g. 2.4 ft. per sec. at 43 m.p.h. Or it could well be qualified by wing loading, as that largely governs speed for minimum sink (and for stall).

I feel sure that what I have written about so far is quite well understood by most of us, but I am not at all sure that the detrimental effect of large span on thermalability in one other particular respect is appreciated. The inside wing-tip of a thermaling sailplane of high wing-span has a much slower airspeed than that indicated in the cockpit, and slower still than that experi-



Diag I Relative Velocities of Sailplane Flying "Best-Circuit to Port in a Thermal"

enced at the outer tip, and, because it is moving through a locally stronger up-current at a slower forward speed, it is flying at a greater angle of attack than is the centre section and outer tip in the normal course. The bigger this differential, the less efficient is the wing as a whole. The differential increases of course with span such that a sailplane of small span can fly a tighter circuit than one of greater span, albeit of equal nominal sink and speed for minimum sink, before the inner tip begins to stall. Thus the airspeed differential between tips of a sixty-footer flying a circuit of 300 ft. diameter at 45 m.p.h. in still air is as great as 18 m.p.h., while that of a forty-footer following it round is only two-thirds that amount, to its distinct advantage in thermalability.

The formulae for circling flight are quite complicated, but it is probably a fair generality to say that wing-loading is the governing factor in determining best-circuit speed and speed for minimum sink. This has evidently been the line of attack of the designers of Phoenix. By designing for the unavoidable thick stabilised skin associated with the laminar wing to take the main stresses, a big redundancy of spar wood weight, common to most laminar types, has been eliminated. It is all the more remarkable that the striking weight-saving achieved thereby has been realised

despite the adoption of a thin wing section (t/c of 14% as compared with the customary 16-21%), and all at a wing-loading about as light as that of a Weihe (18.5 kg./sq. m.). The low speed at which Phoenix achieves in consequence its remarkable minimum sink of 0.53 m/s.—namely 69.2 km./hr.—is the secret of its superiority in thermalability over most of its rivals in the ultra class in average thermal conditions.

The following table of comparison of leading features between Phoenix and famous sailplanes of similar performance in the ultra class, taken from that indispensable book of reference "The World's Sailplanes," published by OSTIV, speaks for itself.

Phoenix comes out top in thermalability at no sacrifice in best gliding angle and only a small one in penetration. Her designers put more importance on thermalability than on penetration, on the grounds that this advantage enables her to set off cross-country between thermals sooner at the same height or at the same time at a greater height than her competitors, and that this more than offsets her slight inferiority in penetration.

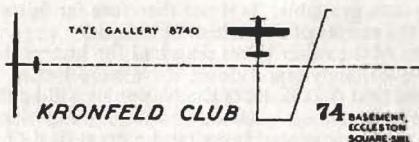
How much penetration can be sacrificed for how much thermalability is, I suggest, an important thing, not yet determined, which designers badly want to know. It would seem to depend upon the gradient of

vertical speed in a thermal from its centre horizontally to its perimeter. We all know that thermals vary much in their structure from time to time and place to place, but perhaps our meteorologists could oblige by defining an "average" thermal for this country as a guide to designers.

Phoenix in the ultra class—and Veltro and Bréguet 905 in the Standard class—introduce within the laminar-flow field of sailplanes a new philosophy which leans more towards thermalability than to

penetration, which achieves low wing-loading at high aspect ratio while reducing span, and which does so by making the thick rigid wing skin, essential to the laminar-flow wing, take the main stresses. Moulded laminates will probably from now on begin to oust the classical wood spar-based construction, if only because, with the expensive mould and prototype once made, quantity production produces a cheaper product. We see it coming about in the small-boat world and we shall, I believe, before long see it in our own.

	PHOENIX	ORAO IIC	METEOR	EOLA 3V-1	OLYMPIA 419	SKYLARK 3B	ELFE M	BREGUET 905s	HKS-3	
Span	16	19	20	20	18.9	18.9	17.5	17.3	17.2	<i>metres</i>
Thickness/chord	14	16.5	16.5	18	21	20	13.3	?	16	<i>per cent</i>
Wing loading	18.5	25.5	31.5	28	21	22.2	28.5	28	25.7	<i>kg./sq. m.</i>
Empty weight	162	356	376	329	272	253	253	260	254	<i>kilograms</i>
Minimum sink	0.53	0.66	?	0.79	0.56	0.55	0.54	0.60	0.53	<i>metres/sec.</i>
Speed for min. sink	69.2	75	?	92	74	70	74	72	66.5	<i>km./hour</i>
Best gliding angle	37	36	42	32.8	38	36	44	36	37.2	
Stalling speed	43	74	67	40	56	58	65	62	56	<i>km./hour</i>



MEMBERS will be pleased to hear that our Hon. Member Mr. Charles Brown has kindly agreed to hold an Exhibition of his photographs at the Club from the 10th to 17th April and amongst these will be a lot of his classic photographs.

Later in the summer the Club is holding a Competition for amateur photographers, subjects being restricted to shots apper-

taining to gliding or light aircraft flying. There will probably be a small entrance fee, but prizes will be awarded.

H.T.

Annual Best Flights

R. L. Porteous, Olympia II, 4th January, absolute altitude 12,100 ft.; gain 11,000 ft.

CORRESPONDENCE

HANDICAPS IN NATIONAL CONTESTS

Dear Sir,

I agree with Tony Goodhart's recent letter in *SAILPLANE & GLIDING* on this topic, though I feel that he omitted the soundest arguments, which are mainly financial ones.

When the Gull II was recently written off, she had logged only 500 flying hours, and judging by the amount of flying which other syndicates achieve, one must put the cost of private ownership of a Skylark III or an Eagle at about £2 per hour inclusive of aero-tows, insurance, retrieves, maintenance, etc., compared with a similar figure of 20-25s. for a club aircraft.

The present rules for the Competitions result not from an objection in principle to handicapping but from a failure to formulate any formula which the pilots agree on; however, their long-term effect as a policy is to encourage an unnecessary degree of investment by many people who are generally at an age when they have numerous other financial commitments, and to allow pilots who are past their best to remain in the forefront simply because they can afford to operate the best available equipment.

The B.G.A.'s policy is sound in so far as it encourages the British sailplane industry, but it obliges anyone who wishes to have a "crack at the establishment" to make absurd sacrifices to do so, and it is unlikely that the Government will give much support to a sport which makes such inroads into the family life of its adherents.

The Goodhart Number is a good basis for a competition handicap system; however, it is only a superficial answer. What is really required is a purge of reactionaries in the B.G.A.!

D. B. JAMES.

Marlow, Bucks.

[The "Goodhart Number" referred to in Tony Goodhart's letter (Feb. 1959, page 37) is to be found, not in *SAILPLANE & GLIDING* as stated, but in the *OSTIV* section of the *Swiss Aero Revue* for May 1958, pp. 269-270. It is a "figure of merit" invented by Nicholas Goodhart for assessing the cross-country performance of any particular sailplane, and is obtained by dividing achieved cross-country speed by absolute thermal strength.—ED.]

SELECTING INTERNATIONAL TEAMS

Dear Sir,

May I make a plea for less politics and more attention to actual results when selecting teams to represent this country in international gliding championships?

As I am now serving for a short time in a most inhospitable part of the world, I can perhaps better appreciate this particular problem because I have been away from all gliding since last July. I have not been lobbied by anybody.

Happily, British Gliding has now reached the stage when there are plenty of international-standard pilots available. Is it not therefore far fairer and would it not cause less bitterness to accept the results of the British Nationals?

I know that I or any of the other pilots who had the honour to represent this country in Poland in 1958 would willingly stand down if we were beaten in fair competition. It should be announced now that the results of the Nationals will be the *only* arbiter.

Nowadays there is no advantage whatsoever in flying experience abroad. The British Nationals are modelled on international tasks (and a great deal of credit must go to those who insisted on this), and our native product really has quite an advantage, especially in weak thermal conditions.

The only time when the Seeding Committee should have any say is if there are less than five competition days. I also believe that only pilots flying as individual entries should be considered.

It might be argued that this makes no allowance for the type of aircraft or for the member of a team. The stage has now been reached when most clubs and many individuals own suitable two-seaters or single-seater gliders. If the clubs have confidence in their pilots and consider he is of a high enough standard, let them hire him a good glider to fly.

Team entries are the greatest fun and give invaluable experience to individual pilots—

but they must not be considered for an international team. Likewise, pilots who fly inferior gliders obviously do not have much of a chance against the more exotic varieties. It may be great fun for the pilot, but he must not expect to be selected.

I do hope some attention will be paid to the suggestions put forward in this letter. I do know that a lot of backbiting and cynical comment will be avoided if these ideas are followed.

The Persian Gulf.

A. J. DEANE-DRUMMOND.

ON GLIDING QUALIFICATIONS

Dear Sir,

Before the war, a gliding flight of 32 miles was quite an epic, and five hours' duration a spectacular if not very useful achievement; but today, with better aircraft, aero-towing, and a vast increase in "know-how", such flights have lost their original value, and the award of a Silver C Badge for one away landing, and one such flight on a ridge, may well be the cause of much over-confidence that is reflected in the Accident Analysis that was given at the recent B.G.A. Instructors' Conference, which showed that the greatest "wreckers" were those in the "five hours plus" bracket!

In fact, there are many who have had limited luck or opportunity to get their Silver C's, but whose numerous abortive attempts have increased their experience way above that of others, more successful.

Surely the time has come to adjust the International Sporting Code, Section 3, as has been found necessary with motor sport, to bring it into reality with present conditions. If this cannot reasonably be done, then why not introduce British Glider Pilot Qualifications, not unlike those for the Private Pilot's Licence, whereby students must be subject to supervised flying until they have completed (say) 30 Gliding, which must include (say) 5 hours "ridge" involving several take-offs and landing from such a site, 5 hours local soaring, 5 "away" landings and a general airmanship examination?

The award of some suitable gliding badge for such limited experience as this would, however, really begin to mean something.

The B badge could remain as a symbol of having flown solo, and of course the Gold Badges do already indicate flights of real merit.

Moonrakers Gliding Club, R.A.F.G.S.A.

R. B. STRATTON.

INSTRUCTORS' QUALIFICATIONS

Dear Sir,

From the description in your current issue, there appears to have been an error in recording my remarks at the recent B.G.A. Safety Conference.

I did not suggest by any means that, if the required qualifications for a C.F.I. were raised, this Club would cease to exist. In fact, I trust that there would now be several instructors who would be able to meet any likely requirements. What is almost without doubt is that this Club would not exist now if there had been a *rigid* requirement for high qualifications several years ago.

Very often the only way for a pilot to increase his qualifications fairly quickly is for him to instruct and so accumulate flying hours. Therefore, *while any measures to improve instructional standards will meet with our absolute approval*, I still think it vital that a new Club may become affiliated in some way to the B.G.A. before and until one of their instructors can meet B.G.A. approval, and so allow the Club to become a normal member. Otherwise the Club's only alternative may be to carry on cut off from B.G.A. advice and so create a far worse state of affairs. It is not true to say, even now, that highly qualified instructors will always be available when a new Club forms, and in a particular case like ours it *might* not be possible to admit one for security reasons anyway.

Incidentally, with regard to Air Commodore Paul's remarks about maintaining the authority of the instructor, our membership form has always attempted to start people off with the right idea by including an undertaking in which, in addition to the usual disclaimer, the applicant confirms that he "realises that in gliding operations the word of the instructor is law."

G. WASS.

Chief Flying Instructor, Handley Page Gliding Club.

PUBLICATIONS

"AUSTRALIAN GLIDING" — monthly journal of the Gliding Federation of Australia. Editor, Allan Ash. Subscription 30 shillings Australian, 24 shillings Sterling or 3.50 dollars U.S. and Canada. Write for free sample copy. "Australian Gliding", 34 Oxford Street, Kingswood, New South Wales, Australia.

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

READ POPULAR FLYING the bi-monthly magazine of the Popular Flying Association. Subscription £1 a year. Specimen copy with scale plans of the Hirtenberg HS9A and history of this unique aircraft 1/6d. from The Popular Flying Association, Londonderry House, 19 Park Lane, London, W.1.

SLOPE SOARING with a radio control model sailplane is a fascinating pastime and a typical phase of aeromodelling. Read about this and other aeromodelling subjects in AEROMODELLER, the world's leading model magazine, published monthly, price 1/6d. MODEL AERONAUTICAL PRESS LTD., 38 Clarendon Road, Watford, Herts.

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

FOR SALE

CLUB, COMPANY and SCHOOL NECK-TIES at reasonable price, in either Acetate or Terylene. MACASETA LTD., Goodall St., Macclesfield.

FOR SALE: KRANICH-I two-sitter performance sailplane (cat. II). German built, Gliding angle 1: 23,6. First class condition, normal flying instruments fitted (2 panels). Dutch C. of A. Price £450. Apply: Royal Netherlands Aero Club, 8 Jozef Israelsplein, The Hague, Holland.

£3: MARK XIV ALTIMETERS, in good condition. £6: Turn-and-slip indicator, 2 hand type, 24 volt D.C., p.p. 2/- . Wilson, 284 Verdant Lane, London, S.E.6.

FOR SALE (contd.)

BENDIX Non-Spillable Attitude Gyros. These exceptional U.S. instruments are now available for export. Complete installation includes 12 volt Inverter, all necessary cables, connectors and instructions. Artificial Horizon Mounts in Standard 3½ in. diameter opening. Inverter draws approximately 1.9 amps. Weight 8 lbs. Sterling payment can be arranged. £150. Thomson, 716 Calle Palo Colorado, Santa Barbara, California, U.S.A.

IRVING PARACHUTES. 3-clip harness and luxurious back cushion. Overhauled by manufacturers. Suitable Olympias and types with box 13 × 20 × 5 in. 20 gns. each. Box 48.

RILEY, 1948 2½ litre. One owner, excellent condition, almost new tyres, battery; many extras, tow-bar (magnificent tug). £340 o.n.o. GREGG, 'phone COVENTRY 3865.

SOUTH AFRICA. Minimoa and Wolf in excellent condition with trailers and instruments. Together £980. Separately Minimoa £700, Wolf £350. Also Kirby Cadet £75. Box 26, Claremont, Cape.

6 VOLT 100/125 A.H. Batteries from Messrs. Gomm & Searle Ltd., L.M.S. Railway Goods Depot, Old Ford Road, Bow, E.3, at £3 each in lots of ten. Suitable for Ford V.18 Powered Winches.

MEISE. Now undergoing complete overhaul including recover. Ready April. Seen Dunstable. Excellent condition. £550 including instruments. Box 47.

WANTED

£100 offered for complete TUTOR or wings only. Jones, 126 Overstone Road, Sywell, Northampton.

TUTOR, in good condition, state price and where it can be seen. F. Wilson, 284 Verdant Lane, London, S.E.6.

INTERMEDIATE SAILPLANE required, preferably with trailer. Details, price, etc. to BOX 45.

SKYLARK II wanted urgently with C. of A. Box 46.

MISCELLANEOUS

GLIDING HOLIDAYS. All are welcome. Solo standard within week. Cambridge University Gliding Club, 316 Cherryhinton Road, Cambridge.

Wave Safari at Long Mynd

WHEN the Midland Gliding Club's "Safari" opened on 27th December, there had been no soaring wind for six weeks; but a soaring wind then sprang up and continued right through the camp until its closing day, 4th January. From Lasham came 34 visitors with four club machines and six privately-owned. The outstanding days were:—

SATURDAY, 27TH DECEMBER.—Club anemometer showed wind of over 50 knots, rising to 60 kts. for a whole hour. Each machine needed 12 to 15 people to hold it down before the bungy launch. Among many climbs in waves the best were: 8,300 ft. by Dave Hooper with Ann Newton in his Eagle; and 9,800 ft. in the Midland Skylark by John Anstie, who reached 11,200 ft. above sea level—but his barograph wasn't working.

WEDNESDAY, 31ST DECEMBER.—Best daily total of flying—18 hrs. Bryan Masters rose slowly to 2,500 ft. in a wave, and Jim Corbett soared the Midland Prefect for 5 hrs.

SUNDAY, 4TH JANUARY.—Brenda Horsfield (Lasham) climbed 6,300 ft. in a wave to 7,700 ft. a.s.l., and a Midland member got Silver C height.

About half the visitors had no hill-soaring experience, so instruction on hill and wave technique was given by David Darbishire in the Army Club's Eagle, and in bungy launching by Jack Minshall of the Midland and Ted Stark of the Army Club.

Ted Stark writes: "Although flying was hindered at times by the short day, low cloud, and rain or snow showers, the expedition proved conclusively that a week in winter on a hill site can be very rewarding. Our grateful thanks to all of Midland Gliding Club who worked so hard on our behalf to make the whole thing such a success."

Mr. Stark also states that over 63 hrs. were flown from some 91 launches, and gives the following aggregate durations by the visiting machines:—

Visiting Club Aircraft

	<i>h.</i>	<i>m.</i>
Eagle	12	40
Bluebottle (Skylark II)	15	50
Flamingo (Skylark II)	8	15
Phoenix (Skylark II)	6	10
Total for club aircraft	42	35

Private Owners

	<i>h.</i>	<i>m.</i>
Hampton & Holder (Skylark II)	5	55
Hooper (Regal Eagle)	2	00
Rika Harwood & Mackinnon (Skylark III),	4	35
Lawson & Hobbis (Kite)	0	25
Anne & Denis Burns (Skylark III)	4	05
Burton (Skylark III)	1	00
Total for private owners	18	00



Rigging a Skylark in the snow on the Long Mynd on 4th January

(Photo by Sally Anne Thompson; courtesy of "The Aeroplane")

FLYING THE FAUVETTE

by Tony Goodhart

SINCE Leszno I have had the opportunity to visit the Bréguet glider factory at Aire-sur-Adour, where I was very kindly shown the complete method of construction. The main "trick" has been to use a very light, though strong, sandwich for the wing in front of the spar, for the fuselage behind the wing and for the fixed tail surfaces. This sandwich is composed of 0.6 mm. ply with an 8 mm. jam of "Klegecel", an expanded plastic.

The Klegecel is pre-formed under heat and the whole sandwich, complete with glue, is fitted into a mould and enclosed in a plastic bag which is then evacuated by a pump so that near-atmospheric pressure is applied to the whole thing through the plastic bag, which has been carefully smoothed while the air was sucked out. The bag is kept evacuated for 48 hrs. so that the cold-setting glue may set thoroughly and also so that any prospective bubbles may be sucked out.

The result, for example for the wing in front of the spar, is a near perfect one piece shape of considerable strength and remarkable lightness; no ribs to cause distortion or add weight, so that each *complete* wing weighs a mere 75 lbs. Compare that with some other wings!

The fuselage consists of three main parts: a steel-tube cockpit, a wing attachment and

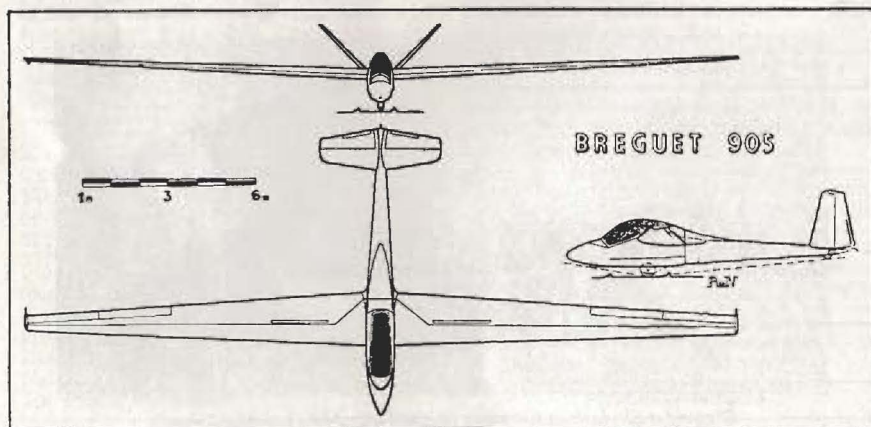
wheel assembly, also of steel tube, and a sandwich cone (no bulkheads) of quite absurd lightness, behind.

As is pointed out in the Bréguet brochure, the aircraft is designed so that each major part is separate and can be replaced as such; indeed the brochure slightly fancifully suggests that a kit of parts can be assembled like "Meccano"!

The butterfly tail looks somewhat delicate but is, in fact, extremely sturdy. As mentioned before, the system of controls for the ruddervators seems a bit awkward, but nevertheless it appears to work entirely satisfactorily, though it is not possible to apply full rudder and pull the "stick" hard back at the same time—but then whoever wants to?—except to see if he can!

The cockpit is comfortable, there is plenty of room even for the over-six-footer and the visibility is excellent in all directions—one can even see the tail fins.

In the air—I had the good fortune to be invited to fly the Fauvette at La Ferté Alais—one has an immediate impression of "being on top of the world" engendered by the excellent visibility and the feeling that the aircraft will do exactly what is asked of it. The controls are crisp, and the rate of roll good, though it is to be improved to make it more compatible with the rudder, which is ample.



A feature which had not occurred to me beforehand, was that rudder movement with the butterfly tail, as well as providing a yawing movement, also produces a rolling one, so that gentle turns can be made with rudder only with practically no noticeable side-slip.

Circling in thermals seemed very pleasant, the aircraft having just the right amount of lateral stability to "stay put" in the turn; the straight stall was straightforward and a stall off a turn dropped the wing but not at all violently.

Fore-and-aft stability seemed adequate but not excessive; the prototype had no trim-tab but one is to be fitted in production models. The dive-brakes appeared to be thoroughly efficient, though a T.V. dive was not attempted, and permitted a really steep approach.

Altogether a delightful aircraft to fly and to handle on the ground, and one which should commend itself strongly to prospective private owners. The Bréguet company and their talented glider designer, Monsieur Cayla, certainly deserve congratulations.

UP and DOWN

International Record Correction

In the list of Gliding Records, February issue, page 29, the international single-seater record for speed round a 300-km. triangle should be attributed to Bozidar Komac, not K. Bozidar.

U.S. Gliding Certificates

A report by the Civil Aeronautics Administration in the U.S.A. states that 3,360 private, commercial and airline transport pilots hold gliding certificates, and that 627 pilots hold glider certificates only.

Netherlands Championships

The 1959 National Gliding Championships in Holland start on Saturday, 16th May; last competition day is 29th May, and prizegiving is on the 30th. The venue is Terlet, just off the road from Arnhem to Apeldoorn. Competitors are limited to 26 from Holland and 4 from abroad.

Guasitrapesicall

A description of the Polish "Gil" sail-

plane in the February issue, page 40, included the word "guasitrapesicall" which we were unable to interpret. Two readers, David Darbishire of Lasham and Cedric Vernon of the London Club, have solved the problem by turning "g" into "q", a letter which is apparently missing from Polish typewriters. The word, which described the wing, then becomes "quasi-trapezoidal."

Gliders had first Elevons

Elevons (control surfaces serving the purpose of both elevators and ailerons) were first used by Robert Esnault-Pelterie on his 1904 glider, according to *L'Aerophile* for June 1905. Mr. C. H. Gibbs-Smith writes in *Flight*. He adds: "This was the first use in history of either elevons or ailerons, although Boulton had accurately described ailerons in his patent of 1868. Cody then used elevons on his ingenious and little-known glider of 1905." Their first use on a powered aeroplane was on Bleriot's Libellule of 1907.

Another Unexpected Downcurrent

Describing to a reporter what happened on an attempted flight from Gibraltar to Tangier in a Stinson aeroplane with three passengers, the pilot said: "We were caught in a violent downcurrent and there was just nothing I could do about it. I managed to prevent the nose hitting the ground, but we came down with a terrific smack and the plane was wrecked." All the occupants had leg and ankle injuries and were taken to hospital.

The occurrence was published in the Press on 13th February. On each of the previous days a strong easterly wind blew through the Straits of Gibraltar although all the surrounding met. stations reported either calm or winds of force 1. Such a wind distribution is not uncommon in those parts, and was described by Dr. R. S. Scorer in a paper on "Mountain Gap Winds" in the Quarterly Journal of the Royal Meteorological Society for January, 1952, p. 61: "gap" winds have even been known to blow a Catalina flying boat backwards while flying through the Straits.

Since a rescue party brought the injured first to Tarifa, it seems almost certain that the downcurrent was encountered in the lee of the mountains which stretch between Algeciras and Tarifa.

SWALLOWING HARD

by John Andrews

How he flew a Slingsby Swallow 300 kilometres on his first cross-country flight is related here by John Andrews to Beau Pautz. Then Boet Dommissie follows with an account of how he secured his third Diamond at the same meeting.

VICTORIA West lies in the heart of the Great Karroo of South Africa—a gigantic, arid area of scrub-covered plain and mountain where three inches of rain a year is the average. The town itself is small and dusty, comprising seven opulent motor garages to serve tourists and wealthy sheep farmers, clusters of mediocre houses and a few hotels. Windpumps whirr ceaselessly, bringing brackish water to the surface.

The geography didn't interest me on 1st January when, together with Ron Shone and Beau Pautz, I drove the trailer into town. It was late at night and we were tired and dusty after 400 miles of travelling from East London on roads that at times would have frightened a tractor driver. In the trailer was the Border Gliding Club's Slingsby Swallow—the first production model, delivered to us three months before. It was still new, glossy and unused—so we thought.

At 7 a.m. on 2nd January, the Karroo sky revealed itself to us for the first time—and so did the holes in the Swallow when we unshipped the trailer door. The tailplane had worked loose from its brackets during the last 30 miles of the trip and had banged and crashed about inside while we towed along in blissful ignorance. Fortunately, the damage was not too bad and fabric patches had to suffice until we got home.

The airfield was desolate and dusty with dirt runways. Dust devils whirled off it and caused minor panics now and then as they lifted sailplanes off the ground with men clinging to them like ants.

To us, this was a paradise compared with our base at King William's Town, where each weak thermal was greeted by the pilot lucky enough to encounter it as a great gift from the Gods.

Since the arrival of the Swallow, I had had only four flights in her. And each had been a miserable bout of circling in air which went down but never up and ended sometimes before the tug plane had even landed. The Swallow and I were certainly

not in tune and I was beginning to get a bit of a "thing" about her. Every time I flew our Ka-2 two-seater, I seemed to find sufficient lift to extend the flight a little.

Anyway, my first flight came on 4th January. Heini von Michaelis loaned me his gallant old Minimoa. It had always been my desire to fly a "Mini", ever since my war-time days in the S.A.A.F. when I had seen her in a hangar. Her fascinating shape had been one of the influences which had carried me into gliding. Here was my opportunity to fly a rare bird indeed.

FIVE HOURS AT TWO MILES

After taking-off blind in a giant red dust cloud thrown up by the tug Tiger's prop wash, I released from tow at 5,500 ft. (All heights hereafter are above sea level. Victoria West aerodrome is 4,000 ft. a.s.l.) I was out for my Silver C duration requirement. A year before I had attained the Silver height gain in a Spalinger 18.

For the first four hours I had no trouble at all. Being large, the thermals were forgiving, and I made the most of the opportunity of putting into practice all I had read or learned in hangar flying about centring in the lift and searching for better thermal strengths.

The Mini, with its low sinking speed, stayed aloft easily even in my inept hands, and I floated around the 10,000 ft. level, whiling away the hours.

At 4½ hours I suddenly began to swallow hard as the red ball showed up with a vengeance and I could not find lift. I was down to 5,500 ft. and falling rapidly.

I was bemoaning my evil luck when I suddenly spotted Beau Pautz in the Swallow, whirling like a Dervish, trying his hands at his first thermal flights. I dashed over in his general direction and found lift near by. I soon outclimbed the Swallow, but again started to descend. I scraped and scraped and finally passed the five-hours mark with a sigh of relief. Strangely, it was then that I began to find plenty of lift again,



John Andrews

and I extended the flight to 5½ hrs. just in case of timekeeping inaccuracies.

That night, Beau and I studied the maps. Winds were generally westerly or south-westerly. A track from Victoria East, roughly eastwards, passed through Richmond, Middelburg and Molteno. The latter place intrigued me. It was just beyond the 300-kilometre radius from Victoria West. Beau must have divined my gold-digging thoughts. "Have a go," he said. So I thought, "Well, maybe."

January 5th was bright and clear. It was to be the day of my first cross-country. Von Michaelis had suggested I land at Richmond 50 miles to the east. The wind was westerly. Strong cumulus development was already taking place in the east. "If I get to Richmond easily, I'll have a try at Molteno," I told Beau. Even if I had known at that stage that Molteno meant a Diamond if it was a nominated goal, I don't think I would have risked the hoots at my inexperienced impetuosity which might have arisen. Anyway, I kept quiet.

After the usual blind take-off I released at 5,200 ft. and scratched about for 20 minutes in weak lift. It was strange to be going up in the Swallow, no matter how slowly.

The big thermal came along and, practising what I had learned the day

before, I soon centred and climbed to 9,000 ft. Clouds had not yet developed. The thermals were of the blue variety.

Not without a slight twinge, I burned my boats and headed for Richmond at a cautious 50 knots. I flew carefully, deviating from track to hop from farm to farm, their fields standing out like green oases against the brown background of the Karroo. A landing in the rough scrub might mean disaster—and there was the little matter of no roads for retrieving.

Thermal strength was about 5-10 f.p.s. and I kept rising to 9,000 ft. I pushed up the inter-thermal speed to 55 knots.

Richmond soon showed up on the horizon. At least my Silver distance was in the bag.

But I soon ran into trouble. The altimeter kept on going down and so did the Cosim. Down to 4,800 ft., I lined up on a green lucerne field and was approaching when the green ball eased up. A tight circle and I was climbing infinitesimally. I stopped swallowing—but started again when I lost the thermal and circled desperately in zero sink, the farmer and his family watching me with great interest down below.

SAVED BY VULTURE

Then, 50 yards away, a vulture appeared. He was circling idly and rising at a rapid rate. Thankfully I abandoned my zero sink and fled towards him. It was a good thermal and I steamed up to 11,000 ft. Richmond was underneath me.

On track to Middelburg, about 20 miles away, large cumulus were building in the sky. This hopeful sign strengthened my resolve to have a shot at Molteno.

I smoked a quiet cigarette and calculated I had averaged exactly 25 m.p.h. from Victoria West. This was slow. I would have to speed things up.

By now I was feeling quite at home in the Swallow. The controls were exceptionally good when compared with those I had experienced the day before in the Minimoa. This cheered me considerably. Thermal flying was made easy by her rapid rate of roll. In fact, the controls were smooth and delightful. Steep turns were easily held. Her high-speed performance had exceeded my expectations. She covered ground at an incredible rate.

The accommodation itself had proved comfortable despite the fact I was sitting on the bare boards, propped up with a pillow so that I could reach the rudder pedals.

There was plenty of space for elbows, maps, water bottles and all the other paraphernalia which usually clutters a cockpit.

Thermal strengths by now were averaging 12-15 f.p.s., and I set off in the blue for Middelburg, rising to 13,000 ft. on each climb. I joined the cumulus midway between Richmond and Middelburg—and found a classic cloud street. I cruised just under cloudbase at an indicated 65-70 knots in zero sink except for the odd gap which had to be crossed between clouds. I never fell below 12,000 ft. These conditions persisted for 25 miles until I was over Middelburg at 3 p.m., an hour after leaving Richmond. Thermals were still strong; it was early and Molteno was at hand. I set off, lusting for gold.

But it wasn't to be so easy in one respect. Out of the plain rose the Bamboo and Vulture Mountains, high and craggy.

It was a wild and desolate wilderness. The peaks rose to 7,200 ft. There were no farms, no signs of life, no water and no roads. I hesitated before committing myself and then pressed on.

Nothing happened. The thermals came up regularly, though on one occasion I descended to 10,000 feet before finding lift.

Finally, from the top of a climb, I saw Molteno. I had covered 25 miles of mountainous country. Molteno was 20 miles away, lying 5,000 ft. a.s.l.

I got there at 4.55 p.m., having covered the distance from Richmond at an average of 48.5 m.p.h. After floating around over the village for half an hour in weak lift, just for relaxation's sake, I did a few loops and settled in a field only a few hundred yards from the centre of the town.

In two flights I had got a Silver C and one Gold C leg.

GOLD AND DIAMOND

On 9th January, I had another chance to fly the Swallow. I was keen to attempt the 500 kilometres into the Free State—a flight which Boet Dommissie had done the day before in his Moswey IV to a nominated goal—a magnificent 330 miles to Senekal, earning his last Diamond.

Von Michaelis wisely detuned my high ambitions and instead I nominated Edenburg in the Free State, 200 miles N.E., as a goal. I didn't think I would get there at first. The weather was bad. After two attempts and landing once, I got away on a thermal, soon after noon, to 12,000 ft.

Clouds deviated from track and so did I to follow them. At one stage I didn't know where I was, the compass being useless. But I sorted things out and found myself over De Aar and not Hanover as I had thought. Here the lift was strong and plentiful. Climbs under vigorous cumulus took me to 14,500 ft. and I flew at 70 knots between thermals.

The flight was almost too easy. Thermal followed thermal. Check points turned up regularly. Finally Philipstown and Phillipolis turned up far beneath. At the last place I climbed to 15,500 ft. under a fast-growing cumulus and I realised that a few hundred feet more would scribe Gold C height gain on the barograph.

SWALLOWED IN CLOUD

Not without trepidation, I switched on the turn-and-slip and in I went. The last time I had flown on instruments was long, long ago, one cold, foggy and warlike day in a Kittyhawk over the Appenines. But that is another story.

Nothing untoward happened. The Swallow was easy to fly and the needle, ball, airspeed routine seemed to come back to me quite easily.

I wasn't greedy. As soon as the altimeter showed 16,000 ft., enough for the Gold climb, I shot out of the side—to find myself heading the right way with the goal, Edenburg, clearly in view 35 miles away.

I reduced speed to best glide angle and set off in sheer delight. I worked one thermal on the way, knowing I didn't really need it, but being safe rather than sorry. By this time I had a headache and felt a bit queer after five hours between 12,000 and 14,000 ft. without oxygen.

Edenburg arrived with 7,000 ft. on the clock and I did a few leisurely circuits to study the town where I had been born when my engineer father was building a bridge there so long ago that I didn't care to remember.

Surprisingly, I found an unmarked aerodrome and not the field which I had expected, and I landed at 17.15 hrs. with a Silver, a Gold, and one Diamond in the bag. The distance had been covered at an average of 40 m.p.h. Conditions were still fairly good, but I decided not to press on.

In fact I felt that, given an early start, the 500-kilometre flight is within the capabilities of our Swallow.

South African Diamonds

by E. Dommissé

THE greatest and richest diamond mines of the world are at Kimberley. This was the centre which we chose for the Nationals during December 1957, for diamonds of another nature. There are great heavily-guarded fields around Kimberley where the diamondiferous ore is left in the open for natural breakdown by sun and air. Inevitably one sailplane club had to go and land behind the barbed wire of this area and great excitement prevailed. Also he got no diamonds.

It was from here at the above-mentioned competitions that Eric Burditt did his famous 511 km. distance flight, the first success in this respect down our way.

We all felt a little down in the dumps that a Rhodesian should come and do successfully what we intended doing ourselves. We were determined to regain our National prestige.

Heini von Michaelis from the Cape Town Club arranged a "performance rally" at Victoria West and invited us all to come and get those diamonds.

The period was to be after Christmas and into the New Year of 1959, closing date not specified. This is our "saison du grand vol" and the camp was a magnificent thought on Heini's part.

It must be realised that Victoria West is 650 miles from Pretoria where I live; also that it lies in very rough, dry country. I would have preferred Kimberley again, as I had flown from there so often over the vast soft fields and grasslands to the east that I knew every inch of it very well. There is also every facility and large hangars at Kimberley which Victoria West lacks. Frankly, the bad roads, rough stony country, the heat and dust of the Victoria West area frightens me and the delicate little Moswey IV equally so. Heini's reply to my objections was merely that I should have no need to land in the first 200 miles of rough.

On the 25th December, Eddie Leeman and I set off—he with the trailer and I by air. It was a good day with a north wind and strong cumulus developing, giving high hopes for 500 km. down south to Victoria West. At 3 p.m. the Moswey poked her nose out of a great mass of cu at 20,000 ft.

and I looked south over the tops of unbroken cloud. No deviation anywhere south was possible, so we landed despondently after doing 175 miles. Thus ended my seventh attempt at 500 kms. which had started with so much promise.

Victoria West is only a small town, sporting a very big standby airfield for airways emergencies. There is a very modern control tower with met. facilities by radio, a very small ruin of a hangar and nothing else worth mentioning except dust, heat and cu based at 10,000 ft. on days preceding our stay, 14,000 ft. after we leave, and the usual 5,000 ft. base every time we get there.

It was Eddie's turn to fly. For three days we messed about achieving very little. Conditions were very good, but starting late and with winds unsuited for long distance in the only possible direction, which was N. to N.E. In other directions Cape Town and the coast to about Port Elizabeth is too near. To the east, Basutoland rears its 12,000 ft. peaks on the 500 km. circle. N.E. lie the great flat wheat and maize fields of the Free State, with good country for 600 miles.

New Year came and went. Heini's boys were very happy flying legs for Silver and Gold C. Eddie and I polished the dust off the Moswey every five minutes and spent all our money putting things back on the car and trailer as fast as they rattled off again after every little retrieve.

EIGHTH ATTEMPT

Came the 4th of January and a N.W. wind. The air was drier, and large storms to block our way less likely. I chose a goal cross-wind to the N.E. and set off full of hope at 11.00. An hour later I got away with the third launch, wet with perspiration and grey with dust. At 2 p.m. I was in despair a mere 40 miles away with some vultures circling hopefully with me. I was far off track with the fierce cross-wind, no clouds formed except on the horizon to the north, thermal strength 1 m./sec. up and 5 m./sec. down. Thinking of giving up, we went slap into 7 m./sec. up and wound it up to 9,000 ft. above ground. Dust-devils

reared their columns all over the area. Flying at 60 to 80 m.p.h., we soon sailed in under the clouds to the north and went ahead ever higher and faster.

In three hours we covered the next 220 miles, cross-wind and back onto track—and then? And then a great thunderstorm built rapidly ahead, rearing tower on tower, making a huge nimbus above and black shadows with white streamers of rain below. The north-west edge was impossible to bypass, and subsiding. The eastern edge was advancing rapidly, leaving me with the decision of going into Basutoland's mountains and lack of roads or braving the storm itself. Choosing to challenge the monster, I went in with oxygen in place and horizon humming. This irrevocably committed, the storm suddenly and completely subsided, leaving me at a mere 12,000 ft. in dead air with heavy rain falling ahead where the goal lay. A very frustrated pilot landed at a small town sixty miles short of the declared goal after completing 270 miles.

Eddie also had a disappointment on his next flight and I had a worse one. Going for an out-and-return record, the turning point was cut off by a predicted front which moved down much faster than expected, blotting out the turning point with heavy rain before I could reach it. With a heavy heart I turned back short. On this attempt 310 km. out-and-return was flown in 4 hrs., achieving nothing. The barograph trace shows an achieved rate of climb of 4.1 m./sec.

THIRD DIAMOND AT LAST

It was Eddie's turn to fly, but he excused himself, pleading slight indisposition which I believe was not real but a sporting impulse on his part to see me try again. We were tired anyway, and all packed to go home; the time was 10 a.m. on 8th January and the day looked drab, with a blue, hot and dusty sky. No wind. No cloud.

I went to the control tower and stood by the teleprinter with my usual awe as reams of communications came clicking out. Then came the met. forecast. Magic words appeared on the blank paper. It was very short: "Winds from S.E. increasing in strength with altitude and on the route to the north. Lapse rate 3° C. Very dry, no storms likely. One-eighth to three-eighths cu. base 10,000 ft. and tops 18,000 ft."

I rushed down the steps, shouting to rig the Moswey. Not a cloud and not a wind,

but away we went behind the Tiger at 10.30. Off the end of the runway, the Tiger turns sharply back and I am frantically waved off! Oh no—not now—this day of days and the Tiger packs up! Frantic enquiries: the Tiger airspeed does not work—some insect in the pitot—well, dash it all, old chap, what do you want with an airspeed anyway—get me off, get me off! The pilot is persuaded, for he sees murder in my eye. Off we go again, wet with perspiration from heat and impatience. Barograph checked, batteries, oxygen, as ready as I would ever be. Goal declared at Senekal—342 miles away to the N.E.

Twenty minutes later the sky popped full of cumulus, base 5,000 ft., climb 5 m./sec. indicated, downs non-existent. With each succeeding cloud the lift got better and the base rose slowly to 7,500 ft. Now the downs between clouds became a nightmare. Going well with best speed to suit the lift, all according to the best textbooks, the air would give a preliminary hiss and shake and cut the ground from beneath your feet at the rate of 7 to 10 m./sec. down. The only reply to these low-down tricks is to fly fast and keep going faster than theory permits.

In truth, a new theory for best speed to fly should be evolved to suit our conditions, based not on the usual expected up, but on the strength of the downs. Any South African barograph trace will show this. Very, very seldom do you see that sharp upstroke and long, gentle downslope, the true sign of a great flight, except at the early start and late ending of a flight. The middle part consists of incredible rates of climb and fantastic falling downs. Woe to the pilot who fails to stay high! Sacrifice speed by repeated circling, but stay high at all costs. This last I bitterly told myself twice on this flight.

We go merrily on; the first cloud ahead does not suck, nor the next, but surely the third must. It must, it must, but it does not. Stretch that glide, go at best sinking speed—but you cannot, for the vario shows 5 m./sec. down and worse. In just another minute the flight must end, despite the fact that there is 2,000 ft. in hand.

Towards the end, cloud base went down to a bare 4,500 ft. and my hopes sank accordingly. No cloud had been big enough to go into except the very last one, which simply had to be where it was, big, fat and welcoming, to give me a last best height of

11,000 ft. for that long downwind glide to goal.

The vital statistics of this flight were as follows:—

Flown on Moswy IV.

Victoria West altitude 4,100 ft.; Senekal altitude 4,700 ft.

Great-circle distance verified at 342 miles.

Rate of climb computed from barograph: 3 m./sec. average.

Wind light and decreasing with altitude but fairly steady from the S.W. at 4 knots.

Speed achieved: 49 m.p.h. average. Best speed 57 m.p.h. for one hour.

South African National and Open goal and distance record.

First South African Gold C with three diamonds. And, what is more, I took my three-diamond badge from its secret hiding place and pinned it on my coat. This I could do only because I am on the committee responsible for the issue of gliding badges and certificates which I have in my keeping.

OBITUARY

SQDN. LDR. A. H. PHILLIPS

IT will be with deep regret that many readers of *SAILPLANE & GLIDING* in the west of England and overseas will learn of the sudden death of Sqdn. Ldr. A. H. Phillips, O.B.E., M.C., in a Bristol nursing home on Christmas Eve.

He was a pilot of World War I and a founder member and director of the Wessex Aero Club, and a champion of A.T.C. Gliding in the West Country, being 62 Group Gliding Officer from 1943 until his retirement in October last. He will be particularly remembered for his tireless efforts in persuading the Air Ministry in establishing the only advanced A.T.C. Soaring Site at 621 Gliding School, Hales Land, Cheddar, Somerset, from which many A.T.C. glider pilots from all parts of the British Isles have gained their Advanced Gliding Proficiency Awards over the last seven years.

Sqdn. Ldr. Phillips was 67, and leaves a widow, son and daughter, to whom his many gliding friends will join me in extending our deep sympathy.

A. HOBKIRK, Flt./Lt.,
Adjt., 621 Gliding School.

A. R. WEYL

WE regret to learn of the death of Mr. Alfred R. Weyl, of Dunstable, whom many gliding people will remember as a glider manufacturer in pre-war years. He had to leave Germany after Hitler's accession to power, so came to England and, in conjunction with Paul Zander, who was similarly placed, founded the firm of Zander & Weyl at Dunstable in 1934.

The firm started well with a contract to build full-size replicas of Lilienthal and Wright gliders for a historical film being made by Alexander Korda. They also furnished the newly-formed Cambridge University Gliding Club with the earliest members of its fleet: first, a nacelled Zögling which made its maiden flight in April 1935. Then came the Cambridge I, essentially a hotted-up Grunau Baby designed by Mr. Weyl; this later became affectionately known as the "Pons", and was so strongly built that it was still flying with the Club until about a year ago. A similar machine, the Cambridge II, was first owned by John Furlong and Capt. R. S. Rattray, both of whom made their Silver C flights in it; it was flying with the A.T.C. at Biggin Hill at the end of the war. The Totternhoe secondary glider was also the firm's product.

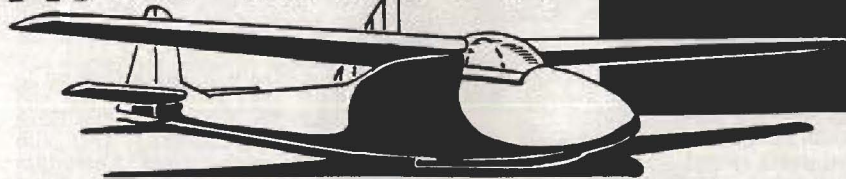
After a few years the Zander & Weyl partnership broke up and Mr. Weyl started a new firm, Dart Aircraft, for which he designed several ultra-light aeroplanes. The best known of these was the Dart Kitten; in order to market it after the war, Air Vice-Marshal D. C. T. Bennett joined the firm in 1952, but Mr. Weyl left it the following year.

He then continued his work as a technical writer on aviation; the range of his historical knowledge was enormous, and hardly a new idea could be produced without Mr. Weyl showing that someone had thought of it before, years and years ago. Astronautics also engaged his attention; he published a book on Guided Missiles about ten years ago and was writing another up-to-date book on the subject at the time of his death.

We extend our readers' sympathy to his family; he leaves a widow, a son and two small grandchildren.

A.E.S.

CLUB AND ASSOCIATION NEWS



EACH issue recently has produced club news from previously unknown sources; this month for the first time we have news of a club that has, like its namesake, risen from the ashes! We now receive news of the Phoenix Club, thanks to Cpl. S. J. Warwick-Fleming who at one time was regularly sending news from the East Anglian Club. I hope that we shall now hear from him regularly of renewed progress at Brüggén after their setback, along with news from our usual contributors.

For those interested in new clubs being formed in Norfolk and Essex, contact M. G. Blake, 107 Woodland Road, Hellesdon, Norwich, and M. Raynor, 147 West Borough Road, Westcliff-on-Sea, whom you may well be able to help.

The June issue, as I have previously mentioned, is going to press early and I need hardly tell Press Secretaries who will have had their memories jogged already, that the last date for Club News is Thursday, 26th March, sent as usual to S.E. Ambulance Station, New Cross Road, S.E.14.

COLIN MOORE,
Club and Association News Editor.

ACCRA

THE last two months have produced a most varied set of weather conditions at Accra. The dry wind from the north expected at this time of the year duly arrived, but instead of only prevailing for a few days has remained for weeks and is with us yet. This wind prevents the build-up of cumulus clouds and because of its high dust content seriously reduces visibility so that soaring is at times out of the question. However, the sea breeze from the south does battle with this northern wind and we have seen several good flights in varied conditions.

In January Ron Smee stayed up for 4 hrs. 35 mins. whilst trying for his five

hours and found lift of 3 metres/sec. in straight flight, reaching 6,000 ft. in the sea breeze front previously mentioned. Karl Teide reached a height of 2,000 metres and was up for 3 hrs. 10 mins. but landed away in unfortunate circumstances in the rain forest. George Hall managed his C certificate in the T-31 and first solo's were made by Tony Whiting, Vic Gallie, Brian Aldrich and Tommy Farr.

To date, the only soaring machine in Ghana has been the Syndicate Spatz and the arrival this month of the club's new Prefect is viewed with considerable excitement, long lost solo pilots are emerging from their holes and showing at week-ends for practice flights and we expect to have quite a list to fly her.

R.S.

AVRO

ONE consolation for the low flying hours this winter has been the visits to neighbouring sites made possible by the Skylark trailer. As Woodford is situated inside a control zone, our gliding is strictly limited to V.M.C. These expeditions are providing some relief from the frustration of being grounded whenever visibility falls below 5 miles!

A week-end at Sutton Bank last August enabled Mike Fenton to achieve 5 hrs. in the Skylark II. A similar session at Camp-hill in October failed to produce anything noteworthy; but a New Year visit to the Mynd during the "Wave Safari" brought Tom Smith his Silver C. After sitting for 5 hrs. at 6,000 ft. above the snow, he deserves it!

At Woodford the accent as usual has been on training flying. The latest members to convert onto the Skylark have been John Bradley and Jack Driver. Bill Scull has recently joined the ranks of our Hon. Instructors and has closed the gap left when John Ilett resigned for marital reasons.

The V8 tow car has been providing some remarkable launches; the record so far is 2,000 ft.

A syndicate has purchased a badly damaged Olympia with the object of re-building it. Our B.G.A. inspector, Tom Smith, is supporting the project and hopes to be flying the "Olly" before 1960.

D.A.C.

BLACKPOOL AND FYLDE

IN between the fog patches, and in spite of the snow, training in the T-21B has been proceeding steadily at Squires Gate, and we now have a fresh batch of members on the verge of the first solo. There was some excitement a few weeks back when an Auster crashed and caught fire on an adjacent runway. Fortunately no one was hurt, but the accident provided the airfield with its first thermal in months, although the assembled fire engines, police and M.T.C.A. personnel seriously interfered with any further flying that day.

Since being overhauled under the expert supervision of Alec Lunn, our Cadet I (yes, I) has been giving improved performances. We can now get it to over 1,000 ft. on the launch, and its descent is rather less like a free fall under gravity. The language in the air of certain of its pilots remains unfit for the ears of our lady members, however.

Our trailer has now been converted to take the T-21B as well as the Eon Baby, and we are taking the two-seater to our hill site as soon as the weather improves.

K.R.P.

BRISTOL

FEBRUARY 1959 marked the end of our third year of operation at Nympsfield and we have no hesitation in saying that the results achieved so far have surpassed all expectations and have shown that the



Nearing the summit, the Blackpool and Fylde convoy halts to excavate a road over a difficult section

choice and availability of the site was indeed fortuitous.

During the year we flew 1,411 hrs. from 7,170 launches and the total cross-country mileage was 6,306, including 3,989 miles flown by visitors during "Comps" week. The best average flight time was achieved in January when 67 hrs. were flown from 139 launches, and the highest level of activity was reached in July with 345 hrs. from 1,232 launches. Certificates and legs gained by club members totalled 52; 5 Gold legs and 2 Gold C's completed, 16 Silver legs and 5 Silver C's completed, 11 C and 13 B certificates. Allowing for the fact that the weather in 1959 couldn't possibly be worse than in '58, we are striving for even better things this year.

Highlight of January 1959 was the delivery of our Tiger Moth, and on 11th January several people located a wave in a N.W. wind after being towed out into the valley. Best height reached was approx. 6,000 ft. a.s.l. by Doug Jones in the club Skylark in a position directly over the Severn. Another incident which we hope augurs well for the season was thermal soaring on 1st February under cloud streets of light cu. in a N.E. wind.

Meanwhile the ground equipment has been overhauled and the C. of A.'s are well under way. The two-drum winch is being modified to overcome a few teething troubles and is being fitted with a more powerful Mercury engine which should give phenomenal launches under even the worst conditions.

Finally, congratulations to Tony Morgan for obtaining the Annual Best Flight for single-seat absolute altitude and gain of height, and to Peters Scott and Collier for the two-seater absolute altitude and gain of height awards for 1958.

A.L.S.

CHILTERN

THE club officially came into existence on 1st January 1958, and consisted of a small band of enthusiasts who previous to that time formed a "Block Membership" at the Windrushers club, together with a long list of other interested people who promised their support.

Our first flying day was on 15th March 1958, our only aircraft being a Mk. 3; but shortly after this we accepted delivery of a Falcon 3. In the meantime our deputy C.F.I., Squadron Leader R. P. Potgieter,

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A.F.C., was busy scanning the countryside for equipment, and we were soon the proud owners of another winch. Bad weather curtailed many flying days in March and April and members were able to give the winches a much needed overhaul.

The club gained its first C certificate when Sgt. Corbett flew the Mk. 3 for 38 mins., reaching a height of 2,600 ft. Mrs. Salmon became our first lady member to go solo and gain her A and B. On 11th May, Andy Gough made a surprise visit from Andover in a Skylark 3, and after a brief aerobatic display, flew on to Marham.

May brought the addition of a Mk. 1 and a Mk. 2 to our fleet, and shortly afterwards a Grunau. With Silver C legs in mind the Grunau was fitted with a blind-flying panel and closed-in canopy, thanks to Sqn. Ldr. Potgieter and Mr. Cavanagh. Better weather in June speeded up our training programme, but only after a lot of hard work on our aircraft by "Doug" Campion, Johnny Cavanagh, and Johnny Corbett, who was suitably rewarded in July when he flew a distance of 49 miles in the Grunau for 3 hrs. 15 mins., to gain his Silver C distance leg.

The skilled workers were ably assisted by many willing but unskilled members, too numerous to mention. Operations to build a runway at Booker slowly strangled our flying activities, and in September the aircraft were taken to Benson where we were given permission to operate.

A claim was also staked on a ridge at Chinnor, and flights of up to 45 minutes made. The wind is required to be in a north-westerly direction. October was another disappointing month as far as the weather was concerned, but aero-towing and auto-towing were carried out with success. In November Mr. Gibson was the only pilot to qualify for A and B certificates. November brought with it a T-21, and to round off the year an Olympia was delivered for Christmas.

During the year 3,000 launches were made and over 200 flying hours recorded, and the club membership is now well over 100. Our fleet now consists of 1 Mk. 1, 2 Mk. 2's, 1 Grunau, 1 Olympia, 1 Falcon, 1 Mk. 3, and a T-21. During the year much knowledge has been gained, sometimes by trial and error, but looking back we can be reasonably satisfied, and given the same enthusiasm and more effort, look forward to better and more spectacular results in 1959.

Before closing, it is worthy of mention that much work and advice given by our old C.F.I., Wing Commander (now Group Captain) N. W. Kearon, O.B.E., have set the club on a firm footing, and due to his leaving the area, his duties have been taken over by Squadron Leader Potgieter. We wish them both luck in their new spheres.

M.H.

CORNISH

Ernest Milner-Haigh, Esq.

His death in such tragic circumstances came as a great shock to all of us and we closed the Club and the Aerodrome immediately until after the funeral.

Only a few weeks before, he had a very narrow escape on the same railway crossing when he tried, but failed, to save his pet Borzoi dog from being killed by a passing train.

A small, jovial and social gentleman of the old school, he was kindly, courteous and generous; he continued to dress like a farmer in riding breeches and very highly polished leggings and he had become a well known and popular figure in St. Ives and district where, in a short time, he had made many friends.

He bought Perranporth Aerodrome for the benefit of this Club and this County.

This Club is arranging a Memorial Trophy as a permanent memento and the Committee have readily agreed to the suggestion of his widow and son that this trophy should be confined to flying within, or starting from, the County of Cornwall.

J.W.E.B.

So far up to mid-February we have only had two days fog and two nights of frost and, of course, no snow or ice, but the easterly winds have chilled many of us not acclimatized to such horrors though anemones, aubretia, crocus, heather, narcissi, polyanthus and snowdrops in flower suggest that we are becoming far too pansy.

The C.F.I. presented a cup for the immaculate circuit, or nearest thereto, based on one-hundred possible marks allotted under ten sub-divisions of the said circuit, subject to a further deduction on a handicap basis for hours flown. This certainly produced all-out efforts to fly to please the Instructors' panel of judges rather than one's self. The four finalists for the fly off are Titus Bate, Bill Lewis, Bert Lutey and Frank Lipman out of which three were *ab initio* eighteen months ago.

We expect our "new" (or as good as) Tutor with spoilers and new colours from Plymouth before the end of February and we are delighted to announce that, for the "Season", April to October, we have again (for the third successive year) secured the services of Tony Edwards—this time full time each week—assisted by John Harris, who has managed to pile up more launches than anyone else here.

Bill Lewis is now trying to conceive a tail trolley for the Olympia tail skid on our runways and he has already given birth to an excellent hangar trolley for the T-21 and a lever gadget for hoisting it on to the trolley by one bod plus a young mate, by the nose skid for positioning the trolley.

We are very sorry to lose the companionship and service of Instruction Sergeant Maurice Revell, R.A.F., on transfer from St. Mawgan to Hullavington: our loss is going to be some other G.C.'s gain.

T.B.

COVENTRY

DESPITE the absence of a report from Coventry in the last issue, the Club has not been idle, training being continued despite the efforts of the weather, which this winter seems to have been even more unco-operative than usual. Mainly as a result of these conditions, the total number of hours flown in 1958 was only 969, from 6,764 launches, compared with 1,048 hrs. from 7,012 launches in the previous year.

We were delighted to have our President, Mr. H. M. Woodhams, with us at the Christmas Dinner and Party on 19th December, when he presented the following awards: the "Jimmick Trophy" for the most meritorious flight of the year, to Vic. Carr, who completed his Gold C with a climb to 11,700 ft. in May; and the "Coventry Evening Telegraph Trophy", for the pupil making best progress, to David O'Clarey, who has gained both height and duration legs of his Silver C within a year of soloing. Our Chairman, Dr. Gregg, also awarded a Special Prize to John Greenway, who has proved such an asset to the Club since we first descended on his farm at Edgehill, and proved his flying ability by gaining his Silver C. Mr. Woodhams announced that he wished to donate a further trophy to the Club, and this gesture is much appreciated.

The Club is now implementing certain changes in training policy. The Tutors are in the process of being sold and first solos

will in future be undertaken in the T-21. A further innovation is the wearing of coloured ribbons according to qualifications these ranging from a virginal white for the newly fledged to a most sinful scarlet for the experienced instructors—which, we feel, must point a moral!

Further experiment resulted in part of the fleet being based at Edgehill, but the moisture content there proved even greater than at Baginton, and the club aircraft have now returned. At Baginton, our hopes for 1959 were raised on 1st February, when a fair amount of thermal soaring was achieved, with heights of up to 2,600 ft. being logged. Good news comes also from Doc. Gregg, who in January visited St. Auban in the South of France, and besides flying Fauvels and Bréguet 901's, climbed to Gold height in the South wind wave after an aero-tow to 1,200 metres.

P.M.

CRANWELL

THE persistent anti-cyclones which dominated our weather early this year brought a foggy gloom to Lincolnshire, supposedly "England's finest flying country", according to one R.A.F. advertisement! Despite the influx of some 30 new members from the January entry to the college, the weather has put a stop even to circuits on several week-ends. However, this has led to increased activity in the workshop.

Our Ground Engineer, Senior Technician Pugh, was certificated as a B.G.A. Inspector last term and is dealing with the Olympia's C. of A., as well as the usual maintenance on our five service-owned gliders. Meanwhile, the Skylark and Kite 2B have completed their C's. of A., the latter with the addition of an elevator trimmer system and an artificial horizon.

Roy Holmes has been placed "in charge" of the Olympia, and has succeeded, with suitable help, in producing a high gloss on all vital parts. Having also eventually figured out the anomalies of the Oly's oxygen system, Roy is hoping he will have opportunity to use it this season!

Our Easter "camp" will be held on our home ground during the second two weeks of April. We will use our Chipmunk and eight sailplanes and gliders, and hope for the usual crop of unstable north easterlies.

Oh for more days like 12th and 13th April, 1958!

I.W.S.

DERBYSHIRE AND LANCS.

IN our last notes we mentioned Lawrence Robertson's wave flight of 19th October 1958 and that he had not disclosed any details. Well now we know that his barograph did record his 3,000 metres climb and we are all delighted that his Gold C is complete! He had made an excellent goal flight in a private Olympia (Peveril) to Exeter in June 1956 in none to easy conditions. Also on 19th October, Michael Kaye and Brian Hollingsworth reached 9,300 ft. in their T-42 and landed at Spitalgate, 55 miles away.

We congratulate Essenhigh, McGreggor, Milne, Galvin, Mrs. Trigg and Cooper on achieving their C flights.

The year 1958 at "Dampmill" was especially noteworthy as having produced the worst cross-country weather in living memory and we recorded a total flying time at Campmill of 913 hrs. and 4,517 launches, 543 hrs. and 4,006 launches by 8 club sailplanes, an average of 67 hrs. per sailplane, while private sailplanes averaged 48hrs. without including the Harbinger, which started late.

Our training results showed an improvement on 1957 and we recorded 16 A, 16 B, 14 C Certificates, 6 Silver C Legs, 3 Gold and Diamond Legs, and "Completed":—1 Silver C and 2 Gold C's with one Diamond each.

O.W.N.

EAST ANGLIAN

SINCE our last report, no fewer than seven members have "soloed" for the first time, including our second lady member to do so, Mrs. S. Stephens.

The Olympia finally made Duxford early in November, so now we hope to have better flights to report as the year progresses.

For over two months, we have had a telephone system in use between the winch and launch point. This obviously saved time when hitches occurred, but when it was tried for signalling the winch driver, there was a danger that he wouldn't hear a "Stop" signal should there be one. The winch end was consequently modified into headphones and throat microphone. It is now quite a sight to see the driver wearing a flying helmet and calmly talking away to himself! Nevertheless, it is certainly more efficient and that is what matters.

We held a General Meeting in the middle of January at which a new Technical

Member was elected, namely Sgt. "Jock" Robson. Also, 28th February was decided for our Annual General Meeting which is to take the form of a Dinner.

In the October 1958 News, it was stated that John Strugnell just failed in his attempt for the distance leg of his Silver C. Since then, the decision has been changed and in actual fact he obtained both height and distance legs.

M.A.P.

HALIFAX

WITH the aircraft stored in a dry warehouse, most of the club members are suffering from frostbite and similar complaints acquired on the local forbidding moors. However we think we have found our Valhalla after all our wanderings. Possibly a case of not seeing the wood for the trees, it's so near home. And right under a wave.

So we are hoping that this year will see us on our wings properly and thoroughly settled. Our finances are bucking up too, Bob Moores' football pool steadily pulling in the cash, and not having done much flying lately, we've "Spent Nowt".

We've also got all our "Motorless Flight" equipment overhauled and are just raring to go as soon as the new site is all signed up.

Definite news and location for the next issue, we hope.

D.H.M.

HANDLEY PAGE

By the time these words are read we hope to have taken delivery of our new aircraft—a Skylark IIIb. This machine, with its trailer and instruments, has been specially ordered for the Club by Sir Frederick Handley Page, who has always taken a keen interest in our activities. The Skylark will be seen at many places during the year, with the Nationals at the top of the list.

To complete our equipment, a 6-seater Humber Staff Car was bought recently. This will be used for trailer towing, but in emergency it may be used for launching as well.

There has been little flying over the winter week-ends, due to the very bad weather—which has even on occasions grounded Victors! But Peter Ronson did manage to get his first solo in, and log a useful number of solo circuits afterwards. Much hangar work has been done, however,

and in consequence the Tutor—with a Skylark finish!—and the Rhönbussard will both have C. of A.'s by the end of February and the T-31 by Easter. The old Tow Car has also had a thorough servicing and even a new coat of paint.

Throughout the winter, talks have been held, dealing with all aspects of cross-country gliding. These have been given mainly by Peter Nielson; but it is intended to give his throat a rest when "Jock" Findlater comes at the end of February to talk about the Atmosphere.

As a Finale to 1958 (and a pointer to '59), the first presentation of our new Soaring League Trophy was made to Mike Wilson, after what has been his most successful year.

1958 was also our best year, with 4 Silver "legs", Mike's Silver C, and 225 cross-country miles completed in the Bussard.

With these modest achievements behind us, the new equipment here and to come, and the vast amount of work done by members, we should be well prepared to make the best use of the Soaring Season when it arrives.

L.W.D.

KENT

THE party held on 3rd January in aid of Christmas and/or the New Year and/or Kent Gliding Club, was a great success. A new feature hitherto unknown to Glider Pilots, at least at Detling, was the appearance of a skiffle group. Owen Maddock doubled on piano and sax., Richard Parkinson on the Skins, Errol Emery on

the Liquorice Stick and Sue Parkinson was assisted by Dennis Monckton on a Tea Chest String Bass. Peter Aknai played quite independently on the Paint Tin.

In spite of the party and the bitterly cold weather, gliding went on throughout January, and Dick Apps was the first solo of the New Year. The arrival of February was heralded by the first soaring trips of the year. Reg King, Richard Parkinson and Peter Tapsfield all had half-hour trips in the Olympia on 1st February to get things going. Stan Cutts was promoted to the Olympia, but a little too late in the day to join the early thermallers.

A programme of week-long summer courses has now been arranged by the new Course Secretary, John Cook. They start on 12th July and run on roughly alternate weeks until the end of September.

M.G.

LAKES

TEBAY Ghyll has recently enjoyed three or four warm, sunny week-ends, with little or no wind, in short, nearly ideal conditions for *ab initio* instruction, the only disadvantage being the resultant hard ground which has called for extra care in landing. Now in fact, single-seater launches are detailed as much as two-seater—a sign of steady progress surely. Three of our members, namely John Young, Reg Wolff, and Roland Parke, recently took a short conversion course at Lasham, and eventually flew the Olympia and Skylark. This is highly commendable, and is perhaps a pointer of things to come at Tebay.



Alan Chalkeley and "Jonah" Jones D.I. the syndicate Skylark at Detling

Gradually, the kitchen equipment and clubroom furniture is being collected. A rota for cooking duties has been worked out by the lady members, the results of which do them great credit.

Another milestone in the eternal making-ends-meet battle has been the formation of the Social Group. Already, ideas are being put into practice, and a good start to the new year's functions was given by the Fancy Dress Ball at the Windermere Hydro on Valentine's night. The massive frame of Reg Wolff in the delicate and daring guise of Ballerina deservedly landed First Prize, numerous dates and convulsions from all present. A welcome guest was Paddy Kearon who recently took over command of 14 M.U. at Carlisle. We hope we shall be able to enjoy his company on many future occasions at Tebay.

J.W.A.

LONDON

LOOKING back on last summer's weather we found from our records that we had hill winds on 70% of the days between April and September, and of these 80% were south-westerlies. Often the winds were very light; however, we were able to hill-soar on half the days during that six-month period.

During the winter the westerly winds have not prevailed—when, that is, we have been able to see the windsock through the fog; but the first three week-ends after Christmas did produce some good weather and we flew over 130 hrs. Charlie Barker, regardless of the cold, flew the Prefect for his 5 hrs. and Guy Collinsplatt, Dave Robson and Roger Barrett got their C's.

Every week-end there are many people working on a variety of jobs around the site, and this spring will see the completion of the last of eight new trailers built since last winter.

The Jaskolka, which John Jefferies has had sent from Poland, arrived at the end of January and has been tested by members of our B.G.A. Test Group.

We are eagerly awaiting the spring north-easterlies, and judging from the number of maps with lines drawn to goals in Devon and Cornwall on them, it seems that nothing short of an air invasion of the West Country is being planned. Also arranged for the spring are "Elementary soaring weeks" for our less experienced pilots and a week for our Silver C aspirants.

J.F.W.

MIDLAND

TO mark the end of a year of poor gliding weather, but even so, a year which showed an increase in the number of hours flown 2,560 and also in the number of launches, 6,500, came 27th December with a wave, and nearly Gold height for John Anstey, who had a gain of height of 9,800 ft., and reached 11,100 a.s.l. Most aircraft connected on this day, but strong winds made ground handling very difficult, and flying was restricted to Skylarks, and T-42.

A Wave Safari in early January, resulted in some good flying, both on the hill, and in waves, a total of 62 hrs. being logged by M.G.C. members and visitors for the week, from 94 launches.

Two more aids to easier and quicker launching, which in the end means more club funds. First, a step forward in cable repairing, in the shape of the Talurit Press. A means of clamping the ends of the cable in parallel, and so no more knots to wear through and cause another hold-up.

The other aid, not yet installed, but ordered, and with us quite soon (we hope). A Pfeifer cable retrieving winch, which to all accounts is working quite successfully on the Continent. Before we ordered it, Jack Minshall made a "mock-up" of the affair, which we tried on The Mynd, with complete success. This too, should speed up the launching rate on a site such as ours, quite markedly.

C.G.

MOONRAKERS (R.A.F.G.S.A.)

THE year 1958 was a record one for the Moonrakers, the club chalked up 4,679 launches and over 470 hrs. flying. In spite of a slow start in January (due to a water-logged airfield) we have the aircraft and equipment all ready to soar into another year of record figures, aided we hope by bigger and better thermals.

Without a doubt the laugh of the year came in December, when Ken Fitzroy (C.F.I.) remarked after landing the 415/419, that the Tiger tug pilot got lost on the long tow and after waving him off, followed him back to Upavon. The Tiger pilot later admitted the incident and then complained he was pushed to keep up with Ken on the return flight.

Since our last notes the "up slack" was applied to the Kranich and assisted by a

Chipmunk it spent several hours in the air. At present it is back in pieces and the finishing touches are being energetically applied by Chiefy Owens, with full instrumentation by Dick Stratton.

The first honours of the year go to Malfrid Marshall with the award of her B certificate and to Penny Wilson the credit for the first away landing of the season (50 yds. short of the Perimeter Track).

The Gull IV has been aired several times in the past few weeks and each time Dave Preston looked on with the thought of things to come.

The month of January came to an end with a very successful party at the Crown Hotel, Marlborough. Roger Mann put on a really first class show of colour slides that was thoroughly enjoyed by all. After the show Group Captain Cooper (our hard working Chairman) thanked Roger for the magnificent "C.F.I.-manship" during 1958 and on behalf of the grateful members of the Club, he presented Roger with an inscribed barometer.

E.E.R.

NEWCASTLE

ALTHOUGH there has been little flying at Usworth recently, the workshop and hangar have been hives of activity as the Flight Committee, following the example of the Derby & Lancs. club, decided to have a maintenance period in order to get the aircraft and equipment ready for the coming season. A survey revealed the main jobs to be the overhaul and repainting of the T-21 and Tutor, the repair and re-painting of the spare Tutor wings, and the re-covering of the port wing. Construction of an automatic pay-on gear for the old winch and the conversion of a recently acquired Standard 14 car as a retrieving vehicle to supplement our trusty but rather temperamental Beaverette was also carried out. Many thanks for the work put in by Norman Dean and Jimmy McQuillan, assisted by Bob Fleuret and Graham Garlick, who did their first solos in the Tutor on New Year's Day and thus had a vested interest in getting it airborne again.

While all this activity was going on in the workshop, the "black gang" consisting of Bryan Marley, Joe Beckwith, Syd Brandon, and John Thompson, were at work on the M.T.

Sunday, 1st February, saw the arrival of the T-21 back at Usworth, behind one of

the Newcastle Aero Club Austers, thanks to the co-operation of Jimmy Denyer the airport manager, who piloted the tug and the endurance of Alan Pratt and John Thompson, who were in the glider. With its return to the fold, we're now just waiting for the thermals and rarin' to go.

L.A.C.

NORTHAMPTONSHIRE

THERE has never, in the story of our club been such a dead and dispiriting time as last autumn; our aerodrome was unusable from early October and a large influx of new members from Bedford area was even more frustrated than we were.

Meanwhile Bill Sykes and Ken Pearson (Chairman and C.F.I.) were looking desperately for alternative accommodation to tide us over till our permanent site could be wrested from the hands of the beauocrats. They were successful, and about mid-January we received an invitation from the R.A.E. Flying Club at Twinwood, near Bedford, to use their Airfield.

About the same time the Coventry Gliding Club also very generously invited us to use their Edgehill soaring site. This we were very happy to do, and took the Chairman's Eagle over on a couple of Saturdays. Towards the end of January we moved a Tutor, the Skylark and the Eagle to Twinwood by road, while the C.F.I. had the T-21 aerotowed. An elderly Bedford van was brought in and converted for auto-towing, the Chairman's was pressed into service, and, with the help of the R.A.E. Club's Tiger, we have been able to get in quite a lot of flying.

The period under review ends with our second Annual Dinner, held at Overstone in very pleasant surroundings. A hundred and fifty members and friends sat down to dinner, and guest-of-honour was Harry Midwood, to whose good offices we are largely indebted for our present flying facilities.

An original touch was provided by the Chairman, who presented every guest with a tiny scale model in plastic of his Eagle, having made the die himself. They were pinned, and soon found their way onto the lapels and dresses of the company. The incident was crowned by the local paper, which produced the headline:—"A Glider on Every Plate."

B.C.H.



At the Northamptonshire Club's Annual Dinner; L. to R.: W. Sykes (Chairman), Mrs. Pearson, Mrs. Robinson, Steve Hastings, Harry Midwood, Geoff. Pentelow, Mrs. Pentelow, Ken Pearson (C.F.I.).

OXFORD

So far this year operation of the club at Weston on the Green has been severely restricted by the necessity of using the perimeter track for launching to avoid making possibly dangerous ruts on the parachute dropping zone.

Socially, however, we have been quite active, with a party given by the young ladies of the club and a wave of pundits queueing to entertain and encourage us. Frank Irving came and spoke about Test Flying of Gliders, and Chris Wills, standing in for his father who was unfortunately ill, gave an interesting and authoritative commentary on some excellent colour slides taken in New Zealand.

The do-it-yourself Skylark fuselage is now nearly complete, and awaits its wings from Yorkshire. As a result of his efforts, Chris Hurst has been approved as a Glider Inspector, a very useful asset to the club. With this private machine, the promise of a club Skylark, and negotiations for aerotowing we can look forward to a vast improvement in our cross-country mileage for the year.

N.D.P.H.

PERKINS

JANUARY 30th was the date of our Annual Social. This year it was held at the "Wheatsheaf" in Peterborough and took the form of a Party. We had a buffet, and fluids with an alcoholic content of varying degrees were available for drinking purposes while music, to which one could dance, was played on a gramophone, and, as if this was not enough, the dancing was interposed with the playing of "games" from time to time.

We now lower our voice slightly and the careful listener will detect a tremor of apprehension. This is because we have received notice to quit our airfield by the end of March. The news has (literally) taken the ground from under our feet, as we have no available alternative accommodation, and we can just hope and pray that the representation which our association is making in certain quarters will have positive favourable results. Meanwhile we press on regardless, in the very best tradition and spirit of the brotherhood of the skies.

Congratulations go to Chris Falkenbridge and Ken Tinkler, who last month joined the list of passenger carriers, while Dennis



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Baldwin and Tony March have stood their round at "The Milton Arms", as the result of taking the Tutor round for the first time under the critical eye of John Hulme, our C.F.I.

S.W.H.

PHOENIX

THE Brüngen Gliding Club was re-formed in April last year, and started the season with a Kranich two-seater, a Weihe and two Grunau Babies. Brüngen is an excellent soaring site, and in the soaring season lift of 20 ft. per sec. and over is common. Flt. Lt. Plumb, our officer i/c., started the season by getting his five hours for Silver C in the Weihe. Shortly after this Cpl. Warwick-Fleming, newly arrived from Duxford, Cpl. Wingett, and Flg. Off. Russell of Laarbruch added further testimony to Brüngen's "soarability" by gaining Silver C heights. Flg. Off. Russell, incidentally, achieved this on his eighth trip in a glider!

Our first season had thus started very successfully, but in July—tragedy. Our workshop and clubhouse were burned down and all our gliders and equipment were lost. Only the winch was undamaged. Despite this setback, however, we were able to continue flying. Our neighbours at the Nimbus Gliding Club, Wildenrath, came to our rescue in true gliding tradition, and we were flying at their site the day after the disaster. We continued to glide with the Nimbus club all summer; and while at Wildenrath several of our members went solo, Cpl. Dawson gaining his C certificate.

In September we obtained two Grunaus and a Weihe, and flying started at Brüngen once more on the 27th. Our next acquisition was a Kranich, which unfortunately is not yet in flying condition; but we are hoping to buy an M.U. Falcon in the near future, and this should meet our need for a two-seater. At the moment all hands are working keenly under our C.F.I., Flt. Lt. Boyle, to get the aircraft majored for the coming season, which under our new name of Phoenix Gliding Club we hope to make our most successful so far.

K.P.F. & S. W-F.

SCOTTISH G.U.

THE New Year began well at Portmoak with some good climbs in wave. On 3rd January, John Hendry reached 6,500 ft.

in an Olympia and on the following day three pilots contacted. Bill Lawson reached 6,500 ft. in his Eagle, Geoff Berry got to 7,500 ft. in an Olympia, and Bob Porteous, after numerous bids foiled by barograph trouble, finally nailed his Gold C height with a climb to 11,000 ft.

Jim Watson got his C on 24th January in some undiagnosed lift which took him from 500 to 1,500 ft. in a twenty-minute flight.

The Skylark IIIB being built from a kit by Rae, Pinkerton and Ross, guided and assisted by ground engineer Rab Williamson, is coming along well. Two-thirds of the wing are built and work is in progress on the final section. The fuselage is also well advanced. The aim originally was to have the machine completed in time to fly in the Nationals, but the early date of these may rule out that prospect this year.

A very long thin visitor who turned up at Portmoak recently proved to be Lt./Cdr. Brett-Knowles, currently stationed at Abbotsinch. The airfield was unfortunately fog-bound when he visited us, but we very much hope to see him again on a day when he can get his feet off the ground.

D.B.

SOUTHDOWN

AT the Annual General Meeting held at the White Hart Hotel on the 25th January, the Club Chairman Morn Glassborow, reported a satisfactory year of progress, with the club now moving from the stage of consolidation at Firlie, to one of expansion.

The flying results for 1958 showed an improvement over the equivalent figures for the previous year, despite the poor weather. Out of 108 days on which flying could have taken place, 28 were weather write-offs. Club aircraft, however, flew on every one of the other 80 days, completing 3,530 launches (1957—3,120) and 374 hrs. (1957—355). The experiment of employing a full-time ground engineer had worked well, and aircraft serviceability during the year had been 100%.

The aim for 1959 will be to encourage more advanced flying by making full use of the additional Olympia now added to the club fleet, with expeditions to other sites, and more frequent attempts at cross-countries. The present flying membership figure of 85 will be raised to a target level of 100 to ensure full utilisation of the club aircraft.

Flying at Firth so far this year has been very encouraging, the first thermal of the season appearing as early as the 31st January. Peter Staff took the opportunity of completing his five hours in the excellent north-easterly conditions, cloud base limiting his height on more than one occasion to 2,400 ft. The following day saw further soaring with Beresford Taylor completing his C certificate in the Tutor.

R.M.

WESSEX R.A.F.

WE have just received the pleasing news of the award of the R.A.C. Bronze Medal to Sgt. Andy Gough, ex C.F.I. of the Club, who is now stationed in Germany. Congratulations, Andy! We will see you at the Nationals.

In spite of the inclement weather a few hardy members have managed to get themselves airborne on several occasions. Such is the keenness in the Club, that even the old Primary has been seen cavorting round the airfield during snowfall conditions. Other members, suitably clad, spent a week-end in arctic conditions prospecting for ridge and hill sites.

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We have been able to catch up with a lot of make-and-mend work in the hangars in preparation for the forthcoming season. The chief topic of conversation is, of course, the "Nationals" where we hope to be strongly represented. The forthcoming "Club Dance and Social" is eagerly awaited, of which more anon. Flt. Lt. Sharman, our C.F.I., is doing a spell of temporary duty in Africa but will be back in time for the Nationals.

J.D.

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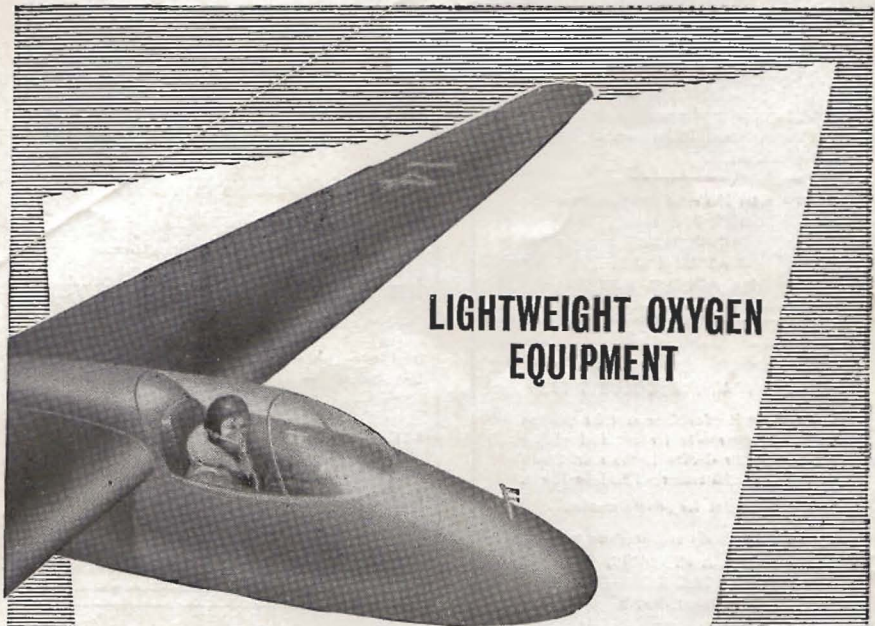
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