

The
*British Gliding
Association*

HANDBOOK

COMPRISING (*inter alia*).

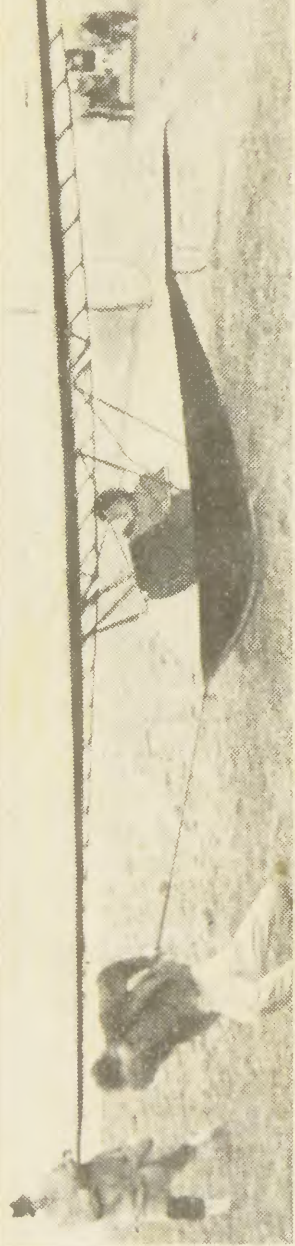
British Gliding Association Constitution, Rules, List of Members, Committees, &c., Particulars of Clubs Affiliated to the British Gliding Association. Particulars of Certificates of Airworthiness, Glider Pilot Certificates.

Undated Diary. Log and Cash Account Rulings. Notes on Club Management. Insurance. Instruction, etc.
Glossary.

44a Dover Street, London, W.1.

Telephone:—Regent 3703

1st Nov 1932.



A BRITISH SAILPLANE that has been undergoing trials at Dunstable, Bedfordshire. It will be used by Mr. J. M. Buxton for attempts on gliding records. The picture shows the plane in tow before the take-off.

NOTE.

designed to serve as the official Handbook which will be issued to all Members and use as a desk Diary and reference book in Gliding.

to print a limited number of copies at may be kept up-to-date. A page or portion will be reserved for publishing.

ts and thanks are due to all those who have assisted in the work.

Glider 1.6.31. Launch By 'Plane.

SUCCESS OF SECRET TESTS.

SPECIAL "DAILY MAIL" NEWS.

THE first tests in this country of launching a glider by aeroplane have been carried out with marked success and in strict secrecy.

Only a few members of the staff at the London air park at Hanworth, near Hounslow, were present to witness an experiment that has taken its toll of human lives in the United States. But the care given to the arrangements here, including the types of machine and glider used, resulted in such an outstanding success that it is hoped to hold further experiments in public.

The glider used for the test was piloted by Mr. L. Beardmore, and heights up to more than 1,000ft. were reached with ease.

A cable 150 yards long was attached to an Avro machine which took off from the aerodrome at a speed of 60 miles an hour.

Captain Max Findlay, the senior instructor at Hanworth, said to a *Daily Mail* reporter:—

"I can see no reason why heights up to 8,000ft. should not be reached when we are ready to continue the tests. The use of a machine to launch gliders must prove of the greatest benefit to this important branch of flying, as it is far more effective than towing by car or catapulting."



The
British Gliding
Association

HANDBOOK

IF—

If you can keep your head when all about you
Are losing theirs and blaming it on you;
If you can trust yourself when all men doubt you,
But make allowance for their doubting too;
If you can wait and not be tired by waiting,
Or being lied about, don't deal in lies,
Or being hated don't give way to hating,
And yet don't look too good, nor talk too wise;

If you can make one heap of all your winnings
And risk it on one turn of pitch-and-toss,
And lose, and start again at your beginnings
And never breathe a word about your loss;
If you can force your heart and nerve and sinew
To serve your turn long after they are gone,
And so hold on when there is nothing in you
Except the Will which says to them 'Hold on!'

If you can dream—and not make dreams your
master;
If you can think—and not make thoughts
your aim,
If you can meet with Triumph and Disaster
And treat those two impostors just the same;
If you can bear to hear the truth you've spoken
Twisted by knaves to make a trap for fools,
Or watch the things you gave your life to, broken,
And stoop and build 'em up with worn-out
tools;

If you can talk with crowds and keep your virtue,
Or walk with Kings—nor lose your common
touch,
If neither foes nor loving friends can hurt you,
If all men count with you, but none too much;
If you can fill the unforgiving minute
With sixty seconds' worth of distance run,
Yours is the Earth and everything that's in it,
And—which is more—you'll be a Man, my son!

(Rudyard Kipling
"

44a Dover Street, London, W.1.

Telephone —Regent 3793

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Foreword

From LT.-COL. F. C. SHELMERDINE, Director of Civil Aviation.

It is impossible to over estimate the importance to this country of the proper development of aviation both from the point of view of national defence and the establishment of rapid personal communication with our widespread Empire. In the realm of air transport, great strides have been made in recent years. Passengers, mails and freight are being transported over long distances with a standard of regularity and reliability comparable with the other and older means of conveyance and with an immense saving of time.

The development of the light aeroplane brought flying within the reach of the average man and woman of moderate means and private flying for pleasure and business is increasing by leaps and bounds. The flying clubs are producing a large number of amateur pilots, and motor touring is giving place to air touring both at home and abroad.

The gliding movement is the most recent addition to our flying activities and has already become immensely popular. I believe that gliding has a very definite contribution to make to the general progress of British aviation, and to certain branches of technical research and will do a great deal to popularise flying in this country. It has proved to be an excellent form of preliminary training as well as an exciting and exhilarating sport. Moreover, it is cheaper than any other form of flying and is within the financial reach of most people. In order to ensure progress along sound lines the essential need at the present stage of development is a thorough co-ordination of effort and a practical expression of loyalty on the part of all clubs and club members, and I confidently anticipate that this will be forthcoming.

In conclusion, I would like to acknowledge a debt of gratitude to the Press whose valuable and generous support to aviation enterprise in general and to the gliding movement in particular has played such an important part in arousing and maintaining public interest.

F. C. SHELMERDINE,
President of The British Gliding Association.

Messages

From THE MASTER OF SEMPILL,

We can now look back on the first year of The British Gliding Association — a year that has been full of hard work and in which remarkable progress has been made, especially when the financial limitations are considered.

The motorless flying movement is destined to grow in strength, and soaring flight has already become a sport compelling not only national but international interest.

A full measure of success will be achieved by all supporters pulling together for the common good of the movement. We have the personnel and many excellent sites and we must go ahead and gain experience.

From MISS AMY JOHNSON,

The sport of Gliding is fast becoming popular in this country, but it is as yet only in its infancy and it is due to the efforts of a comparatively small band of enthusiasts that its thrills and its utility are becoming more widely known. This book should prove very useful to those already enjoying the sport of Gliding, and instructive to those about to take it up.

Gliding is especially popular amongst those young people who cannot afford the much more expensive hobby of flying. Not only does it offer an inexpensive means of enjoying oneself in the open air, but to those who wish to go into the subject of flight more deeply, it offers the only practical way of exploring the element in which we fly.

My best wishes are with the keen young enthusiasts who are working so hard to popularise this sport, and may good luck and enjoyment go with those who are responding to their efforts.

AMY JOHNSON.

From MR. HANDLEY PAGE,

Few happenings in the history of gliding are more interesting than the recent re-birth of the art in Great Britain.

Engineless flight has had its devotees from the earliest days of experimental aviation. Remote history tells of flying pioneers who, doubtless because they had not the help of the British Gliding Association in designing their wings, failed to soar after jumping from high towers or other lofty prominences and sustained grave physical damage. More recently, in the latter half of the nineteenth century, those "fathers" of aviation, Lilienthal, Chanute and Pilcher, gave that real impetus to research in gliding flight which no doubt largely contributed to the successful first flights of the Wright Brothers.

Though gliding has flourished in some foreign countries since the war, and a number of meetings were held in this country a few years ago, the notable revival of interest which has led to the formation of the British Gliding Association and of more than 100 British gliding clubs is of comparatively recent date. Nevertheless, there is every reason to suppose that the British gliding pilots will soon equal, if they do not surpass, the feats of gliding pilots abroad, and the art of gliding would seem as firmly established here to-day as anywhere in the world.

A national enterprise of this importance has obvious need of a periodical record, which shall commemorate past achievements by embodying them in the text of a permanent publication and at the same time serve the future in registering the lessons learned from experience. I have much pleasure, therefore, in welcoming this new publication, and in wishing success to an art which teaches the airman to pay due regard to the behaviour and habits of the ever shifting medium in which he moves.

HANDLEY PAGE.

The British Gliding Association

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Royal Aeronautical Society The Master of Sempill.
Guild of Air Pilots W. Lawrence Hope.
Royal Meteorological Society F. Entwistle.

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THE BRITISH GLIDING ASSOCIATION

Few movements have the latent potentialities of the Gliding Movement. In gliding and soaring is an opportunity for what is perhaps the most fascinating of all sports, and that in itself is undoubtedly sufficient to ensure its success.

But our Movement has great National possibilities. The nation, both consciously and unconsciously, is seeking a vast new industry upon which may be founded a future prosperity akin to that of the past, and I believe the country realises that a great opportunity was missed with the Automobile industry. Aviation is destined to be the World's greatest industry because it contains almost limitless possibilities for speedy, efficient and flexible means of World transportation.

With our far-flung Empire no other nation has great or greater need of a dominant part in this industry of the future, and National propaganda should be carried on to ensure our securing this desirable position.

One wonders whether the small band of pioneers and enthusiasts that met at the Comedy Restaurant in Panton Street, London, realised how truly and well they laid the foundations for the British Gliding Movement. They were founding a Movement which can do more in a practical way than perhaps any other, to engender in the whole of the youth of the country a desire to take a practical part in Aviation, and having created the desire, further to satisfy it, through practical experience, in the designing, making and using of gliders and sailplanes.

That band of pioneers saw clearly that gliding and soaring flight was making consistent and substantial progress in Germany and had been doing so for a number of years. They saw clearly that the strength of the Gliding Movement in Germany emanated from its central organisation, the Rhon-Rossitten Gesellschaft, which, from the inception of the Movement in that country, had in one form or another acted consistently as its vitalising and inspiring force. Undoubtedly in their minds was a conviction that it was necessary to interest the whole country in Gliding and they appreciated that for the Movement to make sure progress, all its activities, from the scientific to the sporting aspect, must be co-ordinated. It was realised that the international aspect could not be over-looked and for progress to be made rapidly and efficiently and upon lines of safety, co-operation of an international character was essential and a central body to represent this country in international conference would be an absolute necessity.

Consideration of these important factors by the founders of the British Gliding Association brought them inevitably to the conclusion that these objects could only be served by the creation of a National body which would promote encourage and control gliding in this country in all its aspects. Thus the British Gliding Association came into being and its originators realised that to succeed in a democratic age its constitution must be founded upon a democratic basis and that its power would be derived from the self-imposed discipline of those interested in the Movement throughout the country. It was felt inevitable that the club system would be found to be the most practical means of building up the Movement and therefore the control of the Association was vested in the clubs and the organisation was consequently designed that the British Gliding Association would represent government of the Movement by the clubs, through the clubs, for the clubs.

The British Gliding Association represents therefore the corporate spirit of the clubs and is not an external organisation imposing its will upon an unwilling and unresponsive majority.

The late Sir Sefton Brancker, that great and inspiring servant of aviation with more than a fair share of vision in these matters, saw the possibilities of the British Gliding Association and from the initial stages gave it his blessing together with the advantage of his influence and untiring energy. Through his good offices, the British Gliding Association was entrusted with the issue and control of the Certificates of Airworthiness, and here let me say a word to the effect that it is regrettable how little this tremendous advantage is understood and appreciated by clubs and by individuals in the Movement as a whole. It is a great step and possibly a far-reaching influence because it means, in effect, that "the powers that be" have said to us "Govern yourselves and we will not interfere." This fact indicates a wish that self-government and self-discipline shall be exercised and so prevent the necessity of external authority asserting itself. This is a fundamental concession which may, if we exercise it with vision and understanding, have far reaching effects.

The Royal Aero Club took a similar kindly interest and gave the British Gliding Association the authority to control the sporting side of the Movement and advised us that if we conducted ourselves properly and showed ability to control our affairs effectively, they would be prepared to support us.

The Rhon-Rossitten Gesellschaft of Germany has given us an immense amount of valuable assistance for which the Movement will always be deeply grateful, for without it progress would have been halting, uncertain and fraught with considerable danger, but their keen interest and ready encouragement has been of inestimable advantage.

The British Gliding Association is a member of the International Commission for the Study of Motorless Flight which international body has only just been formed, but it should do great service to the international aspect of the Movement.

Lastly, but not least, the Royal Aeronautical Society has at all times and still is, assisting us in many practical ways and its concern for our well-being typifies the spirit of parental concern for the well-being of the youngest member of the Aeronautical bodies, and is a tribute to the vision of those that control the destinies of the parent society.

And what of the work accomplished by the British Gliding Association to date?

Soon after its formation, it was realised that without funds, little or nothing of a national character could be accomplished. Sir Sefton Brancker rendered immense service by interesting the Fairy Godfather of Aviation, Lord Wakefield, in our project and Lord Wakefield, with that vision and constructive genius which are his in so great a measure generously made a donation of £1,000 toward the funds of the Association. This enabled some practical action to be contemplated and the first vital step taken was the organising of the Gliding Demonstrations, so ably and effectively conducted by Herr Kronfeld.

The influence of these demonstration surpassed our expectations. Ably supported by the Press throughout the country, the amount of publicity achieved was phenomenal, and the result was that by the end of 1930 no less than 100 clubs were formed or in process of formation. To those who challenge the utility or effectiveness of the Association, a sufficient answer is contained in this fact alone, for at the time the British Gliding Association was in process of formation, not a single club existed.

Those entrusted with the task of administering the Finances of the Gliding Association realised that to be a prominent and effective part of national life, the Gliding Movement must become self-supporting and thus the affiliation and the capitation fees have been fixed with this object in view; at the same time it has been realised that the burden that the clubs can carry must be kept as light as possible and as considerable activity necessarily means considerable expenditure, the activities have been restricted to synchronise as far as possible with the burden which it may be expected the clubs can carry reasonably. Therefore progress has to be steady, sure and economical, rather than spectacular, swift and expensive. The Association now has co-ordinating committees covering all important activities. Much remains to be done but with the extremely limited finance available, progress must necessarily be slow, unless some benevolent well-wisher will come forward and build up the funds of the Association.

The greatest need before us at the present time is to put the finances of the British Gliding Movement upon a firm, stable basis, and the Association appeals to all those connected in any way with the Movement to give loyal and unswerving service to this vital and important end. This will enable the Movement to progress along the many channels at present waiting to be explored, where the Association has to hold its hand owing to lack of adequate funds for this purpose.

The Association cannot succeed unless the clubs are successful and for the clubs to be successful, circumstantial, co-ordinated activities must be carried out and therefore every club and every club member is vitally interested in and is actively linked, to the future success of the British Gliding Association.

TROPHIES AND CUPS

The "Lord Wakefield" Trophy

Lord Wakefield, who is ever to the fore in the cause of Aeronautics, very generously presented a trophy in January, 1930 to the British Gliding Association for Annual Competition.

The event for which the trophy shall be competed is "Speed on a closed circuit."

The "Manio" Cup

Presented by Madame Manio, London, in March 1930 in commemoration of her husband, J. B. Manio, who was killed while flying in a monoplane near Lisbon on the 13th June, 1913.

The event for which this trophy is offered annually is "The fastest glider flight over a given straight course."

The "H. M. Volk" Challenge Trophy

Presented by H. M. Volk, Esq., of Roedean.

The event for which this trophy is offered annually is an "Inter-Club Contest on suitable lines according to the development of the art, at the time of the Competition."

Prize of One Thousand Pounds

Offered by Messrs. Cellon, Ltd.

Will be awarded to the first British Pilot accomplishing a Motorless Flight in a glider of all British construction from England to France (or *vice versa*). The Competition is open for two years from 1st June, 1930 to 31st May, 1932.

Full particulars can be had on application from the Secretary of the B.G.A.

THE SAILPLANE

Price
3d.

AND GLIDER

Edited by
Thurstan James.

A BRITISH GLIDER



Mr. Lowe Wyde lands his B.A.C. VI at Hooton, after an auto-towing demonstration.

INTRODUCING OURSELVES

"THE SAILPLANE and Glider" is the only weekly in the world solely devoted to Motorless Flight. Already over thirty consecutive numbers have been published and the steadily increasing number of subscribers shows how well it is appreciated by those interested in the science and sport of Motorless Flying.

Every week THE SAILPLANE brings you the latest news of the Gliding Movement, not merely local news, not merely British news, but news from the five continents. Not only has the paper subscribers all over the World but the Editor has correspondents scattered around it as well.

Every week pictures of activities at home and abroad are published: pictures of new types and Club equipment. Descriptions of new machines with the performance figures are published on the appearance of each new type.

Every week an authoritative article appears giving the latest information and knowledge available about one particular branch of Motorless Flight. Thus THE SAILPLANE is disseminating

invaluable information not otherwise available, throughout the Movement.

By the time that these words appear in print a new service is likely to have been inaugurated whereby subscribers can have a special forecast of weather conditions as effecting gliding for the following week-end posted to them from this office on Friday.

The Clubs which are regularly operating send in their reports, as well as pictures of their activities, and these are published in the two pages which are specially set aside for Club News.

Problems that affect the whole Gliding Movement are threshed out in the Correspondence Columns. In the pages of advertisements can be found all that members of Clubs need in the way of equipment for the sport.

In short, THE SAILPLANE and Glider" not only keeps you in touch with the Movement but it makes available facilities which are not otherwise obtainable. It is the link binding the whole Movement together.

PUBLISHED EVERY FRIDAY

only obtainable by

SUBSCRIPTION

15/- a year.

Order from: 175, PICCADILLY, LONDON, W.1.

Sample copy 3½d. post free

The British Gliding Association

RULES

OBJECTS

1.—The objects of the British Gliding Association (hereinafter called “the Association”) are to promote, encourage and control gliding in all its forms. [For the purpose of these rules the term “glider” means any heavier than air machine which does not depend on an engine for sustained flight.]

NAME

2.—The Association shall be called “The British Gliding Association”

MEMBERSHIP

3.—The membership of the Association shall be composed of organisations formed for the promotion of Gliding in Great Britain (hereinafter called “Affiliated Organisations”), Founder Members, Ordinary Members, Honorary Members, Life Members and Ex-officio Members.

ELECTION OF MEMBERS

4.—All candidates must be approved by the Council. If any member contravenes the rules governing airworthiness, or sporting contests, or shall have been convicted of an indictable offence, or shall have been adjudged a bankrupt, or shall go into liquidation, or being a Club shall cease to have more than 25 members, such member shall be struck off the roll of members by the Council, but may be reinstated on such terms as the Council may see fit to impose.

OFFICERS

5.—The Officers of the Association shall consist of a President, Vice-Presidents, Chairman and Treasurer, and such other Officers as the Association shall from time to time appoint. The Officers shall be ex-officio members of the Council.

ELECTION OF OFFICERS

6.—The Officers of the Association shall be elected by the Council each year for one year.

7.—The Chairman and Treasurer shall not be eligible for re-election to their respective offices for one year after having served therein three consecutive years.

COUNCIL

8.—The Association shall be governed by a Council consisting of:—

- (a) Duly elected representatives from each affiliated organisation.
- (b) Representatives, duly elected by ballot at the Annual General Meeting, of Founder Members, Ordinary Members, and Life Members of the Association.
- (c) One representative of each of the following bodies: The Royal Aero Club, the Royal Aeronautical Society, Royal Meteorological Society, Society of British Aircraft Constructors, and Guild of Air Pilots and Air Navigators of the British Empire, duly nominated by those bodies.
- (d) Ex-officio members and such other persons as the Council deem fit to co-opt. All Members of the Council shall retire annually.

9.—Six of the members of the Council shall constitute a quorum.

ELECTION OF COUNCIL

10.—Representatives of:—

Class (a) Shall be elected by secret ballot of each of the Organisations concerned. An Affiliated Organisation shall be entitled to elect one representative on affiliation and one representative for each one hundred members thereafter.

Class (b) Shall be elected by secret ballot confined to members of Class (b) and Class (b) shall be entitled to ten seats on the Council. Provided that if the number of members of Class (b) fall below 50, they shall be entitled to one seat for every five members.

Ballots. ALL ballots shall be conducted by post and shall be in the following manner and the rules of the affiliated organisations should so provide:—

Nominations, which must be signed by two members and the Candidate himself, must be received by the Secretaries at least 28 days before the General Meeting.

No discrimination other than the number of effective and possible attendances shall be made between new and old Candidates.

All ballot papers shall be returned to the Auditors of the Association at least 7 days before the Annual General Meeting, who will compile and announce the result.

The results of the ballots will be circulated to the retiring Council before its last Meeting.

11.—The Council may, by a resolution carried by a two-thirds majority of those present at a Special Meeting of the Council, called for the purpose at twenty-one days' notice, remove any member of the Council (including an ex-officio member thereof) from his post and appoint a successor, who shall retire as if appointed at the same time as the person he has succeeded, being eligible for re-election.

12.—The Association may by a resolution carried by a two-thirds majority of those present in person or by proxy at a Special General Meeting of the Association, called for the purpose at twenty-one days' notice, alter, revoke or add to their rules.

ANNUAL GENERAL MEETING

13.—A meeting, to be known as "The Annual General Meeting" shall be held in February of each year at a suitable time and date and at some place chosen by the Council for the time being in office.

14.—The persons entitled to vote at Annual or Special General Meetings shall be duly elected representatives of Class (a), all members of Class (b) and representatives of Class (c) and (d).

POWERS

15.—The Council may appoint such Committees as it may deem advisable and may delegate to them such duties as it may think fit. Such Committees may include persons who are not members of the Council, but the Chairman, who shall be appointed to each Committee, shall be a Member of the Council.

16.—The Association may own, operate or hire such gliders, sail-planes, hangars, aerodromes and the like as may in the opinion of the Council be advisable or necessary for demonstration, experimental or test purposes, or for the use of affiliated organisations; the Association shall have the power to finance affiliated organisations by making advances of loans out of its general funds, or by providing gliders or other equipment on hire purchase terms, or in any other way which it may deem advantageous to the said affiliated organisations; may employ salaried instructors or inspectors; may provide for the use of members and for the conduct of business such premises as it may consider desirable, and may organise and promote tours or excursions in connection with Gliding Meetings and the like.

17.—The Council shall draw up regulations providing for the inspection and/or licensing of gliders, gliding grounds, pilots and personnel, and shall fix such fees in connection therewith as they may deem necessary.

18.—Nothing herein contained shall prevent the bonafide employment by the Council of such staff as they may from time to time require.

ENTRANCE FEES AND SUBSCRIPTIONS

19.—Entrance fees and subscriptions to the Association shall be of such amount as the Council may from time to time decide.

20.—If a member, or an affiliated organisation, be in arrears in payment of subscriptions he, or it, may at the discretion of the Council, be suspended from all benefits of the Association.

21.—If a member, or an affiliated organisation, be one year in arrears in the payment of subscriptions he, or it, shall be deemed to have resigned from membership of, or affiliation to, the Association, and his, or its name shall upon a resolution of the Council, be struck off the register, provided that before such resolution is passed the Secretary shall notify such member or organisation, by fourteen days' notice in writing, of the intended action.

AFFILIATION

22.—The Council shall approve before granting affiliation the rules and regulations of the organisation proposing to affiliate, and such organisation shall comply with the rules of the Association for the time being in force.

23.—Affiliated organisations shall be called "The..... affiliated to the British Gliding Association."

CONTESTS

24.—All contests must be held in accordance with the Code Sportif of the Fédération Aéronautique Internationale and with the competition rules of the Royal Aero Club.

AUDITORS

25.—The Auditors of the Association shall be elected annually at the Annual General Meeting.

AFFILIATION RULES

1.—Any organisation formed for the promotion of gliding in Great Britain may apply for affiliation to the British Gliding Association.

2.—Affiliated organisations shall pay to the British Gliding Association such subscriptions and fees as the Council shall from time to time decide.

3.—Membership of one affiliated organisation shall not constitute membership of other affiliated organisations, or of the Association itself.

4.—All affiliated organisations shall be bound by the regulations passed at a General Meeting of the Association, or by resolutions of the Council.

5.—Each affiliated organisation shall deposit with the Secretary of the Association two copies of its rules and regulations, and shall notify the Association of any alterations, amendments, or additions thereto. A limited company shall supply copies of its Memorandum and Articles.

6.—Members of the Association shall be admitted as spectators at all public meetings of affiliated organisations without charge.

7.—In the event of any affiliated organisation going into liquidation or being a club ceasing to have more than twenty-five members, all properties which that organisation may have received from the Association shall be returned to the Association.

8.—The affiliated organisation shall not pledge the credit of the Association, or enter into contracts on behalf of the Association.

9.—In the event of any dispute arising between the Association and an affiliated organisation, the matter may be referred for settlement to the Council of the Association.

10.—The rules of affiliated organisations shall be drawn up consistent with and in accordance with the rules of the Association.

B.G.A. Regulations Governing Power Launching

METHOD OF USE.—Power Launching should be made with the aid of one Motor Car attached to the glider with about 60 feet of double $\frac{3}{8}$ -in. shock cord and a length of rope of at least 100 feet inserted between the car and the shock cord. For launching, the glider should face directly into the wind with the car in front, the tail being held back in the usual manner or by a quick release. A small flag or other suitable mark should be placed in front of the glider at a distance equal to twice the length of elastic. The launch is made by driving the car forward until the shock cord is stretched to the double length mark when the release shall be made. As soon as the elastic falls clear of the glider the car should be driven to the left to avoid possible collision with the glider.

NOTE.—Power launching has a greater element of danger than the orthodox launching team method and if used, extreme care should be exercised.

These regulations refer only to launching done with the aid of motor cars in place of the usual launching crew. (Auto-towing is covered by separate regulations).

1. Power launching shall only be used when a qualified Instructor superintends its use.
2. For any method of power launching, a quick release, operable by the pilot, must be incorporated. The release lever shall be as close to the pilot's hand as can be arranged. The launching hook should be of the open "drop off" type.
3. No pilot shall be power-launched until he has made, in the opinion of the Instructor, an adequate number of flights with shock-cord launching.
4. A pilot flying any new type of machine shall receive gentle launches for the first few flights and the first flights on a new type shall be made by shock cord method.
5. In power launching the speed of the wind must be carefully estimated or measured and allowed for in the speed of the launch.
6. The B.G.A. does not recommend any other method of power launching than that given above.
7. Those wishing to use other methods must submit their proposed system to the Technical Committee of the B.G.A. for approval and sanction.
8. Private Groups or individuals are recommended not to employ this method of launching unless in possession of at least "B" Certificates.

THE
OPEN COMPETITION RULES
of the
BRITISH GLIDING ASSOCIATION

(Under the rules of the Federation Aeronautique Internationale and the Royal Aero Club)

OPEN MEETINGS

GENERAL

1.—The following rules shall be known as the Open Competition Rules of the British Gliding Association and are hereinafter called "these Rules."

2.—DEFINITIONS.—In these Rules.

The "B.G.A." shall mean the British Gliding Association.

The "R.A.C." shall mean the Royal Aero Club of the United Kingdom.

"A Club" shall mean a local body recognised as a club by the B.G.A.

The word "Competition" shall mean any contest or trial in which a Glider may take part; other than a gymkhana or similar social event.

A "Closed Competition" shall mean one promoted by a club and strictly confined to a club or its members, and the members of some other specified club provided that in the latter case it is so declared by the B.G.A.

An "Open Competition" shall mean any other competition, no competition shall be held to be international unless specifically declared to be so by the B.G.A., notwithstanding that a person of foreign nationality may be taking part therein.

The term "Glider" means any heavier than air machine which does not depend on an engine for sustained flight.

The word "Competitor" shall mean any person or body making entry for, or taking part in any trial or competition, except passenger and pilot.

The word "Promoter" shall mean any person or body, purposing to hold, holding, or organising a meeting.

The word "Meeting" shall mean a meeting at which one or more competitions or events are held.

The word "Permit" shall mean a permit granted by the B.G.A., under these rules.

A "Closed Meeting" shall mean a meeting at which no open competition is held.

An "Open Meeting" shall mean a meeting at which no open competition is held.

The word "Passenger" shall include the pilot, provided that any deficiency in weight may be made up by means of ballast or by excess of weight in other passengers.

The word "Person" shall include one or more persons or a corporate body.

3.—APPLICATION OF RULES. These rules shall apply to all open competitions in the United Kingdom and Northern Ireland, the Isle of Man, and the Channel Islands and it shall be conspicuously stated on the entry form announcements, and programmes relating to any open meeting that the competitions at such meetings are held under these rules.

4.—SPECIAL PERMIT. The B.G.A. may grant a special permit for any particular competition, dispensing with all or any of the provisions of these Rules.

5.—COMPETITOR BOUND BY RULES AND REGULATIONS. Every Competitor shall be presumed to be acquainted with and shall submit to and be bound by these Rules and any Regulations issued by a Promoter in regard to any competition promoted by him; provided that any such Regulations shall be supplementary to and shall, except in the case of Regulations issued by the B.G.A., in no way supersede these Rules unless with the consent of the B.G.A., notice of which consent shall appear upon the Regulations to which it refers; provided also that all words herein defined shall in all such Regulations be deemed to bear the same meanings as herein expressed, unless the contrary is specifically declared in the supplementary Regulations.

6.—NOTICES. Any communications required under these Rules to be made to the B.G.A. shall be sent to the Secretary of the B.G.A., 44a Dover Street, London, W.1. or at such other address as may be notified by the B.G.A.

COMPETITORS

7.—ENTRANT RESPONSIBLE FOR PILOT. The entrant shall be responsible for all acts or omissions on the part of his pilot, but both shall be equally responsible for any infraction of these Rules.

8.—CHANGE OF PILOT. In no case shall the pilot be changed after publication of the final programme without the consent of the Stewards of the Meeting.

9.—IDENTIFICATION NUMBERS. Every glider shall, during a competition carry in a conspicuous place one or more conspicuous numbers or other marks corresponding with the programme.

10.—NO ADVERTISEMENTS TO BE CARRIED WITHOUT CONSENT OF THE B.G.A. No Advertisement or Trade Sign other than the name of glider or of the maker shall be carried on or be distributed from any glider during competition except with the special consent of the B.G.A. first obtained.

REGULATIONS FOR PREVENTING COLLISIONS IN THE AIR

(See Air Navigation Regulations)

11.—CROSS-COUNTRY FLYING.

(a) Two gliders meeting each other end on, and thereby running the risk of a collision, must always steer to the right. They must, in addition to this, pass at a distance of at least 50 feet taken between their nearest adjacent points.

(b) Any Glider overtaking another glider is responsible for keeping clear, and must not approach within 50 feet of the overtaken glider, and must not pass directly underneath or over such overtaken aircraft.

The distance shall be taken between the nearest adjacent points of the respective gliders. In no case must the overtaking glider turn in across the bows of the other glider after passing it so as to foul it in any way.

(c) When any gliders are approaching one another in cross directions, then the glider that sees another glider on its righthand forward quadrant* must give way, and the other glider must keep on its course at the same level till both are well clear.

*From 0 degrees (i.e. straight ahead) to 90 degrees on the right hand constitutes the right hand forward quadrant.

FLYING GROUNDS

The following Special Regulations apply only to flying grounds:—

(d) Two gliders meeting each other end on, and thereby running the risk of a collision, must always steer to the right. They must in addition to this, pass at a distance of at least 50 feet taken between their nearest adjacent points.

(e) Any glider overtaking another glider is responsible for keeping clear and in no case must turn in across the bows of the other glider after passing it, so as to foul it or risk a collision and must, in addition, subject to Rule 12, conform to the following Regulations:—

(1) If flying on the same level, i.e., within 50 feet above or below, must pass outside the overtaken glider at not less than 50 feet.

(2) If on a different level, must not pass nearer than 50 feet. The distance shall be taken between the nearest adjacent points of the respective gliders.

A Glider when being overtaken shall not alter its course or level, save when in the act of overtaking and passing another Glider.

12.—INTERFERING.—Any competitor piloting so as to influence another pilot's glider in a dangerous manner shall be considered to have committed an offence under these Rules.

13.—KEEPING THE COURSE. Any competitor leaving the course shall continue the contest in flight from the point where he left the course.

14.—COMPETITIONS AND PROHIBITED AREAS. No competition shall be held over any area where flying has been prohibited unless sanction has been first obtained from the persons exercising such prohibition.

15.—ENCLOSURE. No persons except the Officials of the Meeting, the pilots and their assistants shall be allowed within the competitors' enclosure, except with the special permission of the Secretary of the Meeting.

PERMITS

16.—NO MEETING WITHOUT A PERMIT. No meeting shall be held without a permit from the B.G.A. Such permit shall only be granted on the application of the Promoter, at the discretion of the B.G.A. to recognised Gliding Clubs, to other bodies interested (to the satisfaction of the B.G.A.) in the Gliding movement, under such conditions as the B.G.A. deems reasonable and may be withdrawn by the B.G.A. at its discretion.

17.—NO PERMIT ASSIGNABLE. The B.G.A. may decline to grant a permit without assigning any reason. It shall be deemed a condition attached to all permits that no permit is assignable.

18.—FEE AND FORM OF APPLICATION. The fee for a permit shall be two guineas for each day of the Meeting; provided that, in case of application from any Club affiliated to the B.G.A., the fee payable shall be 2/6 for each such day. Every application for a permit shall be on the special form to be obtainable from the B.G.A., and shall be accompanied by the fee.

19.—PERMIT BEFORE ANNOUNCEMENT OF MEETING. No Meeting shall be announced until a permit has been applied for and granted, as provided by Rule 16.

20.—POSTPONEMENT OR ABANDONMENT. No Meeting shall be postponed or abandoned without the consent of the Stewards of the Meeting, and in the event of such postponement or abandonment no competitor shall, except as provided herein, have any claim against the Promoter for the return of his entrance fees and deposits (if any).

PUBLICITY AND PROGRAMMES

21.—PUBLIC ANNOUNCEMENT & SUPPLEMENTARY REGULATIONS. An application for a permit must be accompanied by a draft of the proposed public announcement of the Meeting, and of any supplementary Regulations (which must be in accordance with the tenor of these Rules) which it is proposed to make for such Meeting.

22.—The announcement of a Meeting by a Promoter must be published at least fourteen days before the Meeting.

23.—The announcement shall contain, inter alia :—

1. A statement that the Meeting is held under the Open Competition Rules of the B.G.A. (or Closed).
2. The place where the Meeting will be held, with the date.
3. The nature, classification, and description of the proposed competitions.
4. The itinerary.
5. The particulars of the prizes for each competition.
6. The amount of deposit (if any) and of entrance fee for each event and whether returnable.
7. The place at which entries will be received.
8. The maximum or minimum number of competitors for which each prize is open.
9. The conditions under which competitors shall present their gliders.
10. The time when entries close.
11. The names of the officials as provided by these Rules. (See Rule 38).
12. The name and address of the Promoter and of the Secretary of the Meeting.

24.—OFFICIAL PROGRAMME. At least 48 hours before the time announced for the commencement of the Meeting the Promoter shall furnish to the B.G.A. and to each Competitor an Official programme, clearly marked "Official Programme" on the face thereof, which programme shall contain in its final form the information required to be given in the announcement of the Meeting, together with particulars of the entries accepted for each competition, the arrangements and time of the various competitions, the name of the entrant and pilot of each glider, the identification number which each glider will carry in the Meeting, and the handicap, if any (if the handicap be not sealed). Any assumed name shall be indicated on the Official Programme in inverted commas.

25.—NO ALTERATION WITHOUT CONSENT OF STEWARDS OF MEETING. No alteration in the supplementary Regulations or in any other part of such Official Programme shall be made without the unanimous consent of the Stewards of the Meeting present, which shall only be given in exceptional circumstances; and if such consent be given, the Promoter shall be responsible for giving due notice thereof to each competitor concerned before the start of the competition for which such competitor is entered.

CLASSIFICATION

26.—OF GLIDERS. Classification of gliders and all regulations in respect thereof shall be subject to the approval of the B.G.A.

27.—IF BY PRICE. Where classification is by price, the entrant, if not a manufacturer or dealer in gliders, shall produce to the satisfaction of the B.G.A., or such person as it may appoint, evidence to prove that the declared price is the bona fide price paid for the complete glider when new. Where the entrant is a manufacturer or dealer in gliders, he must state the selling price of the complete glider as used in the competition, and shall furnish with his entry a written undertaking to accept at the declared price a reasonable number of bona fide orders given within six weeks after the competition for exact duplicates of the complete glider entered, and to deliver all such gliders so ordered complete, and in perfect working order within a reasonable period from the date of order, provided a cash deposit not exceeding one-third of the price of the glider is paid at the time of giving the order.

REGISTRATION OF COMPETITORS

28.—COMPETITOR MUST BE REGISTERED. No competitor shall be eligible to enter a glider for, or pilot a glider in, any competition unless the name of such competitor is duly entered upon the Competitors' Register of the B.G.A., which Register shall be open for inspection at the Offices of the B.G.A. at all reasonable times. The B.G.A. may refuse to enter the name of any person on the Competitors' Register without assigning any reason. The competitor shall be given a certificate of his entry in the Register, which he shall produce on the demand of any official at any Meeting.

29.—FEES. The Fee for registration of a Competitor shall be 10/- except in the case of a member of the B.G.A., where there shall be no registration fee or in the case of a member of a club directly affiliated to the B.G.A. the fee shall be 2/6.

30.—REGISTER NUMBER. Each entry in the Register shall be given a Register Number, and shall hold good only till the 31st day of December next ensuing.

31.—EXTRA FEE FOR ASSUMED NAME. On payment of an additional annual fee of two guineas, a competitor may be registered under an assumed name approved by the B.G.A., provided that the competitor while registered under such assumed name shall not compete under any other name, unless specifically sanctioned by the B.G.A.

ENTRIES

32.—HOW MADE. Entries shall be made in writing, on the proper form issued by the Promoter, which shall state, inter alia, the name and address of the entrant and his Register Number. Any entry which is not accompanied by the necessary fee, or does not comply with the particulars required, or which is received too late, shall be null and void, and no Promoter shall accept an entry form unaccompanied by the entrance fee.

33.—WHEN CLOSED. Entries shall close not less than five days before the published date of the Meeting.

34.—REFUSAL OF ENTRY. A Promoter may refuse any entry provided that notification of such refusal is given so as to reach the entrant not less than four days before the Meeting. The entrant may protest against such refusal on the ground that it is capricious or unreasonable, not less than three days before the Meeting, whereupon the Promoter shall be bound to state the reason for his refusal, and the Provision of Rule 93 shall apply to any such protest.

35.—PILOT'S NAME AND NUMBER TO BE DECLARED. Every entrant shall state the name and Registered Number of the person who is to pilot his glider, either on his entry form, or otherwise, in writing not less than five days before the Meeting. In the event of failure to comply with this rule, the entry may be declared null and void, and the entrance fee may be forfeited.

36.—PENALTY FOR FALSE STATEMENT. Any entry containing any false statement may be declared null and void, and the entrant may be deemed guilty of misbehaviour under Rule 100, and the entrance fee held forfeit.

37.—UNAUTHORISED ENTRY. Any Promoter entering or publishing as entered the name of a competitor for a competition without the written sanction of the said competitor shall be deemed to be guilty of misbehaviour under Rule 101.

OFFICIALS

38.—RECOGNISED OFFICIALS. The following are the recognised Officials of a Meeting, and their appointment shall be subject to the approval of the B.G.A., viz., three Stewards of the Meeting, and such of the following as may be required:—

A Clerk of the Course, a Judge, a Starter, a Clerk of the Scales, an Official Measurer, a Marshal, Time-Keepers and Handicappers, each of whom, as a qualification for his office, shall hold the formal authorisation of the B.G.A. to his acting in that capacity at the Meeting in question. There shall also be appointed by the Promoter a Secretary of the Meeting, who shall be authorised on behalf of the Promoter to receive and deal with all communications. The Stewards of the Meeting may, during a Meeting, appoint an unauthorised substitute to fill any of the above-named offices. None of the above-named Officials or the Secretary of a Meeting shall be eligible to compete in any competition at such Meeting.

39.—DURATION OF APPOINTMENT. Appointments of Officials by the B.G.A. will, at its discretion, be either for a particular Meeting or till the 31st day of December next ensuing; provided that the B.G.A. may at any time cancel any appointment.

40.—FEES. Officials may be honorary, but otherwise shall be entitled to payment by the Promoter for their services in accordance with the following scale in addition to their out-of-pocket expenses in connection with the Meeting, viz., Time-keepers, not exceeding Three Guineas per day, or two Guineas per half-day. Handicappers and other Officials, such fees as the B.G.A. may from time to time determine.

41.—NOT TO OFFICIATE AT UNLICENSED MEETINGS. No official appointed by the B.G.A. shall officiate at any Meeting not held under these Rules.

42.—FIXED DUTIES. A Steward of the Meeting at any Meeting shall not be permitted to engage in any other work or to perform any other duties than such work or duties as are clearly attached to his post.

STEWARDS OF THE MEETING

43.—DUTIES AND POWERS. For every Meeting there shall be appointed three Stewards of the Meeting, who shall be in no way be responsible for the organisation of the Meeting, but

- (a) Shall have supreme control of the carrying out of the Meeting according to the official programme, and shall have the duty of enforcing these rules;
- (b) Shall, except where such powers are expressly given to other officials by these rules, alone give judgment upon any protests which may arise out of the Meeting.
- (c) Shall disqualify any competitor who has become liable to suspension.
- (d) May disqualify any competitor and require his removal from the course;
- (e) May prohibit any glider from competing which they consider might be a source of danger; and
- (f) May disqualify any person whom they consider guilty of misbehaviour or unfair practice at a Meeting.

44.—TO REPORT TO B.G.A. The Stewards of the Meeting shall forward to the B.G.A. a report upon the Meeting, giving particulars of any protests or disqualifications which may have arisen.

CLERK OF THE COURSE

45.—DUTIES AND POWERS. The Clerk of the Course shall control competitors and their gliders during the Meeting

He may have assistant Clerks of the Course, for whom he shall be responsible, and

- (a) Shall see that the glider carries its proper identification numbers or marks in accordance with the programme.
- (b) Shall be responsible for the carrying out of these Rules, and for maintaining order on the aviation ground and enclosures, and shall be in control of all arrangements, and be subject to the Authority of the Stewards of the Meeting.
- (c) Shall pass gliders up to the starting line in the right order and at the right time according to programme.

(d) Shall carry out any instructions from the Stewards of the Meeting, the judge, or the Starter.

(e) Shall generally watch the proceedings and report to the Stewards of the Meeting as to any foul flying or other irregularity.

(f) Shall receive protests and transmit same forthwith to the Stewards of the Meeting.

(g) The Clerk of the Course may also be the Secretary of the Meeting.

JUDGE

46.—DUTIES AND POWERS. The Judge, or his authorised substitute, shall decide the placing of the gliders. His decision shall be final and without appeal; provided that this Rule shall not prevent a Judge from correcting any mistake, such correction being subject to the confirmation of the Stewards of the Meeting; provided further that no decision of the Judge shall give any claim to a competitor who is subsequently shown to have been ineligible to start. The Judge shall receive all times from the Time-keepers and shall communicate all such results and times to the Secretary of the Meeting for communication to the public and the Press.

47.—TO REPORT RESULTS. The Judge shall, at the close of each Meeting, sign and send to the B.G.A. and to the Promoter a report of the result of each competition.

STARTER

48.—DUTIES AND POWERS. It shall be the duty of the Starter, when it has been reported to him by the Clerk of the Course that the competitors are ready, to see that the Time-keepers are warned before starting the Competition. In case of a false start, the competitors shall be called back by the Starter, and re-started at the discretion of the Starter, and on a repetition of the offence the Starter may report the competitor to the Stewards of the Meeting for disqualification.

49.—STANDING START. In starting all competitions from a standing start, the foremost part of the glider in contact with the ground must be placed on the mark from which the competitor has to start.

49a.—The duration of any flight either for tests or for competitions shall be timed from the word "Release" until the Machine ceases to be air-borne.

The Time-keeper shall start his watch on the word "Release" and stop it on the judge giving the machine "down." A Timekeeper and a Judge should always be available so that the attention of the Time-keeper can be concentrated on his watch, while the judge concentrates on the machine landing.

50.—GENERAL.—A glider shall be amenable to the Rules from the time of leaving the ground with the intention of participating in the race to the time of first landing after completion thereof; and it shall be considered a foul should the glider in any way infringe this Regulation.

51.—STARTING FROM PROPER MARK. It shall be the duty of each competitor to see that he starts from his proper mark, and for any default he may be disqualified for the competition in question. All questions as to starts in handicapped races shall be decided by the Starter.

52.—PROGRAMME TIMES TO BE KEPT. As far as possible, the times in the programmes shall be adhered to, but no competition may be started before the stated time, except with consent of all competitors in such competitions.

53.—PRECEDENCE BY LOT. In all cases where more than one competitor starts from the same mark, lots shall be drawn by the competitors to decide their respective positions. When one competitor starts at a time, the order of starting shall be decided by lot.

CLERK OF THE SCALES

54.—DUTIES AND POWERS. In any competition where there is a weight-limit, all weighing of gliders and of competitors subject to such limit shall be carried out by the Clerk of the Scales, who shall be responsible for the accuracy of the weighing, and whose certificate shall be final and conclusive evidence of weight.

55.—WEIGHING-IN. Any competitor in such a competition who desires to claim a place shall, on conclusion of the competition, immediately report himself with his glider to and obey the orders of the Clerk of the Scales for weighing-in.

OFFICIAL MEASURER

56.—DUTIES AND POWERS. In any competition where any measurements have to be taken there shall be appointed an Official Measurer, who shall be responsible for the accuracy of the measuring and whose certificate shall be final and conclusive.

57.—MERGING OF DUTIES. The duties of the Official Measurer may, if necessary, be performed by the Clerk of the Scales, or vice versa.

MARSHAL

58.—DUTIES AND POWERS. The Marshal shall control competitors and their gliders during the Meeting. He may have Assistant Marshals for whom he shall be responsible, and

(a) Shall see that each glider carries its proper identification numbers in accordance with the programme.

(b) Shall satisfy himself that the proper pilot, duly registered, is on the glider.

(c) Shall marshal the glider in such classes or events as are required.

(d) Shall hand the glider over to the Clerk of the Course in the right order and generally carry out the latter's instructions;

(e) Shall generally watch the proceedings and report to the Clerk of the Course as to any foul piloting or other irregularity.

TIME-KEEPERS

59.—APPOINTMENT BY B.G.A. All competitions decided wholly or partially by time must be timed by Official Time-Keepers appointed by the B.G.A. The appointment of such Official Time-Keepers shall terminate on December 31st next ensuing, and shall be either for hand timing, for automatic timing, or for both. (NOTE—As to timing Records, see Rule 78.).

60.—QUALIFICATIONS FOR APPOINTMENT. In the case of hand timing the applicant for appointment must submit to the B.G.A. for approval any watch with which he intends to time. Any such watch to be used for hand timing must have been submitted and approved.

61.—RE-APPOINTMENT. When applying for re-appointment for hand timing the applicant must submit the certificate, endorsed, to show that any such watch has been submitted again to the B.G.A. and has been found to be performing within the range required accuracy.

62.—AUTOMATIC TIMING. Competitions may be timed by automatic apparatus provided such apparatus has been approved by the B.G.A. and is operated by a Time-keeper officially appointed by the B.G.A. for the purpose,

63.—UNDER ORDERS OF CLERK OF THE COURSE. Time-keepers shall report themselves to the Clerk of the Course and take his instructions during the Meeting.

64.—DUTIES. The Time-keepers shall at the end of the day sign their time sheets and hand them to the Secretary of the Meeting without delay.

65.—NO TIMES TO BE MADE PUBLIC EXCEPT THROUGH THE JUDGE. The time-keepers shall communicate the times or results to the Judge or person appointed by the Judge to receive them and shall not communicate any times or results to the public or the Press, nor shall any times or results be communicated to the public or the Press otherwise than by the Judge.

HANDICAPPERS

66.—FRAMING HANDICAPS. All Handicaps shall be framed by an Official Handicapper or Handicappers appointed by the B.G.A.

67.—WINS ON THE SAME DAY. Handicappers shall state on their handicaps if penalties are to be enforced for wins on the same day. Unless so stated by the Handicapper, penalties shall not apply to wins on the same day.

COMPETITION GLIDING GROUNDS

68.—MUST BE LICENSED BY B.G.A. No gliding ground shall be used for any competition without a licence from the B.G.A., which may grant or withdraw such licence under such circumstances as it may think reasonable. If the gliding ground is a permanent one, such licence shall hold good for one year; otherwise for the duration of the Meeting only.

69.—FEES. The Fee for licensing a gliding ground shall be 5 guineas except in the case where the promoter is an affiliated club or a member of the B.G.A. when the fee will be 2/6. These fees shall not include travelling expenses of the B.G.A. inspectors. The fee for renewal of a licence shall be £2 10s., or in the case of an affiliated club or member of the B.G.A., 2/6, provided that a certificate is submitted to the effect that no alterations or additions such as buildings, fences, or quarries, roads, and so forth have been erected subsequent to the issue of the previous licence.

70.—CONTOUR MAP REQUIRED. An application for a licence for a gliding ground, must be accompanied by a large scale contour plan of the grounds showing all the features of the ground and the immediate surrounding country.

71.—B.G.A. MAY DECIDE NUMBER OF GLIDERS. The B.G.A., in granting a licence for a gliding ground, may decide the number of gliders which may take part at the same time in any competition over such gliding ground.

72.—CROSS-COUNTRY COURSE. In the case of cross-country competitions, the Course must previously be sanctioned by the B.G.A.

HEATS

73.—DRAWN BY LOT. Competitions may be run in heats. The heats shall be drawn by lot prior to the Meeting and shall be published in the programme, and the competitors shall compete in the heats in which they are drawn.

74.—DEAD HEATS. Should any competition result in a dead heat, the dead heat shall be run off, unless the parties agree to divide.

75.—FINALS AND SEMI-FINALS. Any competitor qualifying in a heat must take part in the final or semi-final heat unless he has the sanction of the Judge not to do so.

76.—NEXT IN HEAT. When the qualified pilot of any heat or tie does not compete in the final heat or tie, the Stewards of the Meeting shall have the power to allow the next in that heat to compete in his place.

77.—ALTERATIONS. The Stewards of the Meeting may order trial heats to be consolidated or divided in cases where the number of competitors warrants such a course.

RECORDS

78.—**B.G.A. ADJUDICATES.** The B.G.A. shall adjudicate upon all records, and may decline to accept any claim which in its opinion would not promote the interests of the sport. Any record not so adjudicated upon shall be in no way recognised.

79.—**NOTICE TO B.G.A.** Any person proposing to attempt a record other than at a meeting must give suitable previous notice in writing to the B.G.A., and thereby agrees to submit to these Rules.

80.—**MUST BE CLAIMED WITHIN SEVEN DAYS.** Records will not be recognised unless claimed by the competitor (who shall submit all evidence to the B.G.A.) within seven days after its alleged accomplishment, unless the B.G.A. considers that the circumstances warrant a delay. No claim for a record will be considered unless made at a Gliding Ground or over a Course previously approved by the B.G.A., and in the case of records based on time verified by two official Time-keepers (except in the case of automatic timing).

81.—**THE B.G.A. RETAINING PROOFS, ETC.** The B.G.A. shall be entitled to retain all proofs and other documents produced in respect of claims for records, and to deal with such proofs and documents as it thinks fit.

82.—**REGISTER OF RECORDS.** The B.G.A. will keep a Register of Records.

CHALLENGE TROPHIES

83.—**CLASSES OF GLIDERS.** In the conditions of any Challenge Trophy offered for competition which has to be won more than once to become the property of the winner, it shall be distinctly stated to what class or classes of gliders it is open.

84.—**AGREEMENT WITH THE B.G.A.** No competition for a challenge Trophy will be permitted to take place under these Rules unless the Promoters shall first have entered into an agreement with the B.G.A. that the competition in question shall be held under conditions which shall be expressed in the agreement, and no amendment shall subsequently be made on such conditions without the consent of the B.G.A.

85.—**INTERVALS TO BE DISTINCTLY STATED.** It shall be distinctly stated at what intervals a Challenge Trophy shall be put up for competition—that is, once a year, twice a year, etc.

86.—**ADVERTISEMENTS.** No challenge trophy shall be competed for unless notice of the competition shall have been published at least one month beforehand.

87.—**“WALK OVER.”** In case a Challenge Trophy shall not have been advertised for competition at the proper time the holder shall be entitled to give one calendar month's notice to the Promoters, of his intention to glide over the course or otherwise fulfil the conditions of the competition and in default of competition he may do so in the presence of an official to be appointed by the B.G.A., and such flight shall count as a win for the said holder.

88.—**POSTPONEMENT.** On good reason being shown the B.G.A. may allow a Challenge Trophy to be held over for such period as it thinks fit.

89.—**DUTY OF PROMOTERS RE GUARANTEE.** Promoters offering a Challenge Trophy subject to a guarantee for its return must state explicitly to each intending competitor the nature of the guarantee required, and in case any difference shall arise in arranging the terms the decision of the B.G.A. shall be accepted by all parties as final.

90.—**NO FEE FOR HOLDER OR HOLDERS.** The holder or holders of any Championship or Challenge Trophy shall be considered as entered without fee for the next contest, provided he is or they are still eligible to compete for it, unless written notice be given renouncing the same and withdrawing from the contest.

91.—**VARIATION OF CONDITIONS.** All questions as to the variation of the conditions under which the competition for a Challenge Trophy has hitherto been held, and to which any person entitled to an interest in such Challenge Trophy may object, shall be referred to the B.G.A., whose decision in all cases shall be final.

PROTESTS

92.—**RIGHT OF PROTEST.** Any competitor considering himself aggrieved by any matter connected with a competition or by the conduct of any Promoter or Official, may make formal protest as provided by these Rules.

93.—**HOW MADE.** Every protest shall be in writing, and must be signed by a competitor engaged in the competition or by his authorised agent, and must be lodged with the Secretary of the Meeting within the time prescribed by these Rules; the person protesting shall, at the time of making the protest deposit in the hands of the person to whom the protest is made the sum of £5. If the protest be decided against the depositor, his deposit shall be forfeited to the B.G.A., unless the Stewards of the Meeting who heard the case, or the Stewards of the B.G.A. on appeal, shall certify that there was good and reasonable ground for the protest and appeal.

94.—**WHO ADJUDICATES.** All protests shall be adjudicated upon by the Stewards of the Meeting. All parties concerned shall be given an opportunity of being heard, and shall be bound by the decision given, subject only to appeal to the Stewards of the B.G.A. as herein provided.

95.—**PENDING JUDGMENT.** In the event of a protest being lodged against a successful competitor, the prize shall be withheld until the protest has been dealt with. If the protest is upheld the prize shall be awarded to the competitor who is next in order.

96.—IF PROTEST IS UPHELD. If a protest concerning a glider which has won or taken part in a competition be upheld, such glider shall be regarded as not having taken part in the competition, and the other gliders shall be placed accordingly.

97.—PROTESTS. WHEN AND HOW MADE. (1) A protest against a glider as to classification and validity of entry (otherwise than as provided by Rule 34) must be made before the start of the competition.

(2) A protest against the distance of a Course officially designated must be made before the start of a competition.

(3) A protest against any decision of the Clerk of the Scales or of the Official Measurer must be made forthwith after such decision.

(4) A protest against a glider on the ground of any act on the part of its pilot or his assistant, or of it not having covered the proper course, or of the competition having been held over a wrong course, or of any other matter occurring during the competition, or before weighing in, etc., unless, for special reasons, the Stewards of the Meeting are satisfied that it could not have been made within that time.

(5) A protest on the ground:—

(a) That the glider which competed was not the glider which it was represented to be at the time of entry; or

(b) That the glider has competed at a Meeting for which permit has not been granted.

may be received within fourteen days of the conclusion of the Meeting.

(6) A protest on the ground that there is an error or inaccuracy in the results of a competition as published, or that the results so published disclose or afford ground for thinking that some error or inaccuracy has occurred, which the party protesting could not have known until such publication, may be received within fourteen days, including the date of publication, from the day upon which the results are published in the Official Organ of the B.G.A.

(7) In any other case a protest must be made within twenty-four hours of the competition being held, exclusive of Sunday, save in the case of any fraud, or wilful mis-statement, when there shall be no limit to the time for protesting, providing the Stewards of the Meeting are satisfied there has been no unnecessary delay on the part of the person protesting.

98.—BY OFFICIAL. A protest may be made without deposit by a Steward of the B.G.A. or an Official of a meeting in his official capacity.

99.—CANNOT BE WITHDRAWN WITHOUT LEAVE. A protest cannot be withdrawn without leave of the Stewards of the Meeting.

100.—COSTS AND EXPENSES. All costs and expenses in relation to determining a protest or conducting an inquiry, and any reasonable compensation for outlay incurred, shall be paid by such person, and in such proportions, as the Stewards of the Meeting shall direct.

CORRUPT PRACTICE

101.—UNLICENSED COMPETITIONS. Any person who shall knowingly enter for or take part in a competition not held under these Rules or who shall be guilty of any misbehaviour or unfair practice in connection with aeronautics, whether relating to competitions or not, shall be deemed to be guilty of a breach of these Rules.

102.—UNOFFICIAL TRIALS. Any owner, manufacturer, dealer, agent, or pilot, taking part in or directly connected with any Trial or Competition, otherwise than under regulations made by the B.G.A., and obtaining extensive advertisement therefrom, shall be deemed to be guilty of a breach of these Rules.

103.—OFFERING BRIBES. Any person who:—

(1) Corruptly gives or offers, or promises directly or indirectly any bribe in any form to any person, having official duties in relation to a competition of gliders or to any other person having charge of, or access to, any gliders: or

(2) Having official duties in relation to a competition, or having charge of, or access to, any glider, corruptly accepts or offers to accept any bribe in any form: or

(3) Wilfully enters or causes to be entered or to start for any competition a glider which he knows or believes to be disqualified: or

(4) Shall be guilty, or shall conspire with any other person for the commission of, or shall connive at any other person being guilty of, any other corrupt or fraudulent practice in relation to glider competitions in this or any other country;

shall be deemed to have committed a breach of these Rules and shall be liable to suspension.

DISQUALIFICATION AND SUSPENSION

104.—POWERS OF THE B.G.A. The B.G.A. may, on any complaint being made to it or on its own initiative, take cognisance of and deal with any breach or offence against these Rules by the disqualification or suspension of any person or in such other manner as it may think fit, subject only to an appeal to the Stewards of the B.G.A. as provided by these Rules.

105.—DISABILITIES OF DISQUALIFICATION AND SUSPENSION. A disqualified or suspended person, so long as his disqualification or suspension lasts, shall be ineligible to act as a Steward of the B.G.A. or hold any official position at any Meeting or take part in any competition held under these Rules.

106.—DISQUALIFICATION. A competitor or a glider may be disqualified by the Stewards of the Meeting as the result of any protest, or for any breach of these Rules.

107.—WHAT DISQUALIFICATION ENTAILS. Disqualification of a competitor or of a glider entails the loss of any rights with regard to any competition in respect of which the cause of disqualification arose, and may be extended by the Stewards of the Meeting to apply to any other competition at the same Meeting.

108.—SUSPENSION. Any person who shall have been disqualified in accordance with these Rules may be suspended by the B.G.A. from taking part in any competition under these Rules, and may be struck off the Competitors' Register.

109.—TEMPORARY AND PERMANENT SUSPENSION. Suspension may be either temporary or permanent; if temporary, the suspension shall be recorded in the Register, if permanent the competitor's name shall be struck off the Register; and no person shall be allowed to enter for or take part in any competition under these Rules while under sentence of suspension.

110.—DISQUALIFICATION OF GLIDERS. Any glider entered by, piloted by, or belonging to a suspended person shall be disqualified from taking part in, or receiving any award in connection with, any competition for which it is entered. A glider which is the property of a disqualified owner cannot be entered for any competition under these Rules.

111.—PUBLIC NOTIFICATION OF DISQUALIFICATION OR SUSPENSION. The B.G.A. may, in its absolute discretion, and in such manner as it may think fit, notify or cause to be notified to the public that any person has been disqualified or suspended, and the name of such person. No action or any proceedings shall, under any circumstances, be maintainable by the person referred to in such notification against the B.G.A., or against any person publishing or circulating the same, and this Rule shall operate as leave to the B.G.A. and to any such person to publish and circulate such notification, and be pleadable accordingly.

(NOTE.—FOREIGN COUNTRIES. By mutual agreement with recognised foreign and colonial Aero Clubs, a competitor who has been rendered ineligible for taking part in competitions under the Rules of any one of such Clubs is ineligible for any competition under these Rules; and any competitor ineligible under these Rules is ineligible to take part in any competition under the Rules of any recognised foreign or colonial Aero Club.)

APPEALS

112.—RIGHT OF APPEAL.—If any person is aggrieved by a sentence of disqualification or suspension under these Rules, he shall upon giving written notice to the Secretary of the B.G.A., within forty-eight hours of the decision against which he appeals being made known accompanied by a deposit of £10, have the right of appeal to the Stewards of the B.G.A.

113.—STEWARDS' DECISION FINAL. A sentence pronounced by the Stewards of the B.G.A. shall be final and without appeal, and shall be binding on the competitor and all other persons for all purposes. The B.G.A. may authorise a statement to be inserted in its Official Organ of any decision under this Rule.

114.—DEPOSIT. The deposit shall be forfeited to the B.G.A. or shall be returned to the appellant, as the Stewards of the B.G.A. may determine.

115.—COUNCIL MAY INCREASE PENALTY. If the Stewards of the B.G.A. shall be of opinion that the fault committed demands a penalty greater than that which has been imposed, it shall have power to increase such penalty, e.g., the Stewards of the B.G.A. may change disqualification to suspension.

116.—COUNCIL MAY INFLICT FINES. The Stewards of the B.G.A. shall have power to inflict fines and order payment of costs at its discretion.

117.—NO COMPETITION SHALL BE RUN AGAIN. In no case shall the Stewards of the B.G.A. have the power to order a competition to be run again.

118.—QUORUM. All appeals referred to, or brought before the Stewards of the B.G.A. for their decision shall be decided by a quorum of not less than three Stewards of the B.G.A. The Stewards of the B.G.A. may call to their aid other Members of the B.G.A., and may procure such professional and other expert assistance as they may deem desirable.

ALTERATION AND INTERPRETATION OF RULES

119.—ALTERATION. The B.G.A. reserves the right at any time, and from time to time, to amend, alter, or add to these Rules, and every person competing under these Rules agrees to be bound thereby.

120.—INTERPRETATION. In the event of any question arising as to the interpretation of these Rules, the decision of the B.G.A. shall be final.

121.—COUNCIL OF B.G.A. ACTS FOR B.G.A. All acts required by these Rules to be done by the B.G.A. shall be done by the Council of the B.G.A., who may from time to time delegate all or any of its powers to a Sub-Committee with power to further delegate. The Stewards of the B.G.A. are appointed under the following Rule of the B.G.A.

CONTROL OF COMPETITIONS

122.—The Royal Aero Club has the sole control of all competitions, sporting events, or trials in connection with aeronautics in the United Kingdom. The exercise of this control in respect of gliding has been delegated to the B.G.A., who may for this purpose from time to time make, alter, or amend such Rules and Regulations as it may think proper. Any person, whether a member of the B.G.A. or not, who shall disregard any such Rules and Regulations, or take part in any competition not authorised by the B.G.A. shall be liable to such penalty if suspension or disqualification as the B.G.A. may think fit to pronounce. The B.G.A. may grant permits for competitions, sporting events, or trials, and may delegate its powers of suspension or disqualification to other Clubs or persons with or without appeal to the B.G.A. Powers of Temporary suspension may be delegated to any Steward or Judge appointed for any Meeting.

ELECTION OF STEWARDS. There shall be not less than six, not more than twelve, Stewards of the B.G.A., who shall be elected annually in February by the Council of the B.G.A. They must be members of the B.G.A. and must not have any direct financial interest in the Gliding Industry.

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REGULATIONS FOR AIRWORTHINESS

1. **Air Ministry Handbook.**—The Regulations laid down in the Air Ministry Handbook of Strength calculated A.P. 970 published by H.M. Stationary Office will be followed as far as applicable.

2. **Load Factors.**—The following are the Load Factors for Glider design and should be observed throughout.

Main Planes:—

(a)	Centre of pressure forward	...	...	...	5
(b)	Centre of pressure back	...	...	...	3.75
(c)	Nose dive	...	...	...	1
(d)	Inverted flight	...	...	...	3

Tail Planes:—

- (a) To be designed to withstand the loading imposed in pulling out of a steep dive so that the tail plane will collapse simultaneously with the main planes.
- (b) Nose dive 1

Rudder:— To withstand maximum loading with factor 2

Fuselage:—

- (a) As in case (a) for Tail Plane
- (b) Landing 4

Landing gear:— 4

3. **Procedure.**—The following is the procedure for a Glider Design to become a British Gliding Association "Approved Type."

Application for a Certificate of Airworthiness should be made to the British Gliding Association and must be accompanied by sufficient drawings from which all strength calculations can be made together with the requisite fee.

These drawings should include a general arrangement together with the layout of the main planes, fuselage and tail unit. Sections of spars, longerons, ribs, struts, etc., should be shown and dimensions of all fittings included. The materials that it is proposed to use must be stated in each case.

4. **A Complete Strength Calculation** will then be made out by the British Gliding Association design approver. In cases where the drawings are not proper working drawings, these will be drawn up by the Association at the expense of the applicant.

5. **The fees chargeable** for the issue of Certificates of Airworthiness are:—

(a)	£7 17 6	£5 5 0	for members	New Type.
(b)	£3 3 0	£2 2 0	" "	Subsequent machines of the same type built by the same manufacturer.
(c)	£4 14 6	£3 3 0	" "	The first machine of the same type built by another manufacturer.
(d)		£2 12 6	" "	The first machine built by any manufacturer to drawings supplied by the British Gliding Association.
(e)		£1 1 0	" "	Subsequent machines built by the same manufacturer to drawings supplied by the British Gliding Association.
(f)	£1 11 6	£1 1 0	" "	Renewal fee for subsequent years.

The Certificate of Airworthiness is valid for one year.

The Council is empowered to issue "Experimental" Certificates of Airworthiness without charge for gliders built for research purposes.

6. **Inspections.**—The issue of a Certificate of Airworthiness will include two visits for inspection in the case of (a), (c) and (d), one visit in the case of (b), (e) and (f).

In all cases a visit will be made prior to covering and in cases of (a), (c) and (d) a visit will be made when the major components are made ready for erecting.

7. **Approval Type.**—When a Certificate of Airworthiness has been issued for any one type of Glider it shall be known as a British Gliding Association "Approved Type Glider."

8. **Foreign built machines** will be subject to the same procedure unless holding Certificates recognised by the British Gliding Association. These Certificates will be validated at the fee stated in 5 (f).

9. **Distiguishing numbers** will be allotted to all gliders for which Certificates of Airworthiness are obtained.

10. **A register** of gliders will be kept by the Association.

11. **Approved Firms.**—A firm which has been in existence for some time engaged on the manufacture of gliders for which B.G.A. Certificates of Airworthiness has been obtained and where products have been up to a good standard of workmanship may apply to become an Approved Firm.

The firm must undertake to employ a qualified inspector who shall not be engaged on construction and who shall be responsible for the standard of materials and workmanship of all components and finished machines.

No regular B.G.A. inspector will be appointed to such firms but occasional visits will be made by an official of the B.G.A. without previous warning of such visit having been given to the firm concerned.

The fee chargeable for Certificates of Airworthiness under this scheme shall be:—

Non-members	£1 11s. 6d.	Members	£1 1s. 0d.
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Only subsequent machines of approved types may be dealt with under this scheme. The first machine of a new type shall be dealt with under paragraph 5 (a) of the B.G.A. Airworthiness Regulations.

12. **Test Flights.**—All new type machines to be submitted to flight tests before Certificates of Airworthiness are granted. The nature of the flights would be left over for the time being. Until this is done, members of the Committee would use their own discretion.

13. **Right of withdrawal of Certificate of Airworthiness.**—The B.G.A. at all times reserves the right to withdraw or suspend any Certificates of Airworthiness when considered necessary for Strength, Aerodynamical, or other reasons.

14. **Log Books.**—Every machine carrying a Certificate of Airworthiness must be provided with a Log Book in the form approved by the Technical Committee. These Log Books may be purchased from the Association, price 4s. each, or manufacturers may, if they wish, print their own Log Books provided they are in identical form to the Official B.G.A. Log Book.

Particulars of Clubs affiliated to the British Gliding Association—(April, 1931)

BRIDLINGTON GLIDING CLUB

(Affiliated, October 14, 1930)

Secretary **Alan Topham**
 Crescent Court, Esplanade, Bridlington
 Chairman **Albert E. Wilkinson**
 Treasurer **E. Forman**
 Subscription: Three Guineas per annum
 Entrance Fee: One Guinea
 Gliding Ground:
 Foden and Kingsgate, Bridlington
 Instructor **Eric Dooks**
 Ground Engineer **H. Nightingale**
 Observers ... **Albert E. Wilkinson, Eric Dooks,**
Alan Topham
 Representative on Council:
Albert E. Wilkinson
 Crescent Court, Esplanade, Bridlington

CHANNEL GLIDING CLUB

(Affiliated, August 6, 1930)

Secretary (pro tem.) **F. H. Worrad, Esq.**
 42 Rendezvous Street, Folkestone
 President **Sir Phillip Sassoon**
 Vice-President ... **Col. The Master of Sempill**
 Chairman **Col. N. T. Kenny**
 Treasurer **W. F. Cooke, Esq.**
 Midland Bank, Folkestone
 Subscription: £2 per annum
 Entrance Fee: £3
 Gliding Ground ... **Valiant Sailor, Folkestone**
 and **Nr. R.A.F. Aerodrome, Hawkinge**
 Instructors **F/O Read, Cpl. Manuel**
Dr. P. Thurston
 Ground Engineer **Cpl. Manuel**
 Observers ... **L. F. Pilkington, G. S. Ross,**
D. J. Ronald, Esquires
 Representatives on Council ... **E. Palmer, Esq.,**
C. M. C. Turner
 Address (both): c/o Queen's Hotel Folkestone

DORSET GLIDING CLUB

(Affiliated, January 9, 1930)

Secretary **S. E. Wells**
 Pen Mill Hotel, Yeovil
 President **R. A. Bruce, Esq., O.B.E.,**
M.Sc., M.Inst.C.E., M.I.M.E., F.R.Ae.S.
 Chairman **Norman W. Wright**
 Treasurer **M. E. Holroyd**
 Committee ... **H. J. Secker, V. S. Gaunt, W.**
G. Gibson, A. Davenport, W. H. Davis,
J. G. H. Steedman, Mrs. Wright
 Subscription: £1 ls. per annum
 Entrance Fee: 10/6
 Gliding Ground ... **Up-Cerne and Maiden**
Newton, Dorset, and Westland Aero-
drome, Yeovil, Somerset
 Instructors **Capt. G. T. R. Hill**
 & **Messrs. H. J. Penrose and W. J. Gibson**
 Ground Engineer ... **V. S. Gaunt, A.M.I.A.E.**
 Observers ... **Capt. G. T. R. Hill, M.C.M.Sc.,**
F.R.Ae.S., H. J. Penrose, A.F.R.Ae.S.,
F. J. W. Digby, A.F.R.Ae.S.
 Representative on Council ... **D. W. Genge**
 White Gabbs, Cliff End, Purley, Surrey
 Number of members up to the end of 1930:—
 80, of whom 72 are flying members,
 which includes ten lady members.

DRIFFIELD & DISTRICT GLIDING CLUB

(Affiliated, June 12, 1930)

Secretary **R. G. Spencer,**
D.L.C., F.R.A.S., M.R.S.T.
 School House, Gembling, Driffield, E. Yorks
 President... **Sir Richard Sykes, Bart., Sledmere**
 Vice-Presidents ... **Major Braithwaite, M.P.,**
Thos. Holtby, Sqdn.-Ldr. Harrison, W. Mal-
linson, C. Wright, G. Van Trump, J. G.
Burton, A. Spencer, Sir A. Atkinson, Capt.
Horden, F. Farnsworth.

Chairman ... **Dr. E. H. Milner, Driffield**
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 Subscription: Non-flying, 10/6; full-flying, 30/-
 Entrance fee, 10/6
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(Affiliated, September 8, 1930)

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 Instructors ... **P. Hopkins, R. Grant, J. Boyd,**
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 Ground Engineer
 Observers ... **C. M. Hyslop, M.A., LL.B (ex-**
officer R.A.F.), Capt. Thos. Gordon, P. Hopkins
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THE EDINBURGH GLIDING CLUB

(Affiliated, November 20, 1930)

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T. B. Whitson
 Vice-President ... **The Marquis of Douglas and**
Clydesdale
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 Treasurer **D. A. Fairley**
 Subscription: £2 2s.
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 Gliding Ground **West Craigs Farm**
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 Ground Engineer **Wm. Ogilvie**
 Observers ... **Sqdn.-Ldr. J. A. McKelvie, Lord**
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 16 Bernard Street, Leith

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(Affiliated, May 9, 1930)

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 Hon. Vice-Presidents ... The Most Hon. The
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 and Clydesdale, M.P., Captain H. J.
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 Annual Subscription:— £1 ls., 10/6 and 5/
 Entrance Fee: 10/6
 Gliding Grounds ... Glen Farm & Redbraes
 Instructor J. W. Shaw
 Ground Engineers ... David Hay, J. H. Lennox
 Wm. A. Howden

FURNESS GLIDING CLUB

(Affiliated, November 20, 1930)

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 31 Church Street, Barrow-in-Furness
 President ... Com. C. W. Craven, O.B.E., R.N.
 Vice-President Capt. J. Fisher
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 Subscription: 31/6 Flying; 10/6, Associate
 Entrance Fee: 10/6 (Flying Members only)
 Gliding Ground ... Gleaston Park Farm,
 Gleaston, nr. Ulverston
 Ground Engineer ... Mr. W. Butterfield

GLASGOW GLIDING CLUB, LTD.

(Affiliated, January 19, 1930)

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 70 Exeter Drive, Glasgow, W.I.
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 Chairman A. T. H. Tilson, Esq.
 Treasurer H. M. Berry
 Subscription: £2 10s.
 Entrance Fee: 10/6
 Gliding Ground ... The Law Farm,
 Carscadden, Nr. Bearsden, Glasgow
 Instructors ... G. Cameron, A. H. Anderson
 T. Graham, D. A. Graham
 Ground Engineer Reginald Brazier
 Observers ... John L. Lloyd, A. Houston
 Anderson, J. K. Mackintosh
 Representative on Council ... A. Young Paton
 70 Exeter Drive, Glasgow
 Membership at at 31/1/31:—76; Flying 68,
 Associate 8

HARROGATE AIRCRAFT CLUB

(Affiliated, August 6, 1930)

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 The White House, Starbeck, Harrogate

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(Affiliated, November 24, 1930)

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 Treasurer A. G. Sudworth
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 Entrance Fee: £2 2s.
 Gliding Ground (temp.) ... Bradley Bar
 Instructors (temp.) Committee of six members
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 Observers ... Dr. N. F. Squire, Dr. Thompson,
 and J. F. Copley
 Representative on Council the Secretary

ILKLEY & DISTRICT GLIDING CLUB

(Affiliated, August 6, 1930)

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 Treasurer J. Boden
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 Entrance Fee: £1 ls.
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 Instructor H. S. Crabtree
 Ground Engineer Bernard Hartley
 Observers ... S. Goodfellow, J. R. Boden,
 and J. Dinsdale
 Representative on Council...W. M. E. Dinsdale
 The Grove, Ilkley

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(Affiliated, May 9, 1930)

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 Vice-Presidents ... Prof. C. L. Fortescue,
 Prof. L. Bairstow, E. H. Lewitt
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 Treasurer C. H. Jackson
 Subscription
 Ord. Members 10/6; Ass. Members 21/-
 Membership limited
 Entrance Fee: None
 Gliding Ground
 Instructors ... P. Adorjan, C. H. Jackson
 Ground Engineer J. H. Payne
 Representative on Council ... P. Adorjan
 Imperial College Union, London, S.W.7
 Machines: Two

ISLE OF THANET GLIDING CLUB

(Affiliated, October 14, 1930)

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 Phone: Ramsgate 457
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 Non-flying 10/-
 Entrance Fee: None
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 Instructors ... F/O Phillips, R.A.F. Marston,
 and Mr. E. Bicknell
 Ground Engineer Sqdn.-Ldr. Cuckney, D.S.C.,
 R.A.F. Marston
 Observers ... Coun. E. E. Dye, Mr. Solomon

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(Affiliated, May 9, 1930)

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 Chairman Philip F. Haynes
 Treasurer E. D. Cochrane
 Subscription ... 10/- entrance; £3 Flying
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 of glider or power aircraft certificate
 10/- Non-Flying Members
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 Instructors...C. H. Lowe Wyde, C. Crawford,
 Flight-Lieut. Graham Nicholls
 Ground Engineer ... C. H. Lowe-Wyde
 Observers ... R. B. Haynes, E. G. Guild,
 T. M. Best-Dalison
 Representative on Council
 and Graham Nicholls
 R.A.F. Station, Eastchurch, Kent

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(Affiliated, October 1930)

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 Vice-President ... **Thomas Shields**
 Chairman ... **Malcolm Sinclair**
 Treasurer ... **J. C. Murray, F.S.A.A.**
 Subscription

Flying members 20/-; Non-flying 10/-

Entrance Fee

Flying Members 10/-; Non-flying 5/-

Gliding Ground ... **Craigie**
 Instructors ... **James McKenzie, T. F. Steele**
 Ground Engineer ... **James Louden**
 Observers... **A. C. Smith, M. Sinclair, B. B. Neil**
 Representative on Council ... **A. Cairns Smith**
 "Cleveden," Chalmers Road, Ayr

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(Affiliated, March 16th, 1931)

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 Entrance Fee, 5s.

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 Observers ... **Mr. F. North, Mr. W. Adams & Mr. F. E. Cox**

Machines ... Two Reynard Primary Type

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(Affiliated, May 9, 1930)

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 Subscriptions:

Full Flying Member £3 3s. Entrance Fee 10/6

Colonial Member £2 2s. No Entrance Fee

Associate Member £1 1s. No Entrance Fee

Gliding Ground ... **Dunstable**Instructors ... **M. Manton, C. H. L. Needham**(Club Captain), **M. Buxton**Machines ... **Professor, Prufing, Poppenhausen**(2-seater), **Dagling, Zogling & Meteor**

Ptrodactyl

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(Affiliated, May 9, 1930)

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 Treasurer ... **F. H. L. Searl**

Subscription, £1 10s.

Entrance Fee: 10s.

Gliding Ground ... **Waddington****LITTLEHAMPTON GLIDING CLUB**

(Affiliated October 14, 1930)

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Subscriptions: Flying, £1 1s.; Associate, 10s.

Entrance Fee: 10/6

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(Affiliated, May 9, 1930)

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(Affiliated, May 9, 1930)

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Entrance Fee: Two guineas

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(Affiliated, March 16, 1931)

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Entrance Fee, 10/6

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Treasurer ... **J. E. Leaton.**Barclay's Bank Ltd., **Milton St., Notts.**

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Entrance Fee: Gliding Member 10/6; Ass., nil

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(Affiliated, May 9, 1930)

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Entrance Fee: 10/6

Gliding Ground ... **Many. Weston-on-Green Aerodrome**Instructors, **Mr. Wardrop, Mr. Davis, Mr. Cole**Ground Engineer ... **C. Morris**Observers ... **35 St. Clements, Oxford**Mr. Keen, **Mr. Livingstone, Mr. Priestley**

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(Affiliated, June 12, 1930)

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Entrance Fee: 10/6
Gliding Ground ... Wymering Park, Cosham,
Hants.
Instructor L. Puttock
Ground Engineer L. Woodley
Observers ... W. Parker Thomas, E. A. Finley-
Day, John Webb
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Instructor C. Compton-Paterson
Ground Engineers ... J. Welding, F. Wilkinson
Observers ... F. Wilkinson, J. Welding,
F. G. Beresford
Representative on Council ... F. Wilkinson
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(Affiliated, May 9, 1930)

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Ground Engineer F. Slingsby
Observers ... E. S. Lobb, S. C. Howard,
J. Johnson
Representative on Council ... S. C. Howard
Royal Hotel, Scarborough

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(Affiliated, November 20, 1930)

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Vice-President A. Truelove, Esq.
Chairman L. Ansell, Esq.
Treasurer N. A. Pearson
Subscription: Flying, two gns.; non-flying, 1 gn.
Entrance Fee: None at present
Gliding Ground ... Owlter Bar, nr. Sheffield
Instructor J. R. Holden
Ground Engineer A. Cliffe
Observer M. Parkes
Representative on Council ... J. R. Holden
"Kantara," Vernon Road, Totley, Sheffield

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(Affiliated, February, 27, 1931)

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President R. F. Dagnall, Esq.
Vice-President Guy Woodman, Esq.
Chairman Gerald R. Paling, Esq.
Subscriptions: 7/6 2/6 2/6
Entrance Fee: 2/6 nil nil
Flying branch: **The Southern Soarers' Club.**
Flt. Secretary & Treasurer **A. York Bramble**
Gliding Ground Balsdean
(By courtesy of the Flight Secretary)
Observer A. York Bramble
Representative on Council **A. York Bramble**
New York Hotel Ltd., Bedford Sq., Brighton
G. R. Paling, 62 Braemore Road, Hove.

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(Affiliated, February 27, 1931)

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Vice-Chairman ... Dr. J. Clayse, M.R.C.S.
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(Affiliated, August, 6, 1930)

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Chairman ... Flt.-Lt. LeeRoy L. Brown
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Treasurer
Subscriptions:—
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Entrance Fee
Founder members (First 50) nil; others 10/6
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Ground Engineer L. R. Brown
Observers ... W. Wood, C. Russell, S. Wood
Representative on Council
Flt.-Lt. LeeRoy L. Brown
14 Brunswick Street E, Hove, Sussex
Membership, January 1931, 41 Flying members
Machines: Three

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(Gliding Section)

(Affiliated, September 8, 1930)

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(Affiliated, October 14, 1930)

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Vice-President...Lt.-Col. G. Hudson Clive, M.P.
Chairman Gordon Griffith
Treasurer Austen G. Blomer
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Entrance Fee £1 ls.
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Instructors A. Handy and P. Pritchard
Ground Engineers Messrs. H. Bolt and
Weatherhead
Team Captain V. Henley

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(Affiliated, May 9, 1930)

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Entrance Fee: one guinea
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Observers Capt. A. N. Stratton, Mr. M. H.
Thomson, Mr. A. H. Reffell
Representative on Council
Capt. A. N. Stratton, Heathercroft, Hindhead

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(Affiliated, January 16, 1931)

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Treasurer S. Hanna, Esq.
Subscription: £1 ls.
Entrance Fee: 10/6
Ground Engineers M. McFall & P. Baster
Observers...J. S. Scott, P. Baster & M. McFall
Representative on Council, Major R. G. Heyn,
Strandtown House, Strandtown, Belfast

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AND GLIDER CLUB**

(Club formed, July, 7, 1930)

(Affiliated, October 14, 1930)

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Treasurer L. S. Scarlet (pro tem)
Subscription: £1 ls.
Entrance Fee: 10/6
Gliding Ground Easton Hill, Alton Priors
range, Bishops Cannings; 4 miles N.E.
of Devizes, Wilts.
Membership, at October, 1930: Forty
Headquarters Goddard Arms Hotel

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(Affiliated, October 14, 1930)

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Managing Director (W. Motors, 1927) Ltd.)
Vice-President O. Boden, Esq., O.B.E.
General Manager (W. Motors (1927) Ltd.)
Chairman A. A. Gigli
Treasurer G. Gould
Subscription: £1 5s. per annum
Entrance Fee: Nil
Gliding Ground Walmley, Birmingham
(nr. Penns Station)
Representative on Council A. V. Oak
Membership: 79 Flying, 4 Associate and
3 Honorary members
Machine: One B.A.C. II.

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WORTHING & DISTRICT GLIDING CLUB**

(Affiliated, September 8, 1930)

Secretary **N. T. Whiteman**
101 Rowlands Road, Worthing
Chairman V. C. Abell
"Sherwood," Offington Gdns., Worthing
Treasurer F. W. Fidgeon
Flat 2, 27 South Street, Worthing
Subscription: two guineas per annum
Entrance Fee: one guinea
Non-Gliding Members: one guinea p.a. incl.
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of the British Gliding Association—(April, 1931)

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A.F.M.—Air Force Medal.
A.R.C.S.—Associate of the Royal College of Science.
B.Sc.—Bachelor of Science.
C.B.E.—Commander of the Order of the British Empire.
C.M.G.—Companion of St. Michael and St. George.
D.F.C.—Distinguished Flying Cross.
D.Sc.—Doctor of Science.
D.S.C.—Distinguished Service Cross.
D.S.O.—Distinguished Service Order.
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F.R.G.S.—Fellow of the Royal Geographical Society.
F.R.Met.S.—Fellow of the Royal Meteorological Society.
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R.N.—Royal Navy.
R.F.C.—Royal Flying Corps.
V.C.—Victoria Cross.

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HM—Honorary Member.

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Adams, William, M.I.M.T. 1931.
FM **Aldworth**, Miss, A. E. H. St. Leger. 1930.
FM **Allen**, H., M.D. 1930.
FM **Arbuthnot**, Miss U. B. 1930.
FM **Ashwell-Cooke**, J. R. 1930.
Balston, Reginald M. 1930.
FM **Barrett**, Flight-Lt. G. A.F.C., R.A.F. 1930.
FM **Batten**, John D. 1930.
FM **Batten**, Mrs. J. D. 1930.
Baynes, L. E. 1930.
Beardmore, Lissant. 1930.
Boyle, Hon. A. R., A.F.C., A.F.R.Ae.S. 1931.
Boys, Sir Francis T., K.B.E. 1930.
Bradley, R. J. 1930.
Bramble, A. York. 1930.
Brown, Flt.-Lt. LeeRoy L. D.F.C., R.A.F. 1930.
Brown, Miss Helen. 1931.
Bryans, Maxwell C. 1930.
Bullivant, W. S. 1930.
Burge, Sq.-Ldr. C. G., O.B.E., A.R.Ae.S.I. 1930.
Buxton, G. M. 1930.
FM **Carlow**, Viscount. 1930.
Caspereuthus, R. F. 1930.
Cave, Norman. 1930.
Clark, J. H. M. 1930.
Colt, W. H. 1930.
Cooper, Major A. Q., D.S.C., A.F.C. 1930.
Cordes, Capt. J. B. L. H. 1931.
Cornish, W. E. 1931.
Court, George H. 1931.
FM **Cox**, H. G. 1930.
Crabtree, Hedley S. 1930.
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FM **Crompton**, G. A. 1930.
FM **Culver**, D. E. 1930.
Curtis, Herbert R. 1930.
Cuss, C. T. 1930.
FM **Dagnall**, R. F. 1930.
Dawson, F. G. T. 1931.
de Beaurepaire, F. E. 1930.
de Havilland, Capt. G., F.R.Ae.S. 1931.
Delaney, D. C. 1931.

FM **de Ledesma**, A. F. 1930.
FM **Dickson**, R. S. 1930.
Dockray, J. Vernon. 1930.
FM **Dodds**, M. S. 1930.
FM **Donovan**, C. J. 1930.
Ellis, Lionel H. 1930.
FM **Ellis**, R. H. 1930.
FM **England**, E. C. Gordon, A.F.R.Ae.S., F.I.M.T. 1930.
England, Mrs. E. C. Gordon. 1930.
England, Sq.-Ldr. T. H., D.S.C., A.F.C., R.A.F., A.F.R.Ae.S., 1931.
Entwistle, F. B.Sc. 1931.
FM **Etchells**, C. A. 1930.
Fairey, C. R., M.B.E., F.R.Ae.S.
Fawcett, P. T. 1930.
FM **Francis**, E. Lloyd, C.P.A., A.M.I.Mech.E. 1930.
Fulljames, Sq.-Ldr., R. E. G., M.C., R.A.F. 1931.
Garden, A. R. 1930.
Gardiner, Frederick, M.C. 1930.
Gardiner, G. E. 1930.
Garnon, Capt. E. W. 1930.
HM **Georgii**, Professor Dr. Walter, Ph.D. 1931.
FM **Genge**, D. W. 1930.
Goodyear, H. R. R. 1931.
FM **Goodfellow**, Major Alan. 1930.
FM **Gould**, Gilbert C. 1930.
FM **Gray**, W. E. 1930.
Green, K. B. 1931.
Green, Mrs. K. B. 1931.
Grice, G. 1931.
FM **Grover**, W. 1930.
Handley, G. C. 1930.
Haworth-Booth, Mrs. B. 1930.
Hill, Capt. G. T. R., M.C., M.Sc., F.R.Ae.S. 1931.
Hodgson, J. S. 1930.
Horrell, H. G. 1930.
FM **Houlberg**, A. F., A.M.I.Ae.E. 1930.
Howard-Flanders, R. L., A.F.R.Ae.S., M.I.Ae.S., A.M.I.Mech.E., M.R.S.T. 1930.
Hudson, J. H. 1930.
Humby, Graham. 1930.
Hunter, S. W. 1930.

- Jessop, Frank P.** 1930.
 VP **Johnson, Miss Amy, C.B.E., A.R.Ae.S.** 1930.
- Johnson, H. A.** 1930.
Johnstone, D. L. 1930.
- Keith, Alex.** 1930.
- Lee, S. L.** 1931.
Lennox-Boyd, F. 1930.
 FM **Leslie-Melville, A. R.** 1930.
 FM **Lewis, William F.** 1930.
Lewitt, E. H., B.Sc., A.M.I.Mech.E. 1931.
Lippens, Miss S. 1930.
 HM **Lippish, Alexander, A.F.R.Ae.S.** 1931.
Llewellyn, T. Elvet. 1930.
 FM **Lowe-Wyld, C. H., A.R.Ae.E.S.I.** 1930.
Mackintosh, D. R., B.Sc. 1930.
Mackintosh, J. K. 1930.
 HM **Manio, Mme. F.** 1930.
 FM **Manton, Marcus, D.** 1930.
Marsh, A. R. 1930.
 FM **Martin, L., A.F.R.Ae.S.** 1930.
Matheson, R. 1930.
McCulloch, M. L. 1930.
 FM **McNaught, A. R.** 1930.
 FM **Megaw, E. C. S., B.Sc., D.I.C., I.E.E., A.M.I.R.E.** 1930.
 FM **Merton, Dr. Gerald, M.C., M.A., Ph.D., F.R.A.S.,** 1930.
- Millidge, G. A.** 1930.
 FM **Miyahara, Asahi.** 1930.
Morison, O. C. 1930.
Morland, D., M.C. 1931.
Motley, W. A. 1930.
- Neale, J.** 1930.
 FM **Needham, Capt. C. H. Latimer, M.Sc., B.Sc., F.R.Ae.S., R.A.F.O., R.A.F**
 FM **Newton, H. C., A.M.I.Ae.S.** 1930.
Noel, Major Edward. 1931.
- VP **O'Gorman, Lt.-Col. Mervyn, C.B., D.Sc., F.R.Ae.S.** 1930.
O'Hea, Capt. I. J. 1930.
- VP **Page, F. Handley, C.B.E., F.R.Ae.S.** 1930.
Paling, G. R. 1931.
Parham, Capt. H. J. 1930.
 FM **Paton, A. Y.** 1930.
Pearson, G. E. 1930.
 FM **Percival, E. W., A.M.I.Ae.E.** 1930.
Petre, Major H., D.S.O., M.C. 1930.
Polloch, A. F. 1930.
 FM **Pretzman, Wing-Com. G. F., D.S.O., O.B.E.** 1930.
 FM **Purves, Dr. J. A., F.R.S.E.** 1930.
Purves, J. A. 1930.
Puttock, N. L. B. 1930.
- FM **Reeve, E. A. F., M.Sc., Ph.D.(Eng.), M.Inst.Metals.** 1930.
Reynolds, Miss D. 1931.
 FM **Richards, G. T., F.R.Ae.S., M.I.Ae.E.** 1930.
 FM **Richardson, D.** 1930.
 FM **Roberts, J. Vaughan.** 1930.
 FM **Runciman, W. L.** 1930.
 FM **Rushton, J. V.** 1930.
- Sadler, D. G.** 1930.
 VP **Salmond, Air-Chief Marshal, Sir John, Bart., K.C.B., C.M.G., C.V.O., D.S.O., LL.D., R.A.F.** 1930.
 FM **Scott-Hall, S.** 1930.
 FM **Scroggs, Flt.-Lt. R. A., R.A.F.,** 1930.
Seaton, Flt.-Lt. R. A., R.A.F., 1930.
 FM **Secker, H. J.** 1930.
 FM **Sempill, Colonel the Master of, A.F.C., F.R.Ae.S.** 1930.
 FM **Sheppee, F. H.** 1930.
 FM **Skinner, A. E. L., M.C.** 1930.
 FM **Slater, Dr. A. E.** 1930.
Slingsby, F. N. 1931.
 FM **Smith, D. C.** 1930.
Smith, F. G., M.I.A.E. 1930.
Spencer, R. P. 1930.
 FM **Spooner, S.** 1930.
 HM **Stamer, Fritz.** 1931.
- FM **Thurston, Dr. A. P., M.B.E., D.Sc., M.I.Mech.E., F.R.Ae.S., M.I.A.E.** 1930.
- FM **Toft, R. W.** 1930.
Townend, E. 1931.
Turner, C., M.C. 1930.
Twiss, Sub.-Lieut. F. R., R.N. 1930.
- Usborne, H. C.** 1930.
- Vickers, J. H.**
- FM **Watson, J. M.** 1930.
 FM **Webb, Miss E. M.** 1930.
Welch, W. H. 1930.
West, G. W. 1930.
Whidborne, Mrs. Ferris. 1930.
 FM **Whidborne, S., M.C.** 1930.
 FM **Whidborne, Mrs. S.** 1930.
Wilkinson, F. 1930.
 FM **Willems, V. J.** 1930.
 FM **Williams, P. W. L.** 1930.
 FM **Wills, C. L., M.I.D.S.** 1930.
 FM **Wilson, C.** 1930.
Wilson, H. M. 1930.
Wilson, J. W. 1930.
 FM **Wingfield, L. A., M.C., D.F.C., A.I.A.Ee.** 1930.
- FM **Witherow, R. O'Neil.** 1930.
Woolfe, G. F. 1930.
 FM **Wright, K. V.** 1930.
Wright, Sq.-Ldr. M., A.F.C., R.A.F. 1931.
 FM **Wroughton, W. E., B.A.** 1930
 FM **Wynne, H. C.** 1930.

Obituary

BRANCKER, Sir W. Sefton, K.C.B., A.F.C., F.R.Ae.S. First President of the British Gliding Association, perished in the disaster which overtook the British Airship R101 at Beauvais, Sunday, October 5th, 1930.

LANDER, Thomas Eaton, Founder Member and Councillor of the British Gliding Association, and a member of several committees, lost his life while carrying out experiments at Harpenden, Herts, March 8th, 1931.

LIST OF GLIDING CERTIFICATES

Granted by the Royal Aero Club—(April, 1931)

"C" CERTIFICATES				"B" CERTIFICATES				"A" CERTIFICATES			
Cert. No.	Pilot	Club	Date of Qualctn.	Cert. No.	Pilot	Club	Date of Qualctn.	Cert. No.	Pilot	Club	Date of Qualctn.
2	C. H. Latimer-Needham ...	London	7. 6.30	58	F. Pilling ...	Surrey	19.10.30	7	C. A. Price ...	Portsmouth	21. 6.30
3	M. D. Manton ...	London	7. 6.30	60	J. Laver ...	Dorset	23.11.30	10	J. R. Ashwell-Cooke ...	London	20. 7.30
5	G. M. Buxton ...	London	26. 7.30	61	C. C. Russell ...	Southdown	30.11.30	11	A. Goodfellow ...	Lancashire	26. 7.30
6	F/O. E. L. Mole...	London	19.10.30	62	C. A. L. M. Irving	London	15.11.30	12	Mrs. D. J. Bradbrooke ...	London	1. 8.30
9	Col. The Master of Sempill ...	London	14. 6.30	63	L. J. Gardner ...	London	30.11.30	15	H. A. Abdallah ...	London	1. 8.30
13	T. G. Humby ...	London	21. 2.31	64	D. G. O. Hiscox ...	London	15.11.30	16	P. Michelson ...	Lancashire	26. 7.30
14	L. C. Williams ...	London	15. 2.31	65	C. Byron ...	Dorset	16.11.30	17	F. B. Tomkins ...	Lancashire	27. 7.30
26	J. M. Simmons ...	London	5. 4.31	66	H. C. Wright ...	North Cotswold	29.10.30	18	E. C. S. Megaw ...	London	1. 8.30
27	A. N. Stratton ...	Surrey	7. 3.31	67	D. E. Culvert ...	London	30.11.30	19	B. A. G. Meads ...	Lancashire	27. 7.30
53	D. C. Smith ...	London	21. 2.31	68	C. M. Barter ...	Surrey	30.11.30	20	R. G. Spencer ...	Driffield	24. 8.30
59	H. Petre ...	London	4. 4.31	69	A. E. Slater ...	Surrey	30.11.30	21	J. C. Weale ...	Lancashire	27. 7.30
84	C. J. Donovan ...	London	4. 4.31	70	G. H. Hurst ...	Surrey	30.11.30	25	W. J. M. Spaight	Nottingham	7. 9.30
				71	R. K. Thomson ...	Dorset	23.11.30	31	S. C. Howard ...	Scarborough	26.10.30
				73	R. F. Matthews ...	London	14. 9.30	32	T. L. Green ...	Kent	20. 7.30
				74	S. P. Woodley ...	Portsmouth	19.10.30	33	N. L. B. Puttock	Portsmouth	18.10.30
				75	M. Bruce ...	Portsmouth	19.10.30	35	F. L. Gardiner ...	Scarborough	26.10.30
				76	D. J. Dudley ...	London	30.11.30	36	E. H. Fielden ...	London	15. 7.30
				78	C. E. Turner ...	Scarborough	16.11.30	38	M. H. Thomson ...	Surrey	12.10.30
				79	E. Esmonde ...	Portsmouth	19.10.30	39	W. G. Nicholls ...	Kent	19.10.30
				80	Katrine M. B. Alexander	North Cotswold	29.10.30	40	T. C. Weekes ...	Kent	19.10.30
				81	G. Dorman ...	London	14.12.30	41	H. E. Wood ...	Kent	19.10.30
				82	C. W. H. Pulford	London	14.12.30	43	S. E. Wells ...	Dorset	9.11.30
				83	E. K. Robins ...	Dean Close School	14.12.30	44	H. J. Secker ...	Dorset	9.11.30
				85	T. H. England ...	London	14.12.30	45	V. C. Gaunt ...	Dorset	9.11.30
				86	W. H. Wood ...	Southdown	14.12.30	46	F. J. W. W. Digby	Dorset	9.11.30
				87	R. P. Robinson ...	Scarborough	16.11.30	47	W. G. Gibson ...	Dorset	9.11.30
				88	E. Shepherd ...	Surrey	30.11.30	48	G. Grice ...	London	15.11.30
				89	A. K. Bindloss ...	Surrey	30.11.30	49	Mary D. Nichol ...	London	15.11.30
				90	F. H. Robertson ...	Surrey	30.11.30	50	M. E. Holroyd ...	Dorset	16.11.30
				91	G. Knight... ..	Portsmouth	18.10.30	51	N. W. Wright ...	Dorset	16.11.30
				93	J. B. L. H. Cordes	London	30.11.30	52	J. T. Young ...	Driffield	16.11.30
				94	F. D. Bradbrooke	London	14.12.30	54	G. H. Taylor ...	Surrey	18.10.30
				95	H. E. Bolton ...	London	21.12.30	55	R. B. Batchelor ...	Driffield	16.11.30
				96	V. R. Yelf... ..	Portsmouth	21.12.30	56	J. G. H. Steedman	Dorset	22.11.30
				97	G. J. Burges ...	Portsmouth	21.12.30	57	L. R. L. Brown ...	Southdown	30.11.30
				98	H. G. Lympany ...	Portsmouth	21.12.30				
				99	C. E. Dooks ...	Bridlington	23.11.30				
				100	C. G. Lawson ...	Southdown	28.12.30				
				101	C. S. Hollinghurst	Surrey	28.12.30				
				102	Sidney H. Bell ...	Surrey	28.12.30				
				103	P. S. Papps ...	Portsmouth	21.12.30				
				104	J. H. Saffery ...	London	21.12.30				
				105	A. H. Turner ...	Portsmouth	19.10.30				
				106	H. M. Sellers ...	Cononley	30.11.30				
				107	G. Watson ...	Cononley	30.11.30				
				108	L. D. Dunsford ...	Surrey	28.12.30				
				109	Lady Mary Bailey	London	4. 1.31				
				110	Evelyn Moore ...	North Cotswold	11. 1.31				
				111	W. L. Manuel ...	Channel	18. 1.31				
				112	A. C. O. Warren	Surrey	28.12.30				
				113	E. C. Gordon	England					
						Hanworth	11. 1.31				
				114	M. L. Bramson ...	Hanworth	24. 1.31				
				116	R. Cockburn ...	Portsmouth	19.10.30				
				117	Marian C. Johnston	North Cotswold	11. 1.31				
				118	D. I. Spencer ...	Driffield	16.11.30				
				119	John Lloyd ...	Glasgow	8. 2.31				
				120	Gregor Cameron ...	Glasgow	8. 2.31				
				121	C. C. Paterson ...	Sailplane Club	25.10.30				
				122	J. K. W. Wheatley	Surrey	10. 1.31				
				124	Cecil Palmer ...	Surrey	8. 2.31				
				125	A. H. Anderson ...	Glasgow	8. 2.31				
				126	E. K. Wallis ...	Leeds	22. 2.31				
				128	E. A. L. Parker ...	Southdown	22. 2.31				
				129	L. E. Falla ...	Preston	30.11.30				
				130	A. G. Wilson ...	Leeds	22. 2.31				
				131	A. C. S. Irwin ...	London	15. 3.31				
				132	Leslie Allen ...	Portsmouth	20.12.30				
				133	R. W. Etchells ...	Surrey	16. 2.31				
				134	H. L. Richardson	London	6. 4.31				

TEST FLIGHT OBSERVERS

The British Gliding Association is authorised by the Royal Aero Club to supervise the observation of Test Flights for "A," "B," and "C" Glider Pilot's Certificates. Each Affiliated Club is asked to submit the names of three persons of high standing who agree to act as Observers for Club Members' Tests, but they need not of necessity be Members of the Club.

They will be responsible for supervision of the flights as laid down by the Federation Aeronautique Internationale, through the Royal Aero Club, and for the accuracy of the reports, etc.

The names submitted will be placed before the Council for approval.

All Members of Council are ipso facto B.G.A. Observers. For list of Club Observers see "Particulars of Affiliated Clubs."

GLIDING CERTIFICATES

(Federation Aeronautique Internationale)

Certificate "A."

The candidate must carry out a flight for a duration of 30 seconds followed by a normal landing.

The duration of each Test must be timed from (a) the word release in the case of catapult or auto-launching systems (b) the time the cable leaves the machine in the case of auto-towing.

NOTE.—Candidates must have made at least 12 glides before attempting to qualify for Certificate "A." This does not apply to:—

(1) Candidates holding Air Ministry Licence "A" or "B."

(2) Officers and non-commissioned officers in the Royal Air Force who are qualified pilots.

Certificate "B."

The candidate must carry out a flight for a duration of 1 minute with two curves in the form of an "S"; the landing at the end of this flight must be normal.

NOTE.—Before attempting Test "B," the candidate must have carried out two flights each of a duration of at least 45 seconds.

Certificate "C."

The candidate must carry out a flight of not less than 5 minutes at a height greater than that of the point of departure.

In each Test the candidate must be alone in the Glider.

Tests for Certificates "A," "B" and "C" must be carried out separately and consecutively.

Gliding Certificates will be issued to Candidates as soon as they have qualified for Certificate "A."

Candidates after qualifying for each of the Certificates "B" and "C" must produce their Gliding Certificates to the Royal Aero Club for endorsement. The fee payable for each Certificate is 5/-.

Applications for Gliding Certificates must be made on the Official Form provided for that purpose.

RECORDS—Recognised by the Federation Aeronautique Internationale

Local Records, as at June 30th, 1930. Class D (Gliders)

1.—**Duration** (returning to the point of departure without landing).

2.—**Duration** (without returning to the point of departure and without landing).

3.—**Distance** (returning to the point of departure without landing).

4.—**Distance** in a straight line (without landing).

5.—**Height** (above point of departure). This record must be beaten by at least 100 metres.

6.—**Speed** (in a closed circuit of not less than 1 kilometre without landing).

For Records 2 and 4 the height of the landing point must not be less than that of the point of departure by more than 1 per cent. of the distance in a straight line between the two points.

For Records 1, 3 and 6 returning to the point of departure means returning within a circle of 500 metres radius having for its centre the point of departure.

These Records may only be made over ground approved by a national aero club and recognised by the F.A.I.

Recognised grounds are only those over which a flight of one hour with a machine of Class D has been homologated by the National Aero Club.

These Records will not be published in the official lists of F.A.I. records, but will appear as Local Records and be published in a special list.

OFFICIAL RECORDS Class D (Gliders)

Duration (GERMANY)—**F. Schultze**, 3rd May, 1927—14hrs. 7 minutes.

Distance in a closed circuit (GERMANY)—**F. Schultze**, 3rd May, 1927—455,800 kms.

Distance in a straight line (AUSTRIA)—**R. Kronfield**, 30th July, 1929—149,420 kms.

Speed in a closed circuit (GERMANY)—**F. Schultze**, 5th May, 1927—54.545 kms.

Height (AUSTRIA)—**R. Kronfield**, 30th July, 1929—2,589 metres.

BRITISH RECORDS PASSED BY THE ROYAL AERO CLUB

Duration—**A. Maneyrol**, Itford Hill, Sussex, 21st October, 1922 (Louis Peyret Glider, France)—3 hours, 21 minutes, 7 seconds.

BRITISH GLIDING ASSOCIATION

Schedule of Charges.

Item	Charge to members of the B.G.A. and affiliated clubs.	Charge to others
Badges, B.G.A.	2/6	—
Badges, Pilot's:—		
“A”	2/6	3/-
*“B”	2/6	3/-
†“C”	2/6	3/-
*Purchasers to be credited 1/6 on returning the “A” badge.		
†Purchasers to be credited 1/- on returning the “B” badge.		
Certificate of Airworthiness	See C. of A. Regulations	
Drawings, R.R.G., “Falke”	£3 plus £2 licence fee	£7 10s. plus £2 licence fee
American “Zogling”	£1 1 0	Not available
Hire of:—		
Films	5/-	7/6
Slides	2/6	4/6
Journal	Members, free and Affiliated Clubs (for re-sale) 2/-	2/6
Lectures—Roneo'd copies of	1/-	2/6 (post free)
Log Books:—		
Small Members	2½d.	4d.
Club's Official	4/6	7/6
Club's Official (if 25 copies are ordered)	3/6	5/-
Glider Log Book	4/-	4/-

Unless otherwise stated, postage is extra.

ACCIDENTS

The following is the procedure that should be followed by Clubs in the event of accidents to gliders.

(a) Minor Accidents in which the machine is damaged, but where no personal injury is sustained, need not be reported to the B.G.A. unless there are special circumstances that would make the report of some value for drawing up recommendations for issue to other clubs.

(b) All accidents involving injury to the pilot (or passenger) should be reported to the B.G.A. **without delay**. These reports should state the date, time and place of accident; weather conditions; nature of launch; description of flight; description of accident; nature of injuries to pilot; damage to machine, and should indicate the probable cause of the accident.

Special forms of report can be obtained from the B.G.A. but if no form is available at the time an ordinary written statement should be forwarded so as to avoid delay.

Where the injuries to the pilot are serious it is advisable to obtain statements from several reliable witnesses and if the cause of the accident is in any way abnormal the glider should be dismantled as little as possible and carefully removed to the nearest convenient shed or accommodation where it cannot be touched. The B.G.A. should be advised of the whereabouts of the damaged machine so that it can be inspected by their representatives.

NOTE.—No machine having sustained damage as a result of an accident should be flown again until the Log Book has been signed by the Club Engineer or Manufacturer's Inspector. Failure to comply with this invalidates the Certificate of Airworthiness.

International Commission for the study of Motorless Flight

The Commission was founded on the 14th June, 1930, with the idea that International co-operation in Scientific work and the exchange of ideas will help to solve a large number of yet unsolved problems as regards Meteorology, Aerodynamics, etc., connected with Motorless Flight.

The President is Professor Dr. Walter Georgii—Germany, and the Secretary is Dr. Graf v. Ysenburg whose office is in Frankfurt. The Vice-Presidents are, M. Massenet—France; Major Mas-saux—Belgium; Col. the Master of Sempill—England.

Mr. C. H. Lowe-Wylde and Mr. Phillip Haynes represented the British Gliding Association and the Royal Aeronautical Society at the Foundation meeting; Mr. Lowe-Wylde and the Master of Sempill are members of the Executive Committee.

Great Britain is represented on the following committees:—

Scientific: Sir Gilbert Walker, Mr. F. Entwistle, Mr. Glarde, Capt. C. H. Latimer-Needham.

Technical: Capt. C. H. Latimer-Needham, Mr. C. H. Lowe-Wylde, Mr. Glarde.

Sports: Mr. E. C. Gordon England (Chairman of the Committee), Mr. Marcus Manton, Mr. Grice, Mr. Ashwell-Cooke, Commander Perrin.

Propaganda: Dr. Gerald Merton, Capt. J. L. Pritchard.



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B.A.C. V. Primary Auto-Tow Glider

**B.A.C. VII. Two-Seater Auto-Tow Sail-
plane**

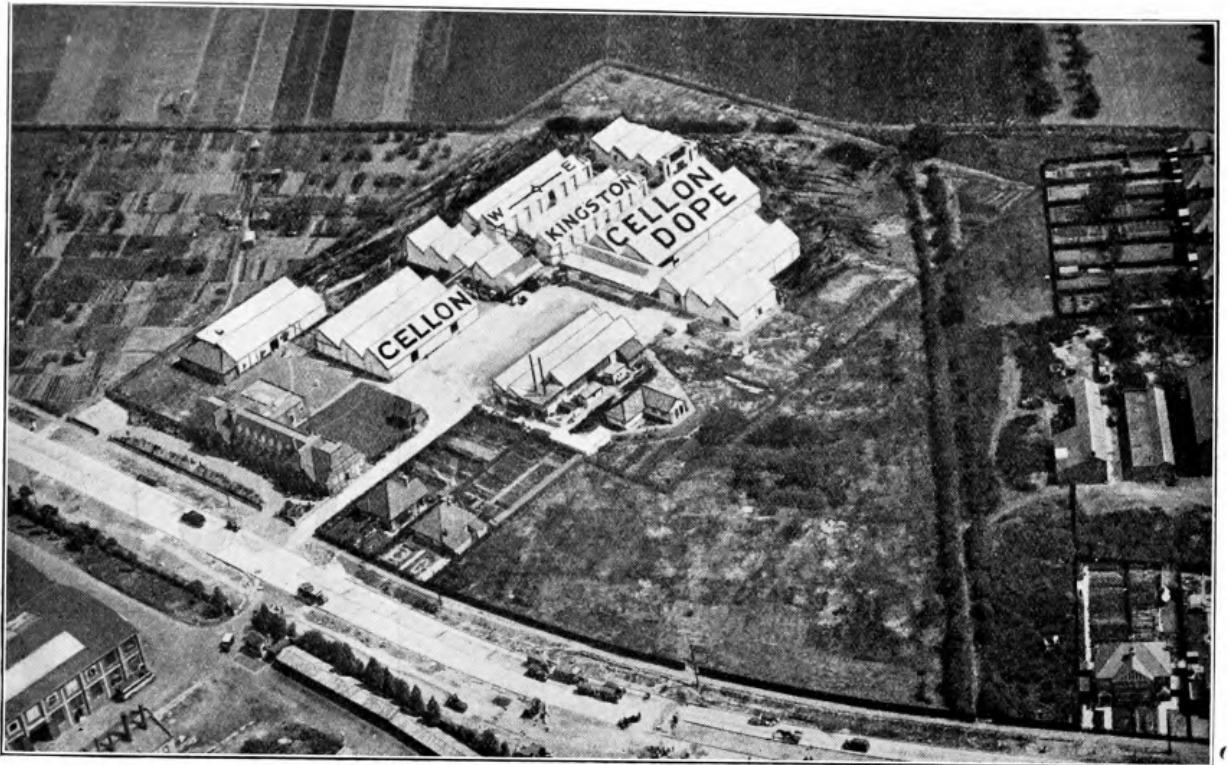
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CALENDAR for 1931

JANUARY		FEBRUARY		MARCH		APRIL	
S	...	S	...	S	...	S	...
M	...	M	...	M	...	M	...
Tu	...	Tu	...	Tu	...	Tu	...
W	...	W	...	W	...	W	...
Th	...	Th	...	Th	...	Th	...
F	...	F	...	F	...	F	...
S	...	S	...	S	...	S	...
MAY		JUNE		JULY		AUGUST	
S	...	S	...	S	...	S	...
M	...	M	...	M	...	M	...
Tu	...	Tu	...	Tu	...	Tu	...
W	...	W	...	W	...	W	...
Th	...	Th	...	Th	...	Th	...
F	...	F	...	F	...	F	...
S	...	S	...	S	...	S	...
SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
S	...	S	...	S	...	S	...
M	...	M	...	M	...	M	...
Tu	...	Tu	...	Tu	...	Tu	...
W	...	W	...	W	...	W	...
Th	...	Th	...	Th	...	Th	...
F	...	F	...	F	...	F	...
S	...	S	...	S	...	S	...

CALENDAR for 1932

JANUARY		FEBRUARY		MARCH		APRIL	
S	...	S	...	S	...	S	...
M	...	M	...	M	...	M	...
Tu	...	Tu	...	Tu	...	Tu	...
W	...	W	...	W	...	W	...
Th	...	Th	...	Th	...	Th	...
F	...	F	...	F	...	F	...
S	...	S	...	S	...	S	...
MAY		JUNE		JULY		AUGUST	
S	...	S	...	S	...	S	...
M	...	M	...	M	...	M	...
Tu	...	Tu	...	Tu	...	Tu	...
W	...	W	...	W	...	W	...
Th	...	Th	...	Th	...	Th	...
F	...	F	...	F	...	F	...
S	...	S	...	S	...	S	...
SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
S	...	S	...	S	...	S	...
M	...	M	...	M	...	M	...
Tu	...	Tu	...	Tu	...	Tu	...
W	...	W	...	W	...	W	...
Th	...	Th	...	Th	...	Th	...
F	...	F	...	F	...	F	...
S	...	S	...	S	...	S	...

Sunday

Thursday

Monday

Friday

Tuesday

Saturday... *1st October*
Commencement of 2nd Year.

Wednesday...

Memo

Sunday

Thursday

Monday

Friday

Tuesday

Saturday

Wednesday

Memo

Sunday

Thursday

Monday

Friday

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Saturday.....

Wednesday.....

Memo

Sunday.....

Thursday.....

Monday.....

Friday.....

Tuesday.....

Saturday.....

Wednesday.....

Memo

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you ought to

learn to fly!

You have tried gliding and soaring. You know the glorious feeling of being alone in the air—with a machine which at times seems almost a part of you. Now come to NFS—and feel the thrill of an eager, obedient engine in front. The same ease of control. The same feeling of perfect freedom. All the extra fun of being able to fly when you like, where you like, and practically as fast as you like. All that is yours at any of the NFS flying clubs throughout the country. What is more—NFS can give you also the newest, most enjoyable form of gliding—auto-towing. Come along, any time, and have a look round. NFS flying costs are surprisingly low.

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AN HISTORICAL OUTLINE OF GLIDERS

The history of gliding commences with the legends of antiquity. In the Ramayana, an ancient Sanscrit poem, the flights of soldiers to attack the rear of an army and thereby cause its defeat appear to refer to gliding. And the flight of Rama and Sita in a two seated glider is a well-known excerpt of this work. The Nepaulese have legends of flight. There is the Greek legend of Dædalus and Icarus, also that of the British king Bladud.

There is a strong similarity in all these legends although the name of the hero changes with the nationality. It seems possible that, in the long-forgotten civilisation of the past, when some of the mighty works that have survived as gigantic blocks of exactly hewn stone were made, there were some, who, by the study of birds had solved the problem of soaring flight.

An examination of the workmanship of the South Sea Islanders, who were in the stone age a few years ago, shows that the construction of gliders was possible by those skilled in the use of stone tools. It must be remembered that we have not as yet explored the soarability of the strong convection currents of the tropics, nor must we forget that the low value placed on human life in those days enabled "load factors" to be dispensed with. All these facts give credence to those who consider that soaring flight may be tens of thousand years old.

In the middle ages there were frequent references to experiments in flight, though fear of the "Church" made experimenters very secretive and it is unlikely that, in such an age of superstition, any useful work could be done.

The first historical work was that carried out by Sir George Caley in the first decade of the last century, he built a glider of 300 square feet area for a weight of 56 lbs. which made free glides with a dead load of 80 lbs., and flown as a kite lifted the constructor off his feet.

The "Albatros" of LeBris about the middle of the century appears to have made many successful towed glides. This glider appears to have been somewhat on the lines of the present-day "sail-plane." LeBris was a sea captain who was so impressed by the flight of the albatros that he copied it as closely as he could.

Except for this "Albatros" the other would-be-glider pilots of last century confined their attempts to fitting a pair of folding bat's wings to their bodies. In one case the pilot had clamped them to his chest in such a manner that when he became airborne he was crushed by the grip of the wings, although he survived the experience he did not continue his experiments.

The German Otto Lillenthal was the first scientific gliding enthusiast. When he commenced his experimental work in 1891 he found the choice of a suitable site so difficult that he had his gliding hill especially made for him, it was about 50 feet high, a cone with the hangar as the top of the hill, consequently he could work with the wind in any direction. The glider was of the folding bat's wing type dependent on movements of the pilot's body for stability, a small cruciform tail being merely used to damp the oscillations. The area was 150 square feet, span 23 feet, aspect ratio 3, weight 44 lbs. In spite of the low efficiency he made glides of 300 feet and showed a gliding angle of 6°. In 1896 he fitted an upper plane, turning the glider into a biplane, and fitted some form of control, but, becoming confused with the controls in a high wind he stalled, crashed, and was killed.

Percy Pilcher, the English pioneer of gliding experimented with gliders of the "Lillenthal" type. His best glider the "Hawk" made a flight of 20 seconds on September 12th, 1895, and on subsequent flights he obtained glides up to 250 yards. Pilcher was the British pioneer of towed gliding, he used horses with blocks and tackle to increase the speed, he was killed in 1899 when the tail support broke in a high wind.

In America, Octave Chanute started gliding in 1895 with a "Lillenthal" type glider but the death of the German glider pilot showed that the bat's wing type without control surfaces was not safe. Chanute then experimented with high aspect ratio wings, monoplane, biplane, triplane, and quadriplane. His earlier gliders depended for control on the movements of the pilot, the later ones were fitted with controls.

The brothers Wilbur and Orville Wright who had been studying the problem for some years, made a successful glide at Kill Devil Hill near Kitty Hawk in 1901 and continuing their experiments made a glide of 60 seconds in 1903 after which they fitted an engine and made the first free power driven flight.

In this country some good work was done by Lieut. Dunn and Jose Weiss during the years 1905—1908. Both these experimenters were striving for inherent stability which they achieved, but turning their attention they applied their energies to inherent stable power driven aircraft. It is of interest that Mr. Gordon England, the first Chairman of the Association, assisted Weiss in these experiments.

When the news of the successes of the Wright Brothers reached France there was much activity. Mm. Archdeacon, Esnault Peltrie, De Lagrange, Bleriot, Voisin, and Capt. Ferber, to name a few, commenced gliding experiments, and at Bercksurmer, near Boulogne there was a Gliding Club attached to the Aero Club of France which in the spring of 1904 was using a "Wright" type glider lent to them by M. Archdeacon.

Mm. Bleriot, and Voisin confined their experiments to towed gliding over water, of which there are some interesting records of the data obtained. This interest in gliding was short lived as by 1907 all those who had been so actively engaged in this art had turned their attention to power-driven aircraft.

There was some considerable activity in gliding in England from 1909 to the outbreak of the War, it was chiefly confined to clubs attached to polytechnics and schools.

After the War owing to the terms of the treaty of Versailles the only branch of aeronautics available to the Germans was gliding. With their characteristic thoroughness they established several societies, which were afterwards amalgamated in the Rhön-Rossitten Gesellschaft, to investigate the practicability of soaring flight which had been proved to be theoretically possible by scientific men such as Lanchester. Step by step the possibility of soaring flight has been proved and its technique learned until at the present day flights of 100 miles across country are possible in a motorless aircraft. The details of this work have been published in the Journal of the British Gliding Association; consequently there is no need to mention the steps by which this result has been obtained. The chief point of note is that this is the first time that soaring flight has been scientifically investigated and developed. All previous attempts were solely with the object of developing power aircraft. The glider was looked on as a toy to be used until a power driven aircraft became available, or as the preliminary tests before fitting an engine. Gliding done with such objects is soon finished.

In 1922, the "Daily Mail" offered prizes for gliders at a meeting held at Firlie Beacon, some fair durations were put up the longest being 3 hours 21 minutes, by Manoyrol on a Peyret Glider, this contest was only a flash in the pan. The interest of almost all the competitors was centred in fitting a small engine for next year's competition for low-powered aircraft.

The results of the competition in the Wasserkuppe, in 1929, re-awakened interest in gliding and soaring flight. This led to the formation of the British Gliding Association which is described elsewhere, as also is the work of the Association during the year 1930.

The history of gliding shows very clearly that unless the scientific and research side of the movement is developed very thoroughly the movement dies. The best results are not obtained by the enthusiastic sportsman but by the scientifically minded investigator who applies an ordered mind to the problems and then tries them out in practice. The "head" is quite as important as the "hands."

Types of Gliders

A glider is defined as a heavier-than-air machine which does not depend on an engine for sustained flight. In other words a glider is a motorless aeroplane which depends on its forward speed for sustentation at the expense of a certain loss of height. The flight path is therefore inclined downwards from the horizontal so that the force due to gravity, acting downwards, has a component in the direction of flight tending to pull the glider through the air.

The different types of gliders are determined by their angle of descent, or gliding angle, which varies from about 1 in 8 for elementary machines to 1 in 20 or even 30, for high efficiency sailplanes. Gliders may be divided into three main types:—

- (a) The primary training machine,
- (b) The secondary or intermediate, and
- (c) The sailplane.

(a) The elementary training machine is used for getting pupils accustomed to the manner of control, launching and landing and for this purpose it is necessary that it should be not very sensitive on controls, cheap, robust, capable of withstanding rough handling and taking shocks, easily repairable and also so built that there is little fear of pilots being injured in the event of a bad landing or crash.

To meet all these conditions the "Zogling" type has been evolved. The main planes are supported on an open girder fuselage, the whole being wire braced in all directions so that flying and landing loads are taken largely by wires whilst the brunt of all crashes also falls on those bracings. When subjected to heavy stresses wires are able to stretch whereas struts generally fracture so that this type of machine is ideal for the requirements. It suffers, however, from the disadvantage of not being easily dismantled but this is far outweighed by the many advantages.

(b) The secondary type has a faired fuselage to reduce resistance and improve the gliding angle and has more sensitive controls so that soaring becomes possible in winds of moderate strength. The purpose of the machine is to accustom the pilot to soaring flight but high performance is not required.

These conditions are met in the "Pruffing" which is robust, reasonably inexpensive, fairly cheap to repair by reason of the parallel chord of the wing and capable of soaring in winds of about 15 m.p.h. (at the top of the hill where operated). There are other machines of similar category in which the pilot is enclosed by a faired nacelle whilst the latest German intermediate, the "Falke," differs from the "Pruffing" by having tapered and swept-back wings. Such a machine is not so suitable for club use as the repair bill must inevitably be considerably higher besides which the "Falke" might reasonably be classed as a sailplane.

(c) The true sailplane is designed for high performance and questions of cost and repair are largely sacrificed for the sake of high efficiency.

The most successful sailplanes to date have wings of between 50 and 70 feet span with straight taper towards the tips or elliptical plan form, mounted above a well stream-lined monocoque fuselage of oval section. The fuselage and a large part of the wing are covered with polished plywood.

These machines are relatively heavy and fast but possess very fine gliding angles so that height can be rapidly gained in up-currents and quick passages, with little loss in height, can be made through regions where no up-winds are available. Sailplanes can thus attain great heights and make long distance cross-country flights that would not be possible with intermediate machines.

Glider Insurance

In considering this problem it is necessary to distinguish between gliding and soaring flight. These remarks will be confined more especially to the latter, but the same basic factors govern the risks in each case, with the qualification that under proper supervision the risks of gliding flight are substantially less, owing to the type of machine employed, its lower landing speed, and the fact that all flights are carried out over a limited area of known territory.

The four types of cover for which a demand exists are Flight and Ground Risk in respect of machines, Personal Accident in respect of the pilots, and finally Third Party Liability.

Third Party Risk is rated at about one-quarter of the annual premium charged for power-driven aircraft. The actual risk of damage, so far as soaring flight is concerned, is probably greater than in an ordinary aeroplane, but the comparatively low landing speed and the absence of inflammable spirit materially decrease the risk of substantial damage. One of the chief risks is the lack of proper precautions during launching and in this respect the school machine is worse than the sail plane owing to the greatly increased number of launches.

Very much the same considerations apply to Personal Accident Risk, which is rated at about one-fifth of the premium charged for power-machine pilots. The low-landing speed and the freedom from fire risk present very definite advantages and, apart from experimental flying, the chief risk is that of comparatively minor injuries such as are associated with winter sports.

The insurance of the machines themselves presents a more complicated problem. Ground risk is not so difficult because, although a Glider is very liable to be blown over on the ground if not properly looked after, the damage caused thereby is usually far less serious than in the case of an ordinary aeroplane. Flight risk, however, presents difficulties owing to the widely varying standards of maintenance, instruction and supervision, and also to the lack of adequate repair facilities on a commercial basis. Furthermore this risk is always rated at so much per cent on the value of the aircraft; the low first cost of a Glider means that the premium is very small and there is not sufficient volume of business to encourage underwriters to come into the market. A certain amount of this class of insurance is done, usually on the basis of total loss only, and no doubt more will be done as time goes on. At present, however, the control in respect of airworthiness, maintenance, instruction and the like is not sufficiently strict to enable anything like a standard rate to be applied.

This last paragraph is not in any way intended to advocate the institution of Air Ministry control over Gliding, which so far shows every sign of working out its own salvation in a satisfactory manner without undue official interference. At the same time, while the process of working out is in progress, Gliding Clubs must be prepared to be treated entirely on their individual merits so far as insurance is concerned and must not feel aggrieved if underwriters show a certain degree of modesty and caution until they are satisfied with the technical aspects of the risk.

The Weather Map

A weather map provides a picture of the meteorological conditions which exist at a given time over a portion of the earth's surface. The construction of weather maps forms part of the routine of every meteorological service, the maps forming the basis of modern weather forecasting. An individual observer can give an account of the wind, weather and cloud as they appear to him in his own locality but he is limited by his own horizon. The weather map extends this horizon and provides the student of the weather with a bird's eye view of conditions over a large area.

The construction of weather charts is made possible by an elaborate organisation in which wireless telegraphy plays no mean part. Each country maintains a network of observing stations, suitably equipped with instruments, at which regular observations are made. These observations include barometric pressure, temperature, humidity, wind direction and speed, weather and state of sky, height of lowest cloud and visibility. The times of observation and the nature of the observations made have been fixed by international agreement; in Europe the standard times are 1 a.m., 7 a.m., 1 p.m. and 6 p.m. G.M.T. As soon as the observations are made at the various stations they are transmitted to a central office (the Air Ministry in this country) by telephone, telegraph or wireless telegraphy, the messages being sent in a simple code which has also been agreed upon internationally. After the observations have been collected in this way each country broadcasts a collective message containing a selection of the observations from its own stations. The times of issue of the various national broadcast messages have been fixed by international agreement and they are so arranged that, within less than two hours from the time of observation, it is possible for the various meteorological services to have received information extending from well within the Polar Circle to North Africa and from Russia to the Azores. Observations from ships on the Atlantic are included in several of the messages broadcast by the countries of western Europe.

As the various observations are received by a meteorological service they are plotted on an outline chart which includes not only the area in which the service is immediately interested but also a considerable surrounding area. The working charts which are used are on a large scale (1 in 10 million or 1 in 5 million) but charts on a smaller scale are published for distribution. The Meteorological Office of the Air Ministry publishes a daily weather chart, based on morning observations, which is forwarded by post to subscribers. The "Times," the "Morning Post" and the "Daily Telegraph" newspapers also publish a daily weather chart based on observations made at 6 p.m. the previous evening.

On the published charts only the wind, temperature and weather are usually shown for the individual stations. The wind at any station is shown by an arrow flying with the wind, the force of the wind on the Beaufort Scale being indicated by the number of feathers on the arrow. The Beaufort Scale is a numerical scale ranging from 0, calm to 12, hurricane and may be used by observers to estimate the force of the wind from its effect on objects such as trees. The equivalent wind speeds in an open situation at a height of 33 feet above the ground are given in the following table:—

Beaufort Number	Description	Mean Speed m.p.h.
0	Calm	0
1	Light air	2
2	Light breeze	5
3	Gentle breeze	10
4	Moderate breeze	15
5	Fresh breeze	21
6	Strong breeze	27
7	Moderate gale	35
8	Fresh gale	42
9	Strong gale	50
10	Whole gale	59
11	Storm	68
12	Hurricane	above 75

The distribution of barometric pressure is shown on a weather map by a series of lines of equal pressure called isobars. These lines are drawn by interpolation between the various station pressures plotted on the meteorologist's working chart. The barometer readings which are sent in to the central office from the stations are first corrected for instrumental errors and temperature changes and are also reduced to a common datum level, usually mean sea level. The isobars shown on a weather map thus depict the distribution of barometric pressure at sea level.

A glance at any weather map will reveal that there is a definite relation between the distribution of pressure and the wind. The wind arrows tend to follow the run of the isobars but are inclined at an angle of the order of 20 degrees to the side of lower pressure. Also the closer together the isobars the stronger is the wind. The actual speed of the wind at a given place depends on height above the ground, the mean speed usually increasing with increased height. Thus, in an open situation, the speed of the wind at a height of 5 feet above the ground would be rather less than three-quarters of the speed at 30 feet above the ground. Obstructions such as houses or trees, however, cause the wind to blow with much less regularity. The direction of the wind also tends to change with height, turning in a clock-wise direction. At a height of about 1,500 feet above the ground the wind direction approximates to the direction of the isobars. In fine quiet weather the change of wind with height is usually more pronounced at night than in the day-time.

The wind in any given locality does not always conform to the rules stated. For example on the coast on a summer afternoon the wind tends to blow from sea to land even though the isobars may run parallel to the coast line. Again at night in clear quiet weather the wind tends to blow down the slopes of hills in a direction which may be quite different from the direction of the isobars.

A weather map enables anyone who has a knowledge of the broad features of wind structure to see the direction and force of the wind current in different parts of the country. If the weather map is studied in conjunction with the forecasts of wind and weather which are broadcast by the B.B.C. or published in the daily newspapers already mentioned useful information may be obtained regarding the wind in any given area.

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GLOSSARY

Adapted, by permission, from the British Engineering Standards Association's Glossary of Aeronautical terms, 1923 edition. That Glossary is now under revision by a Committee, and a new edition will be published by the British Engineering Standards Association shortly, when it may be found that some of the definitions, here included, have been revised.

PART I.—AERONAUTICAL.

Air Speed.—The speed relative to the air, as distinct from speed relative to the ground.

Air Speed Indicator.—An instrument which, subject to certain corrections, indicates the speed of an aircraft relative to the air.

Altimeter.—An aneroid barometer graduated to indicate height instead of pressure under specified conditions.

Angle of Sweep Back.—The angular set back of the main planes relatively to the main body.

Compression Rib.—A member which gives the desired shape to the covering of planes or control surfaces and at the same time acts as a compression member between the spars of the structure.

Cockpit.—That portion of a fuselage or nacelle designed to accommodate the pilot.

Control Column.—The lever (or pillar supporting a hand wheel) by which the elevator and aileron controls are operated.

Cross Level.—A clinometer for indicating the direction of the resultant acceleration in the transverse vertical plane of an aircraft.

Drag.—The resistance along line of flight. Head resistance.

Dihedral Angle.—In geometry the angle between two planes. The planes of an aeroplane are at a dihedral angle when both port and starboard surfaces are upwardly or downwardly inclined to the transverse axis. The angle is measured by the inclination of each plane to the transverse axis. If the inclination is upward the dihedral is positive; if downward, the dihedral is negative.

Elevator.—A horizontal control surface usually hinged to the trailing edge of the tail plane, by which the pitching of an aeroplane in flight is controlled.

Fairing.—Additions to any structure to reduce its head resistance.

Fuselage.—The main structural body of an aeroplane, to which the main planes, tail unit and other organs are attached.

Gap.—The distance between one plane and the next immediately above or below it.

Glider.—A heavier-than-air craft with fixed wings, not mechanically driven.

King Post.—A main compression member of a system, applied to stiffen a structure against bending.

Leading Edge.—The forward edge of a streamline body or aerofoil.

Lift.—Resultant force due to relative wind, perpendicular to flight path in plane of symmetry.

Longerons.—The main longitudinal members of a fuselage or nacelle.

Minimum Flying Speed.—The lowest speed at which an aeroplane is fully controllable.

Nacelle.—The term applied to the bodies enclosing crew and/or engines which are mounted on or between the planes of an aeroplane.

Rib.—A member which gives the desired shape to the covering material of planes or control surfaces, etc., and maintains it under load.

Rigging Position.—The position in which an arbitrary datum plane, fixed in relation to the glider, is horizontal.

Rudder Bar.—The foot bar by means of which a rudder is operated.

Rudder Post.—The main vertical member of a rudder to which the rudder hinges are attached.

Rudders.—The vertical control surface or surfaces forming part of the tail unit, by which the yawing of an aeroplane in flight is controlled.

Span.—The overall distance from wing tip to wing tip.

Spar.—A principal member of the main planes or control surfaces which supports subordinate members.

Stability.—The quality by virtue of which any disturbance of steady motion tends to decrease. A given type of steady motion is stable if the aircraft will return to that state of motion after disturbance without movement of the controls by the pilot.

...**Stagger.**—If the planes are of equal chord when the normal to the chord from the leading edge or the bottom plane cuts the top plane behind its leading edge, the combination is said to have positive stagger; when the normal falls in front of the leading edge, then the combination is said to have negative stagger.

For rigging purposes stagger is generally measured by taking the horizontal distance between the leading edges of the main planes when the aeroplane is in rigging position.

Stern-Post.—The rearmost upright member of the fuselage or hull of an aircraft. In some forms of construction this is continued above and below the fuselage, the upper portion forming the fin post and the lower the tail skid post.

Strut.—A structural member intended to resist compression in the direction of its length.

Tail Booms.—The main spars of the longitudinal framework carrying the tail unit of an aircraft in which the fuselage does not perform this function.

Tail Fins.—Vertical surface or surfaces forming part of the tail unit, affecting the lateral stability of the motion of an aeroplane.

Tail Plane.—The horizontal surface or surfaces forming part of the tail unit which affects the longitudinal stability of the motion of an aeroplane.

Tail Setting Angle.—The angle between the chord of the main planes and the chord of the tailplane.

Tail Unit.—The combination of stabilising and controlling surfaces situated at the rear of an aeroplane.

Trailing Edge.—The after edge of a streamline body or aerofoil.

Undercarriage.—That part of an aeroplane (other than the hull of a boat sea plane) intended for its support on land or water, and to absorb the shock on alighting.

PART II.—METEOROLOGICAL.

Adiabatic.—The word which is applied in the science of thermodynamics to the changes which may take place in the pressure and density of a substance when no heat is communicated to it or withdrawn from it.

Aerology.—That part of meteorology which is concerned with the study of the upper air.

Anabatic.—Applied to wind; referring to the upward motion of air due to convection. A local wind is called anabatic if it is caused by the convection of heated air; as, for example, the breeze that blows up valleys when the sun warms the ground.

Anemogram.—The record of an anemograph.

Anemograph.—An instrument for recording by its own mechanism the velocity or force and sometimes also the direction of the wind.

Anemometer.—An instrument for measuring the velocity or force of the wind.

Anticyclone.—The name given to that portion of the atmosphere over a region surrounding a centre of high barometric pressure; often called a "high."

Backing.—The reverse of Veering. The wind is said to back when a counter-clockwise change in its direction occurs. The rotation is against the sun in the Northern Hemisphere and with the sun in the Southern Hemisphere.

Bar.—The unit of atmospheric pressure, being equal to the pressure of one million dynes (one megadyne) per square centimetre. The bar is equal to the pressure of 29.5306 inches, or 750.076 mm. of mercury at Zero Centigrade (32 degrees F.) and in latitude 45 degrees. One bar is 100 centibars or 1,000 millibars.

Barometer.—An instrument for measuring the pressure of the atmosphere.

Barogram.—The continuous record of pressure obtained from a barograph.

Barograph.—A barometer which is provided with mechanism for recording continuously the pressure of the atmosphere.

Barometric Tendency.—A conventional expression used in international weather reports to indicate the change in the barometric pressure within the three hours preceding an observation.

Breeze.—A wind of moderate strength.

Buys Ballot's Law.—The law, a consequence of the earth's rotation, states that in the Northern Hemisphere, with the observer's back to the wind the atmospheric pressure is lower on the left and is higher on the right. In the Southern Hemisphere the reverse is the case.

Cloud Burst.—A term commonly used for very heavy rain.

Cloud Nomenclature.—Cloud Forms are illustrated in many meteorological works. The principal forms are described as follows:—

1. **Cloud Sheets.**—(a) Upper Cloud layer about 30,000 feet. Clouds composed of ice crystals. With these are sometimes seen halos, or rings at some distance from the sun or moon.

CIRRUS.—Mares tails; wisps or lines of pure white clouds with no shadows.

CIRRO-CUMULUS.—Small speckles and flocks of white clouds; fine ripple clouds; mackerel sky.

CIRRO-STRATUS.—A thin sheet of tangled web structure, sometimes covering the whole sky; water sun or moon.

CIRRO-NEBULA.—Similar to the last, but a veil of cloud with no visible structure.

(b) Middle cloud layer, 10,000 feet to 25,000 feet. Clouds composed of minute drops of water. Coloured rings sometimes seen quite close to sun or moon, but never halos.

ALTO-CUMULUS.—Somewhat similar to cirro-cumulus, but the cloud masses are larger and show some shadow.

ALTO-CUMULUS CASTELLATUS.—Turret cloud; alto-cumulus with upper margins of the cloud masses developed upwards into miniature cumulus, with hard upper edges. (Sign of thunder).

ALTO-STRATUS.—Very like cirro-stratus and cirro-nebula, but a thicker and darker cloud.

(c) Lower cloud layer. Below 7,000 feet.

STRATO-CUMULUS.—Cloud masses with some vertical structure; rolls or waves sometimes covering the whole sky.

STRATUS.—A uniform layer of cloud resembling fog, but not resting on the ground.

NIMBUS.—Shapeless cloud without structure, from which falls continuous rain or snow.

SCUD (FRACTO-NIMBUS).—Small shapeless clouds with ragged edges; sometimes seen without other cloud, especially in hilly country; but more commonly seen below other clouds, such as cumulus and nimbus.

2. **Heap Clouds.**—The height of heap clouds is very variable. Mean height of base, about 4,500; the height of the top varies from about 6,000 to 25,000 feet.

CUMULUS.—Woolpack clouds; clouds with flat base and considerable vertical height. Cauliflower shaped top.

FRACTO-CUMULUS.—Small cumulus with ragged tops.

CUMULO-NIMBUS.—Anvil cloud, thunder cloud or shower cloud. Towering cumulus with the top brushed out in soft wisps or larger masses of fibrous cloud which are called false cirrus; the base is a rain cloud.

3. **Lenticular Clouds.**—Clouds with smooth outlines, almond shaped or lens shaped, often suggestive of an airship. They may be at any height and appear on close inspection to be composed of cloudlets which are moving with the wind through the region outlined by the lenticular cloud. In that case they are localities in which cloud is formed and their formation is due to some modification of the general wind structure, usually by the shape of the ground.

Col.—The neck of relatively low pressure separating two anti-cyclones.

Cyclone.—

(1) The name given to the portion of the atmosphere over a region surrounding a centre of low barometric pressure; now usually spoken of as a "depression" or a "low."

(2) In a more restricted sense the word is often used for a violent circular storm.

Depression.—A region of low barometric pressure surrounded on all sides by higher pressures.

Gradient Wind.—The flow of air along isobars in a horizontal surface, which would balance the pressure gradient, on account partly of the rotation of the earth and partly of the curvature of the air's path in the horizontal surface. The portion of the gradient which is balanced by the flow on account of the earth's spin is called the **geostrophic** component, and the remaining portion, which is balanced by the curvature of the air's path, is called the **cyclostrophic** component. The flow calculated as balancing the gradient when the curvature of the air's path is neglected, is called the **geostrophic wind**.

Gust.—This word was used originally for any transient blast of wind, but is now limited to the comparatively rapid fluctuations in the strength of the wind which are specially characteristic of winds near the surface of the earth.

Gustiness.—The name given to the factor which is used to define the range of the gusts shown on the record of an anemograph. The gustiness of an interval is the ratio, range of velocity (maximum velocity minus minimum velocity) divided by mean velocity.

High.—An abbreviation for “area of high pressure.”

Inversion.—An abbreviation for “inversion of temperature gradient or inversion of lapse rate.” The temperature of the air generally lapses, i.e., gets less with increasing height, but occasionally the reverse is the case, and when the temperature increases with height there is said to be an “inversion.”

Isobars.—From baros; lines on a chart showing equal barometric pressure.

Katabatic.—Applied to wind. The adjective expressing the downward motion of air due to thermal convection.

Lake Breeze.—A breeze blowing on to the shore of a lake in sunny weather during the middle of the day, part of the convection circulation induced by the greater heating of the land than of the water.

Land Breeze.—An off-shore wind occurring at the margin of a sea or lake during a clear night, due to the more rapid cooling of the air over the land than over the water. During the day the conditions are reversed and the wind blows from the sea or lake to the land constituting a *sea breeze*.

Lapse Rate.—A name used instead of Vertical Temperature Gradient for the rate of fall of temperature with height.

Line Squall.—A squall indicated by an arched cloud advancing in line over a great extent of country.

Low.—An abbreviation for “area of low pressure.”

Meteorograph.—A self-recording instrument which gives an automatic record of two or more of the ordinary meteorological quantities.

Millibar.—The thousandth part of a bar.

Nephoscope.—An instrument for determining the direction of and measuring the relative motion of clouds.

Pilot Balloon.—A small free balloon, the observed motion of which gives information concerning the wind currents aloft.

Pressure Gradient.—The rate of fall of pressure along a horizontal line taken normal to the run of the isobars in a map. It is variously expressed, in millibars per hundred kilometres, or sometimes in millimetres per geographical degree, or in hundredths of an inch per 15 nautical miles.

Reversal.—A change approximating to 180 degrees in the direction of the wind with height.

Ridge.—A tongue of high pressure shown on a weather map. It forms the connection between a col and a central region of high pressure.

Secondary.—A local grouping of isobars shown on a weather map round a second centre of low pressure within the region of the primary, or chief group of isobars.

Squall.—A strong wind that rises suddenly, lasts for some minutes, and dies suddenly away.

Sounding Balloon.—A small balloon, without passenger, used for carrying self-registering instruments into the free atmosphere and thus obtaining records of the pressure, temperature and humidity aloft.

Synoptic Weather Chart.—A chart showing the weather at one point of time, or the mean values of its elements for a specified interval, over a large area upon a single map.

Temperature Gradient.—

- (1) The rate of fall of temperature in a horizontal surface along a line drawn normal to the isotherms.
- (2) The rate of fall of temperature in a vertical line.

Tornado.—A short-lived, but very violent wind forming part of an intense revolving storm of limited area. In Africa the term is applied to a squall accompanied by a thunderstorm; in America to a whirlwind.

Trough.—The line of lowest barometer during the passage of a depression.

Wedge.—An abbreviation for a wedge of high pressure shown on a map as isobars more or less in the shape of a wedge that separates two neighbouring areas of lower pressure.

Valley Breeze.—A day breeze that blows up valleys when the sun warms the ground.

Veering.—The reverse of “Backing.” The wind is said to veer when a clockwise change in its direction occurs. The rotation is with the sun in the Northern Hemisphere and against the sun in the Southern Hemisphere.

Vortex.—In meteorology is the central part of a tornado or cyclone.

Waterspout.—The name given to a funnel-shaped tornado-cloud when it occurs at sea.

Whirlwind.—A small revolving storm.

Wind Rose.—A diagram consisting of a centre with radial lines of suitable length arranged to represent the relative frequency of winds of different strengths.

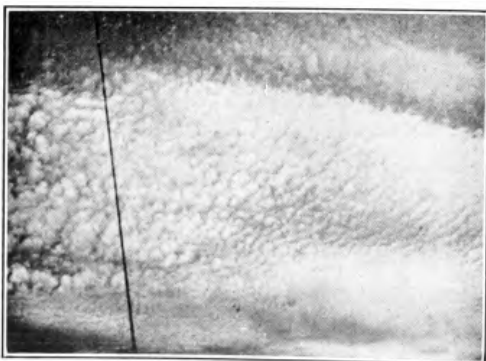
The term is also used when the variation of any meteorological element with the direction of the wind is to be represented. For example, a thermal wind rose shows the normal relation of temperature to the direction from which the wind blows.



1



2



3

CLOUD PHOTOGRAPHS

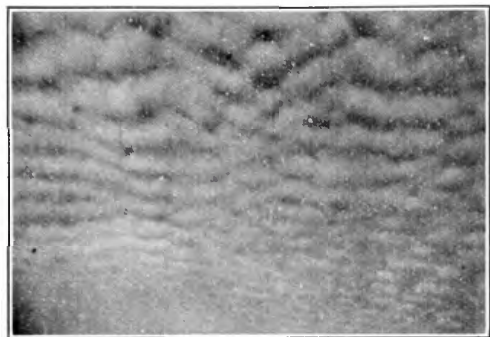
UPPER CLOUDS

1. CIRRUS. Mean height 30,000 feet.
Photograph taken from S.S. *Peshawur*, Commander C. Hester, R. D., R.N.R. by Mr. E. J. R. North, 3rd Officer, on 27th, February, 1925, at 5 p.m. in Latitude 39° 40' S., Longitude 111° 28' E.

2. CIRRO STRATUS. Mean height 30,000 feet.
Photograph by Mr. G. A. Clarke, Aberdeen Observatory.

3. CIRRO CUMULUS. Mean height 30,000 feet.
Photograph by Mr. G. A. Clarke, Aberdeen Observatory.

MIDDLE CLOUDS



4. ALTO CUMULUS. Mean height 15,000 feet.
Photograph taken from S.S. *Peshawar*, Commander C. Hester, R.D., R.N.R., by Mr. E. J. R. North, 3rd Officer, on 2nd March, 1925, at 4 p.m. in Latitude $37^{\circ} 36' S.$, Longitude $126^{\circ} 21' E.$



5. ALTO STRATUS.
Photograph by Mr. G. A. Clarke, Aberdeen Observatory.

LOWER CLOUDS



6. STRATO CUMULUS. Below 7,000 feet.
Photograph by Mr. G. A. Clarke, Aberdeen Observatory.



7. CUMULUS of the Doldrums.
Photograph taken by Major W. J. S. Lockyer, at sunset on February 27th, 1911, in Latitude $1^{\circ} S.$, Longitude $86^{\circ} E.$, from R.M.S. *Olcay*.



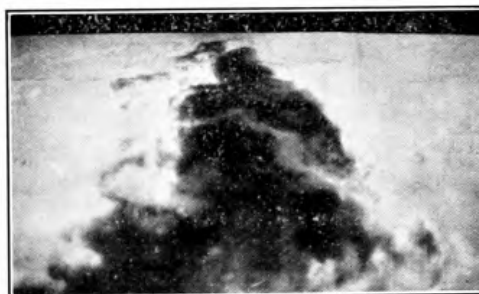
8. CUMULUS.
Photograph taken from S.S. *Port Stephens*, Captain W. G. Higgs, by Mr. C. F. Post, 4th Officer, on 14th March 1922, at 7.30 a.m. in Latitude $44^{\circ} 45' S.$, Longitude $79^{\circ} E.$



9. STRATUS. Below 3,000 feet.
Photograph by Captain Sir David Wilson Barker, R.D., R.N.R.



10. CUMULO NIMBUS.
Photograph taken from S.S. *Pretorian*, Captain J. Hall, by Mr. R. A. Leicester on 14th November, 1920, in Latitude $55^{\circ} 38' N.$, Longitude $30^{\circ} 40' W.$



11. LINE SQUALL CLOUD.
Photograph taken from S.S. *Arracan*, Captain W. Y. Hamilton, by Mr. A. L. Rowlands, 2nd Officer at noon on May 10th, 1922 in Latitude $35^{\circ} 46' N.$, Longitude $21^{\circ} 17' E.$

The cloud photographs on these pages are reproduced from the Cloud Plate of the *Marine Observer's Handbook* (5th Edition) by kind permission of the Controller of H.M. Stationery Office.

The Use of Motor-Power in Conjunction with Gliders and Sailplanes

The practice of driving gliders through the air by means of motors, not directly fitted to the machines, is beginning to show itself in this country. This has been given full consideration by the Technical Committee of the British Gliding Association and the following recommendations are issued for the guidance of Clubs.

The methods employed are:—

- (a) Auto-launching,
- (b) Auto-towing, and
- (c) Aeroplane towing.

AUTO-LAUNCHING. The glider is launched either by the usual shock cord method with one or two motor cars in place of the crew or by a rope running forward from the glider and passing round a pulley to a car behind or to one side of the glider. The car may move along the ground or have one wheel jacked up and fitted with a winding-drum.

This method should only be put into operation when an insufficient crew is available and should for preference be used for experienced pilots only. The driver of the car and his assistant should both be qualified pilots.

Great care should be taken to see that the elastic is not unduly stretched as a fracture will almost certainly spell danger for pilot, driver and machine.

AUTO-TOWING. (These remarks apply also to towing by motor boat as the conditions are similar).

Auto-towing means flights of considerable duration in which the glider remains connected to the car for most, or a large part, of the flight. It enables long flights to be made over flat ground and this allows the pilot more time to get used to the controls.

The glider does not leave the ground for the first few flights after which the speed is slightly increased and a height of about 4 feet is maintained until the pupil has thoroughly mastered the controls. Height may then be steadily increased to 200 or 300 feet.

For this method flights should only be made into wind and turns across or down wind should be rigorously avoided. The reason for this is easily explained as follows: A glider being towed by a car moving at about 20 m.p.h. into a wind of about 10 m.p.h. gains a flying speed of about 30 m.p.h., but a turn down wind decreases flying speed to 20 minus 10 or 10 m.p.h. The inevitable result is a bad stall and crash.

Tow ropes should be long to give the pilot time to correct "bumps" or errors. 300—400 feet is suggested with a minimum of 200 feet.

The flying speed of the glider should be kept to between 25 and 30 m.p.h. This means that the car should be, say, 30 m.p.h. less the velocity of the wind, which latter must be carefully ascertained before starting.

Any change in the wind speed should be carefully noticed and the car speed duly changed.

An instructor should stand by the driver to give orders and both should be experienced pilots.

This method is better suited to the Gliding School than the Club and is not recommended by the British Gliding Association unless superintended by fully qualified instructors and operated with the utmost care.

In any case a quick release, with no possibility of failure, should be incorporated in the launching hook so that the pilot may slip the tow line at any desirable moment.

AEROPLANE TOWING. Towing gliders behind aeroplanes has been done in Germany for research purposes and in America. Owing to the number of casualties it has now been condemned in the latter country.

Unless a specially-designed glider is used, this method imposes far greater stresses than have been designed for owing to the much higher speed.

Such flights constitutes "power flight" and cannot be done in this country without special Air Ministry permission.

The use of motor-power for gliders by any method must add an element of danger and therefore Clubs are strongly advised to retain the hand launching system until some more successful method has been evolved.

HINTS ON CLUB MANAGEMENT

It is generally admitted that unless any concern, be it a club or a business, is increasing its activities and profits, year by year, it is sure to fade away and die. This applies to Gliding Clubs just as much as any other business. Money represents enthusiasm. It is the concrete expression of the keenness of the club members.

The Gliding Club should be organised as a profit-making club, the profits must not be regarded by the members as a sign that the club is a blood-sucking leech feeding on the members, they are the indication of the healthy circulation of the enthusiasm of the members. The profits should be divided, one half to a sinking fund to build up a capital reserve, the other half to the purchase of aircraft, or other material.

A Gliding Club should have only one object:—that of providing gliding facilities for its members, in a manner agreeable to them.

The efficiency with which the club carries out this object is measured by the number of "B" and "C" Glider Pilot's Certificates obtained in the year, and the number of soaring and cross-country flights made. The strength of the Club may be measured by the balance carried to the reserve fund. Both these requirements imply not only sound finance but also an organisation for the proper maintenance of aircraft and material. Crashes are needless extravagance.

A strong finance committee which does not mind making itself unpopular should decide the necessary income from subscriptions and prepare a budget of expenditure to be modified each year as may be found necessary.

The essential of club management is to delegate the control of the various activities to live committees who will carry out the work strictly within the budget allowance.

The chief sections are:—(1) Ground and buildings, rent and upkeep; (2) Aircraft, upkeep; (3) Aircraft new additions. There are several committees required for this work. (1) Grounds and Buildings Committee; (2) (a) Airworthiness Committee; (2) (b) Repairs Committee; (2) (c) meteorological Committee; (3) Technical Committee.

(1) The work of the Grounds Committee is chiefly a matter of finance. The membership should include property holders who understand the upkeep of buildings, and can employ labour to erect hangars, fences, etc., without the additional expense of employing a contractor.

(2) (a) The Airworthiness Committee is the most vital part of the Club. All members should be able to deputise for the Hon. Ground Engineer or Instructor in their absence. The Hon. Instructor and Ground Engineer are responsible for the safety, of the members, and the club aircraft, and will be the leading members of this committee. (The Finance Committee should make it a part of its business to require an explanation of all crashes.) Several well-organised clubs have run for six months without a crash showing that the Airworthiness Committee can, conserve the club funds, and thereby improve the service that the club can render to its members by proper maintenance and instruction, and maintain a good average of Glider Pilot's Certificates.

The Log Book is a great assistance in maintaining aircraft, and, in clubs where the ground engineer is occasionally absent, a diagram for rigging the glider with full instructions should be doped on to a wing so that the member deputising can verify every detail.

A point of vital necessity is to see that all controls are correctly connected. If the wire strainers are reversed in pairs so that the port side controls have the left hand screw toward the joystick and the starboard have the right hand screw toward the joystick it is impossible to connect the controls the wrong way. A little thought in arranging all the wires, that have to be disconnected when the glider is dismantled, so that it is easier to assemble correctly than the wrong way, will go far to prevent serious crashes due to bad rigging. The danger of bad rigging becomes more serious as the glider pilots become more proficient, because they are launched at a higher speed and may reach considerable height before the defect causes loss of control and the inevitable crash.

Thorough inspection of each glider in use should be made after each week-end. The wings should be examined for broken or strained ribs or spars. The elevator and aileron hinges should be tested for strength and smooth working, especially when they are attached with wood screws. All pulleys should be examined for loose pins or defective guards. Control wires should be examined for broken strands, if there is any indication of a broken strand the cable must be condemned and removed. Most gliders have rather small pulleys and short fairleads which makes the cables more likely to give trouble than on power aircraft, where 20 years of experience has overcome these defects.

The wires which are hidden in the wings should be examined for rust or other defects. When fitting new wires it will be found that "Fox" wire benders will obviate bad loops. It is advisable to develop the maximum strength of the loop which at the best is only 70% of the strength of the wire by lashing the turned back end of the wire with 20 s.w.g. copper wire over the ferrule. A roughly made wire loop may only have a strength of 40% of the strength of the wire. Good loops may be made by fixing two 3-16in. pins in the vice 1-8in. apart and bending the wire round these, do not forget to slide the ferrule on before bending the wire, wires must never be straightened and re-bent the strength after such treatment may be less than 10%.

The fabric should be examined. Light fabric and thin dope as used on gliders will not be safe after 12 months, and it may become dangerous much sooner if subjected to much strong sunlight. The conditions, inseparable from gliding in winter, ensure that the wings will be always more or less damp, this makes it essential that the wings should be stripped and examined each Spring.

The skid should be examined frequently a loose shoe may catch in the launching rope and cause a bad crash.

All metal fittings should be lightly greased with thin motor grease before returning the glider to the hangar.

All exposed woodwork should be re-varnished with a brushing cellulose varnish twice a year, the great advantage of cellulose varnish is that it is cheap and dries in half-an-hour.

On no account should the glider or wings touch the ground or floor when in the hangar, blocks of wood should be used to raise the parts off the floor and allow a circulation of air underneath, or they may be hung clear the walls.

(Continued on page 105)

(2) (b) REPAIRS COMMITTEE.

If the Airworthiness and Finance Committees are efficient the work of this committee will be small, and almost entirely confined to the annual overhaul.

The committee must be limited to those members who can use their tools, all others are a hindrance, unless the Club considers, like the Mikado in the Gilbert and Sullivan Opera, that "the punishment should fit the crime" and makes the member who crashed the glider assist in the repair. If he cannot use the tools he can hold things in awkward positions or carry heavy weights.

To return to the serious part of the work, good materials, good tools and good workmanship are essential. All repairs should be stripped back further than the obvious damage to remove strained parts, this is especially necessary with plywood. In Germany it is customary to rely on glue only and draw all the panel pins out after the glue has set. It appears that brass panel pins are not obtainable in that country. If it is desired to draw the pins lay a piece of 1/4 in. plywood under the heads of the pins, when this is pulled up with a pair of pliers it will be found that the pins come with it. Brass panel pins are obtainable in England and as the climate is damp it may be advisable to leave the pins in place to reinforce the glue. A good brand of "cold glue" should be used, never use hot glue.

When doing a repair or overhaul always make a drawing of the parts so that spares may be made for future use. To ensure interchangeability, jigs should be made for spar fixings and hinges.

(2) (c) METEOROLOGICAL COMMITTEE.

The work of this committee has, up to the present, generally been left undone. The air currents, under all conditions of wind, should be tested in all parts of the gliding ground. This may be done easily with an anemometer, for those clubs which have a strict finance committee which will not allow money for instruments, second-hand airspeed indicators may be purchased at a low figure. These may read too high to be any use for the exploration of air currents but, if the pilot tube is placed in a venturi tube of suitable dimensions, the readings will be reduced to the values required and the anemometer may be calibrated by comparison with a motor-car speedometer in calm air.

Free balloons, smoke, the flight of soaring birds, thistle-down and other indications may be used by observant members to explore regions of turbulent air. If, as is probable, the indications appear to be chaotic it will be found with further exploration that there are general rules depending on the direction, speed of the wind and the temperature, which used in conjunction with the weather maps will enable this committee to forecast the week-end's gliding. For clubs which use grounds with widely separated slopes such forecasts will save time and labour.

The work of this committee will become more arduous when cross-country flying is started, consequently it is important that some practice should be obtained while the conditions are easy.

The membership may be restricted to non-flying members.

(3) TECHNICAL COMMITTEE.

If the club possess some members who are competent to prepare designs it is fortunate. In Germany some of the designs produced by the clubs are equal, or superior, to those of the R.R.G. The work entailed in the design of a sail-plane is considerable, as also is the work of construction, but, the cost need not be high, a good sail-plane may be designed and built including the cost of the C. of A. issued by the B.G.A. and all materials for as little as the price of a Zögling.

It is highly probable that the present type of sailplane popularised by its success in Germany is not the only type of efficient soaring aircraft, consequently it is very desirable that as many new types as possible should be tried, it being understood, of course, that the types are properly designed aerodynamically and are of sufficient structural strength. Model making is a useful method of working up new types and is inexpensive and reliable.

If the club does not propose to design and build its own aircraft the Technical Committee is required to investigate and report on new aircraft or other purchases that the club proposes to make.

General Observations

The most successful club in a few years time will be the club with the best and most flexible organisation. The club in which the various official duties have been delegated to competent members to carry out in their own way. The whole being co-ordinated by a tactful and persistent general committee of management.

If a club is formed on the lines of a golf club with a share capital it will be able to give good services to its members though it may necessitate higher subscriptions to pay for a salaried staff.

Suggested Club Rules

1. OBJECTS.

The Objects of the Club are to promote and encourage the development of the science, and the practice of the sport, of Gliding and Soaring in all its branches; under the auspices of the British Gliding Association.

2. NAME.

The Club shall be known asClub (affiliated to the British Gliding Association) and shall be so affiliated.

3. PERSONNEL.

The Membership of the Club shall consist of Founder Members, Life Members, Flying Members, Associate Members, and Ex-officio Members. The Founder Members shall comprise the first fifty Members of the Club.

Life Members shall consist of the first four (or such other limited number as may be agreed) Founders of the Club and those elected (as Honorary) to and/or subscribing for Life Membership.

Flying Members shall be those actively participating in Gliding and Soaring flight.

Associate members shall be those who while not intending to fly, wish to take a practical interest in the Club's activities.

Ex-Officio Members shall be those annually elected to or appointed to positions of Office in the Club.

All applications for Membership must contain the exoneration clause. (See exoneration clause in Suggested Membership Form).

OFFICERS.

The Officers of the Club shall consist of a President, Vice-Presidents, Captain, Secretary, Treasurer and such other Officers as the Committee may appoint from time to time.

4. COMMITTEE.

The affairs of the Club shall be governed by a Committee consisting of :—

- (a) Officers of the Club.
 - (b) Nine Members elected by ballot at Annual General Meeting, or such other limited number.
 - (c) One representative from each of the Affiliated Bodies (such as Motor Cycle Clubs, Etc.).
 - (d) Such persons as the Committee may deem fit to co-opt.
- Six Members of the Committee shall form a quorum.

5. SUB-COMMITTEES.

The Committee shall have power to appoint Sub-Committees as deemed necessary (with or without plenary powers) including—Finance, Technical, Flying and Social Sub-Committees.

Such Sub-Committees may issue Bye-Laws (ratified by Committee) for governance of Club matters.

The Club Captain and Secretary shall be ex-Officio Members of such Sub-Committees.

6. REMOVAL OF MEMBER.

The Committee may, by a resolution carried by a two-thirds majority of those present at a Special Meeting of the Committee, called for the purpose at twenty-one days' notice, remove any Member of the Committee (including an Ex-Officio Member thereof or Club Member) from his post and appoint a successor, who shall retire as if appointed at the same time as the person he has succeeded, being eligible for re-election.

7. ALTERATION OF RULES.

The Club may by a resolution carried by a two-thirds majority of those present in person or by proxy at a Special General Meeting of the Club, called for the purpose at twenty-one days' notice, alter, revoke or add to their rules.

8. ANNUAL GENERAL MEETING.

A meeting, to be known as "The Annual General Meeting" shall be held in February of each year at a suitable time and date and at some place chosen by the Committee for the time being in Office.

9. RIGHT OF VOTING.

The persons entitled to vote at Annual or Special General Meetings shall be those described in Rule 3 and in Rule 4 (c) excepting those Members whose subscriptions shall remain unpaid.

10. STAFF.

The Committee may employ such staff as they may from time to time require in the discharge of the Club's business.

11. ENTRANCE FEES AND SUBSCRIPTIONS.

These may be varied as the Committee think fit :—

	£	s.	d.
Entrance fee for all Members shall be	10	6	
No Entrance fee payable by Founder Members			
Annual Subscription for Flying Members shall be	3	3	0
Annual Subscription for Associate Members shall be	1	1	0
Life Members, subscribing equal to 10 years' Subscription	10	10	0
Others			Nil

Subscriptions are payable in advance and no person can therefore become a Member entitled to full privileges until the subscription due be paid. Members shall be notified by the Treasurer when subscriptions are due, and Membership in any succeeding year shall automatically lapse if, after a period of 1 month's grace, the subscription remains unpaid.

12. ARREARS.

If a Member, or an Affiliated Organisation, be in arrears in payment of subscriptions he, or it, may be at the discretion of the Committee, suspended from all benefits of the Club.

Leases, Agreements for Tenancy and other documents of a like nature relating to transactions entered into by the Committee upon the Club's behalf shall be signed on behalf of the Club by three Members of the Committee one of whom shall be the Chairman of the Meeting authorising the transaction.

14. EXPULSION.

The Committee shall have power to terminate the Membership of any Member who in the opinion of the Committee shall have committed a breach of these rules or has been guilty of disorderly or ungentlemanly conduct or for any other reason they think fit, and two-thirds of those present at such Committee Meeting must concur in the resolution of expulsion. The Member in question shall have the option of attending the Meeting. Any member so expelled shall have, upon giving the Hon. Secretary one month's notice in writing, the right of appeal to the next Annual General Meeting or to an Extraordinary General Meeting. Any person who shall have ceased to be a Member of the Club shall have no claim upon nor be entitled to participate in any of the effects or property belonging to the Club.

- 14a. No person who has resigned in consequence of a recommendation of the Committee, or who has been expelled from the Club, shall be introduced by a Member as a visitor, or shall again be admitted to the privileges of the Club, or to any Club Meeting, on any pretext whatsoever, unless re-elected as a Member.
15. AUDITORS.
The Auditors of the Club shall be elected annually at the Annual General Meeting.
16. MINORS.
Any person under the age of 21 years must produce written permission from their parents or guardians before their application for Flying Membership to the Club will be considered by the Committee.

NOTES FOR CLUBS ORGANISING SAIL-PLANE DEMONSTRATION

1.—SELECTION OF SITE. (a) This should be as accessible as possible to the public. People will not trouble to go long distances and find out-of-the-way spots. **The site must be approved.** (b) The hill or ridge should be high, about 30 feet at least with a steep slope on all sides. Where this is impossible, select a hill with the steep slope facing the prevailing wind, and have an alternative hill near which will give good conditions for other wind conditions. (c) Avoid hills with crops growing at foot if possible as machines landing in crops will result in claims for damage. (d) Good road approach is essential if large crowds are expected. At least two roads are desirable, one for arrival and one for departure. (e) If Gate Money is to be taken, sites with natural enclosures should be sought or alternatively those upon which enclosures can be easily and cheaply constructed. (f) Having selected a suitable site the superior landlord and his tenants should all be approached for their permission. It has been found that the appeal for assistance on the grounds of promoting a National Movement will often weigh with these people. (g) It is reasonable to give an undertaking to remove all litter after the conclusion of the Demonstration, and this will help favourable consideration of your proposals. (h) The British Gliding Association can give assistance as to suggestions for probable suitable sites and particulars of prevailing winds.

2.—HANGAR ACCOMMODATION. Suitable portable accommodation is usually very expensive as the interior should be free of poles and the structure to be safe in exposed positions should be rigidly braced externally. The usual rope braced tent is quite unsuitable and even dangerous to the safety of the machine. The better method is to arrange suitable storage in a garage or barn of the machine in its dismantled state and tow to the site and erect daily.

3.—PROPAGANDA. This is of the greatest importance. First approach the local press and obtain their co-operation. A small lunch to them at which Officials can meet them is a splendid start. In many cases they will be prepared to make some contribution to a guarantee fund for expenses. They will print posters and the like free or at very low rates. All the local bodies should be approached, such as Chambers of Commerce, Cinemas, Clubs, Hotels, Garages, Bus Companies, and Railways, and shops to display handbills and posters and to contribute to a fund. The film rights should be disposed of for cash to the local cinemas if possible.

A lecture with slides on Soaring Flight should be held and the Mayor be invited to take the Chair and to place the Public Hall at the disposal of the Club free for this purpose. Stress at all times the National importance of the Movement.

4.—CATERING. It is inadvisable for a Club to attempt to deal with this. It is far better to try and sell the rights for catering to a local caterer for what they will fetch and leave it entirely to them.

5.—TRAFFIC CONTROL. The A.A. will usually co-operate in marking the route so that all may find the spot easily and will see that there are scouts available to give information. Application for their help should be made to Mr. Stenson Cooke, A.A., Fanum House, Coventry Street, W.1.

The local police authorities should be approached for their assistance, but care should be made as to terms before the event, as the Police are authorised to charge for their services for special duty. If Gates and Car Parks are being instituted it is as well to have one policeman on duty at the Box Office.

Some additional Police may be required for control of the public actually on the ground.

6.—AMBULANCE. Make local arrangements with the local branch of St. John's to provide what is required. They make no charge but expect some donation to their funds.

7.—PRICE OF ADMISSION. This should be low, say 6d. per head, to go on the flying ground at all, and if a special enclosure is available where the machine starts and lands, say 1/2 per head extra. Cars, 2/6 each or 1/-. Arrangements can be made with the local customs authorities to cover the question of Amusement Tax by guarantee. Detailed particulars can be obtained from the authorities.

8.—CAR PARKS. These should be as close to the Flying Ground as possible but not so as to obstruct the Demonstration which ever way the wind may be. It is as well to cover the point of the position of the Official Car Parks in the propaganda, as many free lances are apt to mislead the people.

The aid of local garages should be called upon to staff and manage the Park on the basis of their taking a large proportion of the receipts as their full remuneration, and that no guarantee be given of a minimum return.

Check up to see that those responsible for the Parking have made reasonable and adequate provision for people getting their cars away easily.

9.—CONTROL OF DEMONSTRATIONS. It is as well to have someone in complete charge of all flying arrangements and he should be responsible for seeing that all the public are kept informed throughout the proceedings of what is about to take place, and to keep them informed upon points of interest all the while. He should be responsible for seeing that interest is maintained and that long and uninteresting waits are not allowed to occur. Someone with reasonable technical knowledge and a good voice amplified with a hand megaphone will work well. He should also be responsible for the safety of the public and to see that they are well controlled at the start and on landings. It is advisable that a team of volunteers with armllets be placed at his disposal together with one or two Police Officers. This team should act upon his instructions only.

10.—LAUNCHING CREW. It is an essential function of a well-organised Meeting that a team of volunteers be organised to form launching and recovery parties. At least 14 strong men are required to launch a Sailplane effectively.

Provide the team with distinctive armllets so that they may be easily identified by the pilot of the machine and the flying manager. A reserve team should be available to recover the machine should it have to land away from its starting point. The teams should undertake to be available during the whole of flying time.

11.—TIME OF FLIGHTS. On week-days there is no advantage from the public point of view in flying before 5.30 p.m., but Sunday is usually a good time to fly from say 12 noon onwards.

12.—PROPAGANDA FOR CLUB. The organising Club will be well advised to arrange that at least three capable persons shall be detailed to distribute to the public during the Flying Demonstrations, leaflets giving details of the Club and advantages of joining. Clubs have taken advantage of this and have been wonderfully repaid for the trouble.

13.—If possible and convenient it is as well to have a primary training machine available to give instruction to beginners as this is very interesting to the public, and is excellent propaganda.

14.—BRITISH GLIDING ASSOCIATION. Due acknowledgment should be made in all publicity to the British Gliding Association, as the promoter of these Demonstrations, and that the organising Club is an Affiliated Body.

Suggested Club Membership Form

The Gliding Club has been formed to enable those resident in the Town and its environs, to enjoy the sport of Gliding, and become proficient Glider Pilots, at an annual subscription within the means of all wishing to enjoy this sport.

Conditions permitting, flying Meetings are held every week-end at the Club's temporary flying ground at about miles from and it is hoped in the near future to obtain a permanent ground even nearer; which town is readily accessible to all parts of

The Club is particularly fortunate in having members with considerable air experience, also in the design and construction of aircraft, including Gliders, so that in addition to the skilled tuition available, interesting lectures will be arranged during the winter when weather conditions are not suitable for flying.

The Club is affiliated to the British Gliding Association and is therefore able to participate in all events organised by them, and in many cases Club Members will receive special benefits not available to the general public.

Should you wish to enjoy this scientific sport, join the Gliding Club by completing the form below and forward this to the Hon. Secretary, with your cheque value covering full membership which can be arranged immediately.

No additional fees are charged for tuition, flights, or the use of Club Gliders. All Members receive tuition immediately upon joining.

APPLICATION FORM FOR MEMBERSHIP

To the Hon. Secretary, The Gliding Club,

I hereby apply for membership of the Gliding Club and enclose my cheque payable to them for

Annual Subscription and Entrance Fee for Flying Membership

Annual Subscription for Associate Membership for the year ending

I agree to be bound by and observe the Rules and Gliding Regulations of the Gliding Club, and I exonerate the Gliding Club from all liability which may arise in respect of any damage to my property or personal injury which I may suffer while I am a Member of the Club, or participating in Club privileges, and undertake to make no claim against the said club, or any member, or other person connected therewith, in respect thereof, whether such damage or personal injury arise by reason of the negligence of any person or from any other cause whatsoever.

Usual Signature.....

Full Name.....
(BLOCK LETTERS)

Title, Distinctions or Qualifications

Postal Address.....

Date

Proposed by Seconded by

GLIDING CONTESTS

TROPHIES AS PRIZES

An open gliding and soaring competition will be held from August 25 to September 4 at Moorside, Askam, near Barrow-in-Furness.

There will be three major contests—distance, duration, altitude—in each of the six classes running through the competition, on primary training machines, secondary-type gliders, sailplanes, and two-seater machines.

Special prizes in the form of trophies—i.e., the Lord Wakefield trophy, the Manio Cup, the Volk Cup, and the De Havilland Cup—will be offered for the principal events, in addition to which there will be special prizes for women and other prizes for the machines making the highest aggregate flying time in each class.

GLIDER FLIGHT OF 15 MILES

BRITISH AVIATOR'S FEAT

From Our Own Correspondent

Askam-in-Furness, Sunday.

MR. G. M. BUXTON, of London, to-day flew in a glider from Askam to the north end of Lake Coniston, a distance of about 15 miles.

This feat means that he will hold for another 12 months the Wakefield challenge trophy for the biggest long-distance glide.

The flight was one of those held under the auspices of the British Gliding Association, whose competitions began here just over a week ago. Yesterday there were gusts of wind ranging up to 60 miles an hour, but to-day the breeze came from the west more steadily, at about 35 miles an hour.

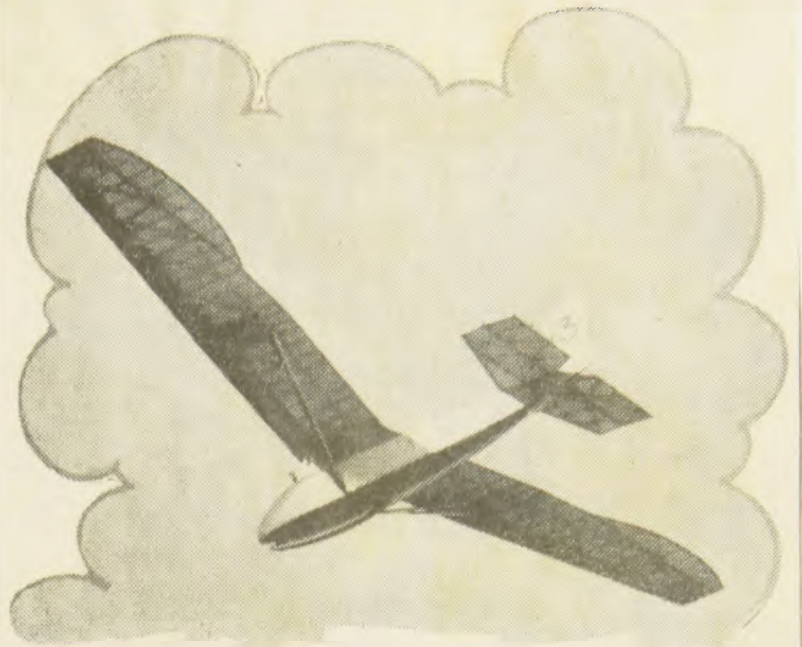
UP 2½ HOURS

This morning Mr. F. Slingsby, of Scarborough, was up in his British Falcon machine for two and a half hours, during which he reached an altitude of 1,400 feet.

Mr. Buxton used the same machine early in the week when he rose to 1,700 feet, but this was not an official record, his barograph failing.

While Mr. Slingsby was in the air Mr. Buxton was flying Mr. D. Dent's two-seater machine with Mr. Dent as passenger, and they stayed in the air two hours 33 minutes, which is stated to be the longest sailplane passenger flight achieved in this country. They reached an altitude of near 1,500 feet, but this was not officially recorded.

Mr. Buxton's long-distance flight was made in the afternoon and evening.



F. Slingsby, of Scarborough, in a Falke glider, which he flew for 36 minutes at the British Gliding Association meeting held at Barrow.



A Kassel two-seater glider in flight at the British Gliding Association meeting at Barrow.

Mr. J. Falla, of Preston, flew in one of the machines of the Furness Flying Club at Ireth on Sunday for 55 minutes, and Mr. W. Stevens, a member of the club, remained in the air for eight minutes, thus establishing a local record. The longest time any member of the club had flown previously was three minutes. 1932

FIRST GLIDER POST.

22. 10. 32.

MOSCOW, Saturday.

The first post and passenger glider route has been opened by the Civil Air Fleet Department of the Soviet Union on the Amudarya route in Central Asia.—Reuter.

TOWED OVER ALPS IN A GLIDER.

18. 7. 33.

SWISS AIRMAN'S EXPERIENCE.

Milan, Saturday.

Mr. Willy Farner, the Swiss flier, has arrived in Milan after being towed over the Alps in a glider.

It is the first time this feat has been accomplished.

The airmen started from near Zurich and reached Milan just over two hours later.

When 6,000 feet up, Farner let go the rope attached to the towing plane, and made a perfect landing.

His glider carried seven mail bags containing 2,700 registered letters—mostly empty envelopes with a special "glider post" stamp obliteration for collectors.—Reuter.

ENGINELESS FLIGHT.

AUSTRIA GIVES WARM ENCOURAGEMENT.

Belgrade, Tuesday.
Special stamps have been prepared ready for the first international glider post in the world which is to be established by the Maribor Flying Club.

It will be an extension of a service already begun in Austria. The service will be started by a flight by the president of the Maribor (Marburg) club, a well-known glider who learned his art from the famous Austrian expert, Kronfeld.

The Austrian authorities are keen on this development, and have taken steps to arrange for the necessary permits from the Yugoslav Government.

It is even hoped that a passenger service may be instituted later, as Maribor is exceptionally well situated for engineless flight.—Reuter.

