



# BARCS Members Handbook

## Seventh edition

October 2017 Version – including 2017 AGM Rule changes

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This update is a minor revision to the 2016 version which, in 2011, was a complete revamp of the Fifth edition of the Handbook. This was to bring it properly in line with current practice, remove completely obsolete classes and their rules and recognise the way that BARCS now operates with heavy reliance on the website and use of email to communicate.

The changes in this revision are the inclusion of reflights in Open class competitions and updating of the Electric Launch Glider (ELG) rules.

Obsolete rules which are currently not in use, or apply to events which have had no real support are relegated to appendices. They are then shortened to summary form. Full versions of such obsolete rules are obtainable from the BARCS archived material via the web site.

The handbook is no longer provided in printed format but the web based pdf edition will be maintained up-to-date and members may print off copies from the web as they may require.

Gary Binnie, Chairman

October 2017

February 2010

The British Association of Radio Control Soarers was founded back in the early 1970's by a bunch of keen and enthusiastic soarers, all well known names at the time for their involvement in thermal and slope soaring.

Eager to exploit the potential of proportional radio newly operating on 27 meg frequencies allowing several models to be flown together, a wholly new concept of competitive soaring was created. A step change from the previous lottery of a model simply having to fly a max of six minutes, the new concept developed within BARCS was man-on-man flying of up to six models at a time in the same ten minute slot with a bonus for a spot landing and the six resulting times 'slot-percentage'd' so all the scores were percentage'd against the winner's score. When all the preliminary rounds were flown, often involving many hundreds of individual flights, at the end of the day there was a set of 'fly-offs', so that the top six, usually, flew against each other to define the day's winner.

While all this was evolving, rules were being developed for smaller models...the 100s class.....vintage and scale, as were classes in slope flying, though most of these came somewhat later, as slope aerobatics and pylon racing dominated the scene until the mid-eighties.

Those were heady days; the BARCS magazine, Soarer, was full of plans, building tips, flying techniques and lots of comp results from all over the country. Commercial magazines have now overtaken the space filled by Soarer, though communication continues as members' web based entries, alongside many other interesting soaring sites and forums run by enthusiastic individuals.

There was keen competition between the regional leagues for overall mastery. The annual BARCS jamboree, Radioglide, was regularly oversubscribed and to cap off the entry to a manageable number of one hundred and twenty (!), a seeding scheme was introduced.

All the models were homebuilt, mostly from plans, mainly rudder/elevator and the planform settled into a predictable polyhedral 12 foot wingspan format. Popular kits were from the Chris Foss stable, Dick Edmonds and American imports such as the Bird of Time.

I have no need to remind you just how much all of this has changed. Fully moulded glass and carbon RTFs from the Eastern European bloc now ubiquitously dominate every flight line and slope comp. For thermal, gentle running tows have been replaced by electric winch rocket launches, catapulting a well controlled climb to about 200 metres, and all the old waiting, and waiting, and waiting after the slot time start for tactical reasons is but a memory.

Model performance and the overall piloting skill is a world away from then. But I believe that the founding fathers of BARCS did a great job in getting the formative rules right, so much so that the current internationally recognised F3J rules are a direct descendant from all the good work done some forty years ago.

BARCS has also developed over these years a considerable voice in protecting and promoting its interests, such that it is the specialist body for soaring as recognised by the BMFA and now has a considerable presence within that parent UK body. It also has a place around the table in regular discussions with the UK's Civil Aviation Authority, which regulates all types of flying in UK airspace.

So what now and where is BARCS going?

The revolution in electric related technology, giving us cheap brushless motors, and high power lightweight batteries, such as LiPo's, with commendably efficient speed controllers all point, some day soon, to on-board electric power replacing the winch launch. The arrival of cheap and reliable height limiting devices at last provides the means of guaranteeing an equal launch height for all from which to start thermal hunting.

A succession of economic crises over the last few decades, with fuel costs over 700% more than when BARCS comps first got going, have inevitably resulted in reduced entries and therefore membership. The cost of the airframes and radios also has to be factored in, alongside the ageing profile of the soaring participants, all leading to a soaring community diminished from those early days, but no less enthusiastic.

I am however optimistic for the future as I am convinced that as BARCS embraces and develops the available new technologies, whole new generations will delight in the challenges and rewards of soaring, both for sport and competition.

Enjoy!!

Chris Moynihan

BARCS 2010 President

## 0. 2 Introduction

The fifth edition of the Handbook survived some eleven years, albeit with regular updates however it was becoming increasingly unwieldy thus the complete update that became edition six.

This period saw the universal use of moulded models for top level Open and F3J events and, even for other classes, use of ARTF models predominates. These developments move our sport ever further from being a hobby for dedicated builders and the trend is irreversible and, in terms of model performance, is a good thing.

However, BARCS has also tried to ensure adequate encouragement for entry level flyers and allow competitive use of home built models by the introduction of a Multi-Launch (height limited for electric models) class. Sub classes of models such RES (Rudder, Elevator & Spoiler) can be flown in any of the BARCS Open, F3J, Multi-Launch or 100S events.

The technology of batteries for electro flight also advanced dramatically over this period forcing a process of fairly frequent revision for the Electric Glider rules. The nomenclature SLG (Self Launched Glider) never really appealed so for this edition the name has been altered to ELG (Electric Launched Glider) a more self-explanatory nomenclature. Although such ELGs can be flown in Multi-Launch competitions, there is support for events solely for ELG models so a specific set of rules is provided for such electric model (only) competitions.

Another class which has seen significant growth (thus bucking the general trend) is that of Hand Launched Gliders (HLG) – predominantly discus launched. This class was formerly called Mini-Glider. To encourage participation, the original mini-glider rules have been brought in line with those for the FAI F3K class, with some UK variations.

In addition, BARCS has ensured that where rules for “BARCS Classes” are published in the BMFA Silent Flight rule book, these rules track exactly with those agreed and updated at BARCS AGMs.

The order and layout of this Handbook has been completely revised and provides:

1. The details and rules of our various Leagues, have been separated from the Competition and Class rules. Everything else relating to the leagues themselves as opposed to the competitions whose results are used to provide the scores for the leagues, is in a separate section.
2. The Standard Competition rules, not directly connected to the flying rules for any class of event are in Section 3. We have brought together, in a single section 4 all the flying rules as relevant to all currently flown events on a standalone basis. All flying rules for Open, 100S, ELG, Multi-launch, and

HLG rules are now complete in themselves. UK Variations on the FAI rules for F3J (a full rule set is available in the BMFA Glider rule book) are included. Currently we have Open, F3J, 100S, Multi-Launch, ELG and HLG competitions being held .

Classic, Vintage, Tail-less and RES models are only flown as a second entry in such relevant events, so the class specific definitions for these classes, now in Section 3 have been pared down to just the Model Specification.

The separation of the Competition rules from the organizational aspects is intended to make:-

- a) The competition rules easier to follow for both competitors and organizers.
- b) The general rules to be made easier to amend (without multiple resolutions).
- c) The class rules more easily accessible for each specific class.
- d) Ease the long term harmonization of the BARCS rule book and the BMFA silent flight rule book. This is desirable to avoid confusion and it is practical to implement as BARCS is a BMFA Specialist Body. When full rule harmonization is implemented it will also provide an opportunity for significant simplification of this rule book with potential cost savings.

BARCS is an Association of its members and the Committee members are in place to implement, as best they can, the wishes of the membership. If there are areas of this handbook or of the general BARCS operation which any member considers needs changing, improving or clarifying please present your ideas as a motion (with appropriate seconders) at an Annual General Meeting.

## 0. 3 Contents

Edition Seven, October 2017

Section 0	Page
1. From the BARCS President	2
2. Introduction	4
3. Contents	6
Section 1	
1. BARCS Briefly	8
2. BARCS Constitution	9
3. BARCS Rules – Principles	16
4. BARCS Trophies – Annual	18
5. BARCS Trophies – Perpetual	19
6. Radioglide	19
Section 2 – BARCS Leagues	
1. BARCS League	21
2. League Points	21
3. BARCS Badges	23
Section 3 – BARCS Standard Competition Rules	
1. Flying Site	27
2. BARCS League Competitions	27
3. Model Characteristics	28
4. Radios	31
5. Control of Transmitters	31
6. Winch Requirements	32
7. Use of Models	34
8. Ownership of Models	34
9. Protests	34
10. Matrix Organisation	35
11. Rule Queries	35
12. Advisory Information	36
Section 4 - Specific Flying Rules	
1. Open Rules	38
2. Multi Launch Rules	42
3. 100S Rules	48
4. Electric Launched Glider Rules	53
5. HLG Rules	56
6. UK F3J Variation Rules	59

7. F3B Thermal Soaring	59
8. F3F Slope Racing	60
9. BARCS Slope Cross Country	60
10. Other Class Rules	64
11. Recommendations for Safety	65
Section 5 – BARCS Records	
1. Records	66
2. Summer & Winter Postals	69
3. Achievement Scheme	69
4. Cross Country Adventure	77
5. All Rounder of the Year	78
Section 6 – Additional Information	
1. Insurance	79
2. BARCS Newsletter	79
3. BARCS Bits & Pieces	79
Appendix 1	
Summary Rules for Specialist Classes including RES, Mini Glider, Slope Scale and Slope 60” Racing	80
Appendix 2	82
Competition Matrices.	

## 1.1 BARCS Briefly

## Section 1

This Association was inaugurated in 1972 to band together those with model Radio Control soaring, particularly thermal flying interests, and to co-ordinate the activities for their mutual benefit whether for competitive or sport flying.

In 1976 the scope was widened to include slope soaring.

In 1984 the Association was awarded an F.A.I. Diplome d'Honneur by the Royal Aero Club of the United Kingdom, in recognition of the Association's furtherance of Radio Control soaring.

In 2001 the Association was awarded BMFA Specialist Body status, responsible for all aspects of R/C Silent flight.

Below are listed some of the BARCS activities –

1. A periodic 'BARCS Newsletter' containing up to date information on many soaring subjects: members' articles, letters, designs, practical details, record achievements, leagues & postals situation. Rules for various types of thermal duration rules for use when organising League competitions.
2. Rules for various types of thermal duration rules for use when organising League competitions. Prizes are presented in December.
3. Silent Flight Achievement Schemes for thermal and slope soaring, jointly run with the BMFA. The 'A' and 'B' tests are designed to encourage model flyers to reach a given standard of flying ability and safety, and the higher personal achievement levels administered by BARCS, give pilots not particularly interested in competition flying, a set of personal targets to aim for, to progressively improve his or hers flying abilities. The attraction of these schemes is that the flights may be performed on your own local field or slope.
4. A huge range of prestigious trophies are held by BARCS for awards to the winners of various events and leagues.
5. As a specific example the 'John Whitaker Trophy' is awarded annually to the winner of the 'Cross Country Adventure' - for the best cross-country flight, again using your own flying site.
6. Encouragement, by the formulation of rules, for the development of new classes of soaring - e.g. Multi-Launch, RES, 100S, Classic, Mini-Glider, ELG, Scale, Slope Cross Country, Slope 60" Pylon.
7. An annual BARCS Championship - 'RADIOGLIDE' - stages various events including provision for the entry of 100S, ELG and HLG models, and is organised with the intent to bring many members together for a Bank Holiday weekend.
8. Summer and Winter Postal contests are organised during the year, again performed on your own field.
9. Encouragement and advice for Slope Event organisers.

10. An International 'F5J' event 'INTERGLIDE', organised to provide the opportunity for international competition as part of the "Eurotour" Series.
11. The committee meets regularly to administer control and ensure the smooth running of the Association.
12. A centrally located Annual General Meeting
13. Where practicable, support of British teams participating in World Championships and International events.

In conclusion, there are many more potential activities for BARCS.

Perhaps you have something to offer; we are sure we can help you to enjoy your soaring to the full.

## 1.2 BARCS Constitution

### 1. Name

The Association shall be known as the British Association of Radio Control Soarers, hereinafter referred to as BARCS.

### 2. Objects

BARCS is a Specialist Body within the British Model Flying Association (BMFA). As a Specialist Body, BARCS is responsible for all aspects of silent flight with the object of promoting radio controlled soaring flight by: -

- a) Promoting Competitions and Leagues.
- b) Encouraging participation in Achievement Programmes.
- c) Encouraging juniors to participate.
- d) Supporting British Teams attending European and World Championship Events.
- e) Holding technical meetings.
- f) Promoting training schemes.
- g) Distributing information via a Newsletter, other media and a public access web - site.
- h) Social activity.

### 3. Powers.

The Executive Committee shall be responsible for the organisation and administration of BARCS and may at its discretion in furtherance of the above Objects but not otherwise:

- a) Raise funds, invite and receive donations, sponsorship fees, subscriptions and legacies provided that in raising funds the Executive

Committee shall not undertake any substantial permanent trading activities and shall conform to any relevant requirements of the law.

- b) Purchase, take on lease or in exchange any property necessary for the achievement of the Objects and maintain and equip it for use.
- c) Sell, lease or dispose of all or any part of the property owned by BARCS, subject to any consents required by law.
- d) Fund training courses and run lectures, seminars and conferences.
- e) Introduce provisional rule changes and conduct trials as necessary. Such provisional rule changes may be put forward as a proposal at the subsequent Annual General Meeting where found appropriate.
- f) Appoint sub-committee(s) to organise an event, evaluate new opportunities and propose solutions to new or changing situations.
- g) Co-operate with other organisations to:-
  - i. Develop and/or protect the interests of BARCS
  - ii. Further the achievement of the Objects
  - iii. Organise an event and exchange information and advice with them.
- h) Do all such other lawful things as are necessary for the achievement of the Objects.

#### 4. Membership

Membership of BARCS shall be open to any person of any age with an interest in any aspect of radio controlled soaring flight and has paid the annual subscription. All members of BARCS must also be members of the British Model Flying Association (BMFA).

The Executive Committee shall have the right to accept or reject members. The Executive Committee may terminate membership of any member if:

- a) There is money owed to BARCS in respect of membership or other fees after the time lapse of three months.
- b) That member acts in such a way that is prejudicial to BARCS or brings it into disrepute, provided that the individual concerned shall have the right to be heard by the Executive Committee before a final decision is made.

All members shall have the right to attend, take part in and vote at all general meetings of BARCS, to make nominations or be nominated for election to the committee, and draw up proposals to change any aspect of the BARCS organisation for consideration at Annual or Extraordinary General Meetings.

It is a condition of participation in competitions and achievement schemes organised by BARCS that members maintain a valid third-party insurance policy covering accidents arising from the flying of model aircraft and gliders,

to a minimum of £5,000,000. This insurance is provided by the BMFA membership.

5. Register of Members

The current register of BARCS membership shall remain in the custody of the Membership Secretary of BARCS.

6. President

The President shall be elected for a period not exceeding three years. At the end of the three-year term in office the President shall automatically become a Past President of BARCS for life, and be entitled to receive the benefits of membership free for life.

7. Fellows

BARCS may elect Fellows, who shall be distinguished members of BARCS and be entitled to receive the full benefits of membership free for life. There shall be no limit to the number of Fellows.

8. Honorary Vice-Presidents

BARCS may elect one or more Vice-Presidents, who shall be distinguished persons and either members or non-members of BARCS The nomination of a vice-president shall be submitted to the committee; this must include a seconder.

9. Executive Committee

The Executive Committee shall comprise four Officers, plus no more than ten other members of BARCS the Officers shall be the:-

President  
Chairman  
Honorary Secretary  
Honorary Treasurer

Up to a further ten Members may be elected / co-opted onto the Executive Committee to fulfil posts as defined by the committee to meet the then current needs of BARCS.

The Executive Committee shall meet not less than three times a year with members attending as requires fulfilling their roles.

Four members of the Executive Committee, which must include at least two Officers, shall form a quorum.

Each member of the Committee shall have one vote, but in the case of equality of votes, the Chairman shall hold an additional casting vote.

In the absence of the Chairman at any meeting, a Vice Chairman shall be elected by those present to conduct the meeting and who shall hold the full powers of the Chairman for the duration of that meeting.

No more than two extra Members may be co-opted to fulfil specific short- term tasks. These Members will not count to form a Quorum, nor will they have a vote.

All Members of the Executive Committee, except the President, shall hold office for one year and then be eligible for re-election.

The Honorary Secretary shall maintain a record of all proceedings of BARCS.

#### 10. Finances

All income and property of BARCS shall be applied solely towards the objects and none shall be paid or transferred in any way to the Executive Committee members other than the repayment of reasonable and proper out- of-pocket expenses to members or Executive Committee incurred in the course of work of BARCS.

The Honorary Treasurer shall be responsible for the finances of BARCS and shall present an examined statement of the funds to each Annual General Meeting.

The financial year shall be from 1st April to the 31<sup>st</sup> March each year.

An account shall be opened in the name of BARCS at an established bank or building society. Two members of the Executive Committee shall sign all cheques, normally these will be the Honorary Treasurer or Honorary Secretary together with the Chairman, or a member of the Executive Committee authorised by it to sign.

#### 11. Election of the Committee

The officers and members of the Executive Committee shall be elected at the Annual General Meeting (AGM) of BARCS.

Nominations of a member for election to the Executive Committee require a proposer and one (1) seconder and the agreement of the nominee. The Honorary Secretary must receive such nomination no later than 60 days prior to the date fixed for the AGM.

In the event of more than one person being nominated for a specific Executive Committee position, the person who polls the most votes at the AGM will be deemed elected.

In the event of insufficient nominations being received, the Executive Committee shall have the power to co-opt any eligible member.

The Executive Committee shall have the power to co-opt any eligible member to fill a casual vacancy, but only for the un-expired term of the member in whose place he/she is elected.

Should the current Executive Committee deem it necessary, then voting upon the nominations shall be by postal ballot - by the receipt of ballot papers handed in prior to the start of the Annual General Meeting. Voting by proxy shall not be permitted. Scrutineers shall be appointed.

## 12. Proposals

- a) Proposals must be received by the Honorary Secretary no later than 30 days prior to the date fixed for the AGM. Preferably they should be in electronic form, backed by a hard copy in writing.
- b) Proposals must include membership numbers, signatures and names of the proposers and seconders. Proposals must be clearly worded and begin with the word "that".
- c) Proposals to amend competition rules must comply with requirements for proposers and seconders as set out in Section 1.3.
- d) Amendment of any other item in the Members Handbook requires a proposer and two (2) seconders
- e) With the exception of any Late Safety Proposals, a proposal will not be considered at an Annual General Meeting unless it has been circulated amongst the membership with the Agenda for that meeting.
- f) With the exception of safety proposals, only the proposer or his proxy has the opportunity to amend a proposal at the end of the AGM discussion. The Chairman has the power to rule out an amendment if it is felt that the amendment substantially changes the original proposal.

In the event of an Executive Committee Proposal, the Chairman may amend a proposal but any amendment will be subject to a vote from the whole meeting. Any amendment by the Executive Committee should not substantially change the spirit of the original proposal.

## 13. Amendments to the BARCS Members Handbook

The Members Handbook may be amended by:

- a) A proposal put forward and accepted at an Annual General Meeting or an Extraordinary General Meeting.
- b) The Handbook Editor and/or the Committee, as appropriate, in the case of minor editorial amendments.

## 14. Annual General Meeting

The AGM of BARCS shall be held each year at such time and place as may be decided by the Committee but typically held to coincide with Radioglide.

Notice of the AGM of BARCS shall be advised to Members (via the web site) not less than twenty-one days before the date fixed for the meeting.

The business to be transacted at the Annual General Meeting shall be:

- a) Minutes of the Previous Annual General Meeting.

- b) Matters Arising.
- c) Receive an Annual Report from the Executive Committee.
- d) Review an examined statement of the funds of BARCS.
- e) Elect the Executive Committee.
- f) Set the annual subscription for the ensuing year.
- g) Appoint Examiners of the accounts for the ensuing year.
- h) Consider and vote on proposals listed on the Agenda and any late safety proposals.

15. Extraordinary General Meetings

By resolution of the Executive Committee or upon request in writing signed by no fewer than twenty-five members of BARCS, the Honorary Secretary shall convene an Extraordinary General Meeting. Such meeting shall be held within one calendar month of the passing of such resolution or receipt of such request. The notice shall state the business for which the meeting has been called and only that business shall be discussed. Amendments to proposals during the course of a meeting must be seconded if they are to be put to the vote.

16. Quorum

No business shall be transacted at any General Meeting of BARCS unless there is present no less than 10% of the membership who are entitled to vote. In the absence of a quorum:

- a) An Annual General Meeting shall stand adjourned for seven days to a place and time appointed by the Chairman when business shall proceed without further notice, with or without a quorum.
- b) An Extraordinary General Meeting shall be dissolved.

17. Late Safety Proposals

Proposals relating to safety, which affect any of the Association's rules may be proposed without prior notice by the following procedure:

- a) The proposal must be seconded.
- b) A vote must then be taken as to whether the proposal is a bona-fide safety proposal. It will be accepted for consideration only if the votes agreeing exceed four times the votes disagreeing.
- c) At all General Meetings, the final version of a late safety proposal will become a resolution only if the votes in favour exceed four times the votes against.

18. Voting

- a) Only such members of BARCS as are present at a meeting shall be entitled to vote.
- b) Family members have only one vote per membership.
- c) Majority required for a proposal to be declared carried:

- i. A simple majority of “yes” votes relative to “no” votes is required for all matters including the following :-
  - 1) for proposals at an Extraordinary General Meeting
  - 2) for proposals at an Annual General Meeting directly affecting BARCS Competition Flying Rules.
  - 3) for proposals at an Annual General Meeting directly affecting the BARCS Constitution.

#### 19. Subscriptions

There shall be four levels of subscription, Senior, Junior (under the age of 18 at the beginning of April), Family (a maximum of 2 adult partners & 2 juniors), Overseas.

The amount of the annual subscription shall be fixed from time to time by resolution passed at the Annual General Meeting or an Extraordinary General Meeting.

The subscription for ‘Overseas’ members residing outside the United Kingdom shall be that of a Senior Member.

Subscriptions shall be due during April.

Subscriptions remaining unpaid by 1 July of each year shall indicate that defaulting members have ceased membership of BARCS.

#### 20. Membership card

Each member of BARCS shall be issued with an annual membership card. Membership cards shall constitute evidence of current membership of BARCS and may be scrutinised at any meeting or other function of BARCS.

#### 21. BARCS ‘Newsletter’

It has proved very difficult to recruit a committee member to regularly produce a Newsletter in hard copy format and ensure that is distributed to members. Efforts continue to be made to do so but the best location for up-to-date information, contest reports, calendar of events and so on is on the BARCS web site itself. [www.barcs.co.uk](http://www.barcs.co.uk).

#### 22. Dissolution of BARCS

If the Executive Committee decides that it is necessary or advisable to dissolve BARCS it shall give twenty-one days notice of an Extraordinary General Meeting to all members of BARCS stating the terms of the resolution to be proposed. In the event that the proposal is confirmed by a two-thirds majority of those present and voting, the Executive Committee shall have the power to realise any assets held by or on behalf of BARCS taking account of the terms of any legacies and donations.

Any assets remaining after the satisfaction of any proper debts and liabilities shall be donated to any such organisation involved in model aircraft activities as shall be nominated by the Executive Committee.

In the event of BARCS being dissolved with liabilities exceeding the net assets of BARCS, all then existing members shall be liable to the extent of one year's subscription (at the then applicable rate) beyond the year in which BARCS dissolves.

### 1.3 BARCS Rules – principles.

#### 1. Amendment of BARCS Leagues (Section 2) Competition Rules (Section 3)

##### a) Provisional Class

- i. When a new model Class is introduced, the competition rules, model specification, and its league structure and organisation may initially be made Provisional, so that as the Class usage develops, changes may be made at any time by the Executive Committee, to accommodate the current practice.  
Removing the provisional tag and ratifying a Class, Model Specification, Competition Rules and League structure, may only be done by a properly presented AGM proposal.
- ii. A Provisional Class shall be put to the AGM at least every 2 years, for ratification or members' approval for it to remain Provisional.

##### b) Provisional Rules

- i. The Executive Committee may at its discretion, introduce temporary provisional rule or league structure changes in a Ratified Class, to allow trials to take place
- ii. Such provisional changes may, where found appropriate, be put forward for ratification at the subsequent Annual General Meeting.
- iii. Such provisional changes shall be put to the AGM, no later than the second AGM after their introduction, for either removal, or ratification – or for them to remain Provisional, if it were accepted by the meeting on a simple majority, that further time for consideration would be beneficial. In this case the provisional item/s shall be put forward at the next AGM for either removal or ratification.

##### c) Ratified Class

- i. The whole of a Ratified Class's competition rules and league structure may not be made provisional.

##### d) Ratified Rules

- ii. Ratified competition rules, model specifications, and league structures may only be permanently changed by a properly presented AGM proposal.

2. Amendment of Class and Competition Rules

- a) Proposals to amend the Standard Rules, Class and/or Competition rules for Open Class, or 100S require a proposer and three seconders. Proposals to amend any other Ratified Class also require a proposer and three seconders. A simple majority is required for a proposal on these rule changes to be declared accepted.
- b) Rules for Provisional Classes and Leagues may be made by the Executive Committee in the light of experience and current practice.
- c) Rules changed at the AGM become effective from the start of the next Competition Season, unless they directly affect safety, in which case they then become effective at the time of voting.

3. F.A.I. Thermal Soaring Rules

May be changed by proposals to the F.A.I. via the BMFA.

4. BARCS Postal Contests (Section 8.2)

May be changed by the Postal Co-ordinator taking into account any advice from, or discussion with, individual members and/or the Executive Committee.

5. BARCS Records (Section 8.1)

May be changed by the Executive Committee.

6. Cross Country Adventure (Section 8.5)

May be changed by the Executive Committee.

7. All Rounder of the Year (Section 8.6)

May be changed by the Executive Committee.

8. Silent Flight Achievement Schemes

Thermal (Section 8.3), Slope (Section 8.4) & Electric (Section 8.5)

May be changed by proposals to the BMFA Achievement Scheme Review Committee, via the BARCS Executive Committee.

## 1.4 BARCS Trophies – Annual.

The following 'LEAGUE' Trophies are currently allocated as shown and awarded annually.

<b>Trophy</b>	<b>Awarded to</b>
Chris Tompkins Trophy	100S League Champion
Robin Sleight Rose Bowl	RES League Champion
SAA/Air Anglia Cup	ELG League Champion
John Shaw Trophy	HLG League Champion
Chris Foss Classic Shield	Classic League Champion
John Whitaker Vintage Shield	Vintage League Champion

The following 'ACHIEVEMENT' Trophies are awarded annually

<b>Trophy</b>	<b>Awarded to</b>
John Whitaker Cup	Cross Country Adventure
Neil Webb Trophy	All Rounder of the Year
Eppler Trophy	Awarded at Committee discretion for Technical Achievement

These trophies are awarded annually at the prize giving ceremony at the event.

<b>Trophy</b>	<b>Awarded to</b>
Micro Mold Trophy	Interglide - Winner
Humbrol Cup	Radioglide – F3J Winner
FACCT Trophy	Radioglide – Overall Winner
Joyplane Shield	Radioglide – 100S Winner
ARC Trophy	Radioglide – Victor Ludorum
BARCS Mini Glider Trophy	Radioglide – HLG Winner
Lilienthal Trophy	Radioglide – Best Newcomer
Rob Page Trophy	Radioglide – Best Junior
BARCS Cross Country Trophy	Slopeglide – Cross Country Winner
Viking Trophy	Slopeglide – Scale Winner
Mick Charles Trophy	Southern Area Team Championship

## 1.5 BARCS Trophies – Perpetual.

Certificates may be awarded to members as a permanent reminder of their success in the various BARCS Leagues and Postals - Framed certificates are no longer awarded as a general rule, but may be for an exceptional achievement.

### 1. Number of Certificates Awarded

Annual League and Postal Events (if held)

1 – 5 entries          Winner Only

6 – 19 entries        First Two places

20+ entries          First Three places

### 2. Leagues – Certificates

The competitors in the top positions in each league, receive a colour printed certificate by post, by mid November, with a reminder to the League winners to come and collect their Annual Trophy at the AGM.

### 3. Postal Rounds - Certificates

The competitors in the top positions in each round of all our Postal Competitions, may receive a colour printed certificate by post, within 3 weeks of the event.

### 4. Postal Series - Certificates

The competitors in the top positions in each Series, may receive a colour printed certificate by post, by mid November, with a reminder to the Series winners to come and collect their Annual Trophy at the AGM.

### 5. Eppler Award – All Rounder of the Year – Cross Country Adventure

May receive a certificate by post, or at the committee's discretion at the AGM.

### 6. All Time Records & Annual Record Holders

May receive a certificate by post, or at the committee's discretion at the AGM.

## 1.6 Radioglide – The BARCS Thermal Championships

Each year, over the late May Bank Holiday, the three day BARCS Championship - Radioglide - is held.

Inaugurated in 1978 at Pontefract, these championships are recognised as the premier soaring event of the year. Camping facilities are available, and the social side of a meeting which attracts members from all over the country is probably as important as the contests. Historically the events held were for 'Open Class' soaring to BARCS percentage slot rules, '100S', 'ELG', and 'Mini-glider'. In 2010 this was achieved by the introduction of Multi-launch rules plus an F3J league event which was also scheduled into the three days.

The trophy list at Radioglide is unrivalled by any other contest. The aim is to provide a soaring meeting which is second to none for the competitors with the considerations of spectator requirements and profit making being strictly secondary.

An opening and closing date for entries will be declared to obviate postal inequalities.

### Radioglide – a short history

Up until about 2003, Radioglide venue moved around the country with each BARCS Region having the opportunity in turn to stage the event. This has fallen by the wayside, primarily due to the ever increasing difficulty in providing suitable venues along with the non trivial task of finding a team of volunteers to stage the event. Increasingly therefore in recent years Radioglide has used a fairly southerly venue in the general vicinity of Oxford. For the record, since its inception in 1978 at Pontefract, Radioglide has used the following venues:

As of 2010 (and as derived from Soarers – an initial listing by Brian Sharp in the September 1997 Soarer was especially helpful) a list of venues by year is as below:

. 1978 Pontefract, 1979 Oxford, 1980 Ferndown (Wimbourne), 1981 Pontefract, 1982 Oxford, 1983 Ferndown, 1984 York, 1985 Pitrevie, 1986 Cowley; 1987 Ferndown, 1988 Pontefract; 1989 Pitrevie; 1990 Cowley; 1991 Cowley; 1992 Bestwood (Notts), 1993 Pitrevie, 1994 Cowley, 1995 Middle Wallop, 1996 Redcar, 1997 Pitrevie, 1998 Cowley, 1999 Cowley, 2000 Doncaster; 2001 Cowley; 2002 Cowley; 2003 Walsall; 2004 Walsall; 2005 Retford; 2006 Marsh Gibbon; 2007 Marsh Gibbon; 2008 Retford; 2009 Marsh Gibbon; 2010 Marsh Gibbon; 2011 Marsh Gibbon; 2012 Marsh Gibbon, 2013,2014, 2015&2016 Edgecott 2017 BMFA National Centre, Buckminster.

## 2.1 BARCS Leagues

## Section 2

Leagues are currently only run for thermal class models and, for these models, the league season runs from the 16th October until the second Sunday in October the following year. In effect this will be a date between the 8th and the 14<sup>th</sup>.

All the Leagues are open to all members of BARCS.

## 2.2 League Points

### 1. Scoring

- a) League Points are scored automatically, for a member making an Entry at any BARCS Competition in any area, which has been published in the BARCS Competition Calendar ', and granted league status by the BARCS Competition Secretary.
- b) An 'OPEN' League Score will be made at any BARCS OPEN event and may also be made at any Multi-launch event or BARCS 'F3J' contest (which may include Radioglide and Interglide) and which has been published in the BARCS web site, and granted league status. It is the competitor's responsibility to inform the CD if he does not wish the score to be counted for league purposes – this applies to all classes of events.
- c) There is no limit to the number of league scores a member may make during the competition year.
- d) BMFA F3J competitions - Open League entries are not allowed in these competitions
- e) A member's final league position will be determined by their best 4 scores from all scores made for that class during the league season.
- f) Separate League scores will be computed for the following classes of models: Open, F3J, 100S, ELG, RES, Classic, Vintage, Tail-less/Canard and HLG. In addition there is a Junior League. All leagues other than the Open league are nationwide, not regional.

### 2. 'Open' National League

All Open League scores are entered into a National league.

### 3. League Points - F3J

A BARCS 'F3J' League Score may be made at any BARCS or any BMFA 'F3J' contest. The series CD passes these scores directly to the BARCS League Co-ordinator for inclusion in the BARCS League.

### 4. League Points – 100S

Can be obtained as follows - a 100S competition or a BARCS F3J, Open or a Multi-launch competition

- a) Where the member flies a 100S model throughout all rounds of the competition. The model must conform to BARCS 100S model specification, but it is flown and the flights scored to the F3J, OPEN or Multi-launch rules.
- b) A 100S model may be flown as a single entry for which both Open and /or 100S League points may be scored, or at the option of the contest organiser (and this depends upon available places), a member may fly a 100S model as a second entry (paying the additional entry fee), in which case only a 100S League score can be made for this entry.
- c) If nine or more 100S league entries are made at the competition, the league score of such competitors shall be based on the flight score of the leading 100S model.

100S League entries are not allowed in BMFA F3J competitions, so 100S League scores may not be put in. However 100S League entries may be made in BMFA 100S competitions (there are usually only two each year – the BMFA Nationals and SSA Scottish Nationals)

#### 5. League Points – ELG

Can be obtained as follows - an ELG competition (either to the BARCS ELG rules or to the BMFA eSoaring rules) or a Multi-launch competition.

- a) Where the member flies an ELG model throughout all rounds of the competition. The model must conform to ELG model specification, but it is flown and the flights scored to the Multi-launch rules.
- b) An ELG model may be flown as a single entry or, at the option of the contest organiser (and this depends upon available places), a member may fly an ELG model as a second entry in a Multi-launch event (paying the additional entry fee).
- c) If nine or more ELG league entries are made at the Multi-launch competition, the league score of such competitors shall be based on the flight score of the leading ELG model.

#### 6. League Points – HLG

Can be obtained as follows - an HLG competition (either to the BARCS HLG rules or to the BMFA F3K rules) or a Multi-launch competition.

- a) Where the member flies an HLG model throughout all rounds of the competition. The model must conform to HLG model specification, but it is flown and the flights scored to the Multi-launch rules for HLG.
- b) An HLG model may be flown as a single entry or, at the option of the contest organiser (and this depends upon available places), a member may fly an HLG model as a second entry in a Multi-launch event (paying the additional entry fee).

- c) If nine or more HLG league entries are made at the Multi-launch competition, the league score of such competitors shall be based on the flight score of the leading HLG model.

#### 7. League Points – RES

Can be obtained as follows:-

- a) A BARCS Open or Multi-launch competition where the member flies a RES model throughout all rounds of the competition. The model must conform to BARCS RES model specification, but it is flown and the flights scored to the OPEN or Multi-launch rules.  
A RES model may be flown as a single entry for which both Open and/or RES League points may be scored, or at the option of the contest organiser (and this obviously depends upon available places), a member may fly a RES model as a second entry (paying the additional entry fee), in which case only a RES League score can be made for this entry.
- b) Any contest staged specifically to the RES rules. See Appendix 1.
- c) A BARCS F3J competition, where the member flies a RES model throughout all rounds of the competition. The model must conform to BARCS RES model specification, but it is flown and the flights scored to the F3J rules.
- d) A BARCS - 100S competition, if the model also qualifies, under the 100S model specification, to enter the comp. (This may be as a single or second entry and is treated in exactly the same way as in rule a) above.
- e) RES league entries are not allowed in BMFA F3J competitions unless special arrangements are made to run RES only slots (which do not qualify as scores in the F3J competition) during the day of the event. Thus, normally, RES league scores cannot be submitted.

#### 8. League Points – Classic, Vintage or Tail-less

Can be obtained as follows:-

- a) A BARCS Open or Multi-Launch competition where the member flies a Classic, Vintage or Tail-less model throughout all rounds of the competition. The model must conform to BARCS Classic, Vintage Tail-less model specification, but it is flown and the flights scored to the OPEN or Multi-Launch rules.
- b) A Classic, Vintage or Tail-less model may be flown as a single entry for which both Open and /or Classic/Vintage/Tail-less League points may be scored, or at the option of the contest organiser (and this depends upon available places), a member may fly such a model as a second entry (paying the additional entry fee), in which case only a Classic, Vintage or Tail-less League score can be made for this entry.

- c) Classic, Vintage or Tail-less League entries are not allowed in BMFA F3J competitions.

9. Junior League

- a) Juniors, aged under 18 on the 1st of January, should tick the appropriate box on all league cards put in.
- b) If junior subs have been paid in the January of any year, a junior will qualify as such for the competition year starting October in the same year.
- c) The JUNIOR League is based on the best four of all scores entered in the nine thermal leagues, i.e. Open, F3J, 100S, RES, ELG, HLG, Classic, Vintage or Tail-less.

The competitions from which scores are derived to count towards League scores must have been published in the BARCS Competition Calendar.

Calendar and granted league status by the BARCS Competition Secretary.

10. League cards

Generally CD's now send scores to the BARCS League Results Co-ordinator via email though Multipurpose League Cards covering all the thermal leagues, are available from the League Results Co-ordinator, for those who prefers to use them to make it clear to the CD/Organiser which leagues they wish their score to count for.

Whichever method is preferred, it is the responsibility of the competitor to ensure their score is correctly recorded, with BARCS membership number for inclusion in the Leagues.

11. Calculation of League cards

In all competitions, the score from all rounds flown before the fly-off (if there is one), is used to calculate the league points scored

- a) Either
  - i. All rounds flown to count or
  - ii. All rounds less any discard as set by the CD
- b) Providing the minimum number of rounds are flown as set out for each class

$$\text{Points} = \frac{\text{Competitors Score}}{\text{Highest 'Counting Rounds' Score (to 1 decimal place)}} \times 100$$

12. Double/Multiple Entries

- a) Double or Multiple entries will be accepted at the sole discretion of the competition CD. If the event is expected to attract a large entry then such double/multiple entries are likely to be refused in order to ensure

that all pilots get adequate flying. On the other hand if the number of entrants is likely to be limited then encouraging double/multiple entries is an excellent way of ensuring worthwhile total numbers participating.

- b) When checking in a Tx control, if a member has made a double entry, the member must:-
  - i. Clearly nominate the entry to be used for fly-off qualification.
  - ii. Clearly state the class of model to be flown in each entry.
- c) Only If a member has submitted a 100S or RES entry (for league scoring purposes) in an Open, 100S, Multi-launch or F3J competition or an ELG model in a multi-launch event and for any reason has to change to a model which does not qualify under the 100S or ELG model specifications, before completing all the rounds their 100S League Score will be sent to the League Results Co-ordinator as a Zero. One score per league per competition may be submitted.

## 2.3 BARCS Badges

### 1. Perfect Day Badge

The 'BARCS Perfect Day' Badge is awarded to members who win every round including fly-offs in a competition -

PLEASE NOTE – As all rounds are not used for league scoring purposes, the CD does not always provide them to the League Results Coordinator. The competitor should remind the CD to provide the information.

### 2. 5000 Club

Blue 'BARCS 5000' badges are awarded to all members who achieve one of the following:-

- a) A perfect 3000 three round score in any BARCS Open League Competition followed by a further perfect score of 2000 in the fly-off.
- b) The maximum perfect score in a 5 round or more BARCS F3J League Competition 5000 if 5 rounds flown – 6000 if 6 rounds flown ,etc.

PLEASE NOTE – the fly-off scores are not shown on any league card submitted and not used when calculating the league scores , so the League Results Coordinator will not know that anyone has won a 5000 badge, unless the competitor gets the CD to tell him when he sends in the league scores.

### 3. 4000 Club

Green 'BARCS 4000' badges are awarded to all members who achieve one of the following :-

- a) A perfect 4000 score from the first four rounds of a BARCS 100S League Competition.
- b) A perfect 4000 score from the first four rounds of a BARCS ELG League Competition
- c) A perfect 4000 score from a four round BARCS Open or F3J League Competition.

4. 3000 Club

Yellow 'BARCS 3000' badges are awarded to all members who achieve one of the following :-

- a) A perfect 3000 score from the first three rounds of a BARCS Open League Competition
- b) A perfect 3000 score from the first three rounds of a BARCS ELG League Competition.
- c) A perfect 3000 score from a three round BARCS F3J League Competition.

Providing General principles, model, league and winch definitions. (Excluding Specific Flying Rules)

### 3.1 Flying Site

Thermal competitions must be held on a site having reasonably level terrain which will minimise the possibility of slope and wave soaring. Slope soaring events obviously require a suitable into wind slope site with a suitable landing area

### 3.2 BARCS League Competitions

#### 1. League Status

- a) A competition will be granted League status in advance at the discretion of the BARCS Competition Secretary.
- b) the BARCS Competition Calendar contains details of the current season's BARCS League events, and is published each spring in 'The BARCS Newsletter' and on the BARCS web site.
- c) A competition must be open to all BARCS members, to be granted League status.

#### 2. Appropriate Rules

- a) A league competition must be run to the appropriate rules for the class of competition being held.
- b) The BARCS Competition Secretary, or in his absence on the day, the Contest Director, is empowered to endorse minimal deviations from only those rules marked with an asterisk (\*), to suit the prevailing circumstances.

#### 3. Minimum number of entries to qualify as a BARCS League Competition

For all classes viz: Open, Multi-launch, and (BARCS) F3J, 100S and HLG events a minimum of 8 pilots must start the competition for it to qualify for league scoring purposes.

#### 4. Competition declared void in respect of the leagues

For Open, Multi-launch, 100S, F3J and HLG events 3 rounds must be completed for the event to be valid for league purposes.

### 3.3 Model Characteristics

#### 1. General Model requirements

The model/models flown must comply with the characteristics listed below, and also with the additional 'Class Specific Model Characteristics' for the class being entered & flown. The Standard Model Characteristics are as defined by the FAI. An "Open" or F3J model is defined by these definitions:-

Dimensions/ Weight/ Loadings

Maximum surface area	150 sq. decimetres (2325 sq.in)
Maximum flying weight	5 kilograms (11.023 lb)
Maximum surface loading	75 grams/sq. decimetre (24.51 oz/sq. ft)
Minimum surface loading	12 grams/sq. decimetre (3.95 oz/sq. ft)

For Hand Launched Gliders (HLGs) the maximum wing span is 1500 mm and the maximum weight is 600 g.

In addition, "Open" electric launched models must meet the above criteria but also have a maximum wing span of 4 metres.

#### 2. RES Definitions

In addition to conforming to the general model requirements, an RES model must meet the following criteria:

- a) Directional control shall be by the use of rudder and elevator only.
- b) The use of airbrakes or spoilers, excluding any such device used additionally for directional control or camber changing devices giving altered lift generation, shall be permitted.

#### 3. 100S Definitions

In addition to conforming to the general model requirements, an 100S model must meet the following criteria:

- a) Maximum projected span of wing 100".
- b) Directional control shall be by the use of rudder and elevator only.
- c) The use of airbrakes or spoilers, excluding any such device used additionally for directional control or camber changing devices giving altered lift generation, shall be permitted.
- d) Models using a flying wing or canard configuration are exempt from the wing control surface restrictions in rule above.

#### 4. Classic Definitions

In addition to conforming to the general model requirements, a Classic model must be a glider design for which documentary evidence exists to show that the particular version of the prototype being flown was in existence before 31st December 1990. The object of these rules is to provide for the equitable competition of accurate replicas of the classic radio controlled glider designs ,

from the early days of radio controlled thermal soaring in the 1970's & through the 1980's. The intention of flying these models in BARCS League events is to provide additional enjoyment and sport; there is not a requirement to submit them to "static" authenticity judging but, in the spirit of the competition, it is incumbent on competitors to set themselves suitable standards of adherence to the original designs.

- a) Kits, Plan Packs and Commercially produced Plans - a copy of the plan should be available and for all Others - a copy of the SOARER or Magazine - article / 3 view / photograph, with enough details shown should be available to convince the CD. If a query on eligibility is raised by a CD, it is acceptable to supply such evidence retrospectively. Note: The popular John Stevens "Eliminator" models do not qualify as Classics as the original prototypes were designed later than the cut-off date. However many other popular models from the 1980's such as the Dick Edmonds "Algebra" series do qualify.
- b) The model must replicate the original styling and appearance and comply with the spirit of the event.

Airfoil	must be the same as on the original
Flying surface	must be the same as on the original
Fuselage	form or styling in outline both inside and plan views must not be changed
Wing Mounting	type of mounting i.e. bolt / steel joiners / rubber bands must be as the original.
Dihedral	must be exactly as on the original
Model Size	must be exactly as the original. Scaling up or down is not permitted
Tailplanes	may be made removable or bolt-on instead of permanently mounted, providing that the assembled position replicates the original and the visible architecture is unchanged.

Basic construction must be as the original e.g. - open bay wing structure, wood or fibreglass fuselage as appropriate (wooden fuselage shaped to correct outlines may be used if fibreglass is no longer available) Foam wings may not be used, unless it can be proved that they were shown on the original plan/ or supplied with the original kit. Interior, non-visible, structural modifications may be made for the purpose of additional strength. For example - the substitution of spruce/ plywood for internal balsa members, thicker gauge wire joiners.

Top surface Spoilers /Airbrakes may be added to the wing upper surface, as long as the plans do not call for any other glide control system. If the plans do have a glide control system, it must be the one used and shall not be deviated from. If Spoilers/ Airbrakes are added they must have minimal effect upon the styling and amount of sheeting

#### 5. Vintage Definitions

In addition to conforming to the general model requirements, a Vintage model must be a glider design for which documentary evidence exists to show that a prototype was in existence before 31st December 1955. The intention of flying these models in BARCS League events is to provide additional enjoyment and sport; there is not a requirement to submit them to "static" authenticity judging but, in the spirit of the competition, it is incumbent on competitors to set themselves suitable standards of adherence to the original designs.

- a) Modifications which may be necessary to allow for the control of the model by the use of radio - i.e. to dowels, tail plane and rudder etc. - are permitted. Any changes to be discreet and not to alter the general appearance of the model.
- b) Changes in rigging angles are permitted and the original wing section can be substituted with another, providing such section was in use at the time of the models design or publication
- c) The substitution of spruce for internal structural members for the purpose of additional strength is permitted.
- d) The discreet provision of hatches for radio access is permitted.
- e) The design may be scaled up or down but all the original proportions of the model must be retained
- f) As scaling up and down is allowed, with control surfaces permitted to be added and almost zero radio control was then available, every glider design since the start of aeromodelling, published or kitted by December 1955, qualifies as vintage.

#### 6. Tail-less definitions

In addition to conforming to the general model requirements, a Tail-less model must have no conventional tailplane surface, relying upon a pitch control surface or surfaces attached to the wing Alternatively a "Tail-less" model may be a canard design which is defined as having a flying surface at the front and (again) no conventional tailplane surface.

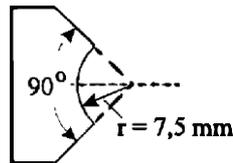
#### 7. Restricted Electric Model Definition

A Restricted electric model shall have either a wing span not exceeding 2 metres (with no limitations on the control surfaces or functions) OR alternatively have a wing span not exceeding 100 inches but with control

functions (other than the motor control) limited to rudder, elevator and spoiler only. The control functions for the flying surfaces are thus the same as for a 100S model.

#### 8. Nose Radius

The nose radius of all models shall be not less than 7.5mm (0.295 in) radius measured tangentially at all intersecting surfaces. This figure is changed to 5.0mm for HLGs due to their smaller size and lighter weight.



Nose Radius Template

#### 9. Ballast

All ballast must be carried internally, fastened securely within the airframe.

### 3.4 Radios – General Requirements

1. Radios shall be made to operate simultaneously with other systems on the same frequency band. The separation capability shall be 20 KHz for 27 MHz systems, 10 KHz for 35 MHz systems and 25 KHz for UHF systems. For competition and general flying, the recommended separation is 50 KHz for 27 MHz and UHF systems and 20 KHz for 35 MHz systems. Radios using the 2.4GHz technology are allowed indeed encouraged (and increasingly used) but competitors must conform with whatever transmitter checking procedures are in place
2. Any competitor operating equipment transmitting outside the UK licensed frequency bands at a BARCS League event shall be disqualified from the League for that year.
3. Any device, with the exception of safety devices indicating battery state, for the transmission of information from the model to the pilot is prohibited.

### 3.5 Control of Transmitters

1. \* The Contest Director will not start the competition flying until all competitors have checked ALL transmitters with the organisers. **Note** it is now normal for transmitters **not** to be handed in, indeed with 2.4GHZ transmitters no check is relevant. With few now flying on the older frequencies the CD may waive this.
2. \* Failure to hand in a transmitter for checking (if required) before the start of the contest may result in the competitor forfeiting his/her first round flight.

3. Any test transmission during the contest without permission of the Contest Director is forbidden and could result in disqualification.
4. \* If required by the CD, the competitor must hand over his/her transmitter to the designated official immediately after finishing the flight.
5. Competitors radiating a frequency other than that entered in the competition matrix shall be excluded from the competition.

### 3.6 Winch Requirements

1. The winch shall be fitted with a single starter motor. The starter motor must come from serial production. It is allowed to fit the arbour of the rotor with ball or needle roller bearings at each end. The drum must be driven directly by the motor. Any further change of the original motor will lead to disqualification. When in use, the drum must have a fixed diameter.
2. The power source shall be a 12 volt lead/acid battery.
3. The battery must supply the winch motor with current through a magnetically or mechanically actuated switch. The use of any electronic device between the winch motor and the battery is forbidden. A competitor may interchange various parts as he wishes provided the resulting winch conforms to the rules.
4. There must be a quick release mechanism on the power lead to the battery in order to remove power from the motor in an emergency. (Connections to the battery must be removable without the need for tools).
5. The motor must not be cooled, and the battery must not be heated
6. The purpose of the above rules is to limit the power used for the launch. Therefore with the exception of the single winch battery, line stretch, and the small amount of energy in the rotating rotor and winch drum, no energy storage devices like flywheels, springs, weights, pneumatic devices or any similar devices is allowed.
7. The complete winch (battery, cables switch and motor) must have a total resistance of at least 23.0 milliohms. The allowed resistance may be obtained by long cables or by adding a fixed resistor or resistors between the motor and the battery. The design must not allow for an easy change of the total resistance at the launch line (e.g. by shorting the resistor, or resistors) except for opening and closing the circuit.

8. The plus and minus poles of the battery must be readily accessible with alligator (crocodile) clips for voltage measurements. One of the cables from the battery (through which the total current flows) must be accessible for a clamp transducer (clamp meter).
9. The battery must stay unloaded for at least two minutes after any previous test or a launch before being measured.
10. The winch/battery combination should be tested by measuring the open circuit battery voltage and also the battery voltage and current flowing with the winch motor stalled. The current is measured 300mS after power is applied. From these readings the total circuit resistance (which must NOT be less than 23 milliohms) is calculated by dividing the open circuit voltage by the stalled current. Voltage should be measured by a digital voltmeter/multimeter and a current transducer probe is the preferred method of measuring the stalled current. The battery voltage when the winch is stalled must not be less than 9 volts if fully charged or 8 volts if used.
11. Conformance with these requirements can be demonstrated by use of either the BARCS winch test apparatus or the similar equipment available through the BMFA, F3B flyers. If the winch cannot be mechanically locked, the use of a strop is allowed.
12. Following a satisfactory test, a certificate will be issued and stickers of conformance affixed to both the winch and battery. If motor, leads or battery are changed, the winch needs to be re-tested for conformity.
- 13.\* The organiser must appoint at least one processing official, who will process any winch which for which a certificate of conformance is not available.
14. The certificate of testing which is generated for each tested winch/battery combination, must be produced on request from the contest CD or organiser. The certificate should include the following details:-
  - a) Amps drawn when motor stalled
  - b) Battery voltage when motor stalled
  - c) Battery unloaded voltage
  - d) The total resistance of the system.
  - e) The battery type and spec.
  - f) Motor type.
  - g) Test number
15. If test apparatus is available on the field but a competitor still insists on commencing flying with a winch for which no certificate is available and the

winch is subsequently tested and found not to conform, the flight is penalised with 1000 points. This applies to the flight before the test. The penalty of 1000 points will be a deduction from the competitor's final score and shall be listed on the score sheet of the round in which the penalisation occurred.

16. If no test apparatus is available on the field but a competitor is in possession of a winch for which no certificate is available, and which the CD believes may be more powerful than allowed by the above requirements, the CD has the right to ban that winch until a certificate is available and require the competitor to use a winch which does meet the requirements, although such a winch may belong to another competitor.
17. For most smaller competitions, the test apparatus is not likely to be on site and testing at the event for conformance with the above detailed requirements is therefore not practical. CDs should therefore exercise common sense and discretion and regard any winches for which certificates of conformance are not available, as acceptable for use, provided the CD believes that the winch and battery in use are in accordance with the intent of the above detailed requirements.

### 3.7 Use of Models

1. A competitor may use a maximum of three models.
2. Component parts of the three models may be interchanged but not with those of other competitors.

### 3.8 Ownership of Models

1. Any individual model may only be flown by one entrant in any particular competition.
2. The entrant shall be the genuine owner of the model and, as proof of ownership, the entrant's name or BARCS number shall be displayed on the wing of the model in a permanent and prominent manner.

### 3.9 Protest

1. Any protests are to be made in the first instance to the Contest Director, accompanied by a protest fee equal to the entry fee as soon as possible.
2. Protests against the Contest Director's decision shall be addressed in writing to the BARCS committee and sent to the secretary.

The consequences of this further protest shall be limited to changing the allocation of BARCS League points.

### 3.10 Matrix Organisation

1. The flying order shall be determined by a matrix system that minimises situations where competitors fly together more than once. The ideal minimum matrix is for at least FOUR pilots in each slot, when the number of pilots and helpers present are sufficient to achieve this (e.g. 16 or more entries). However, with a smaller number of competitors approaching the minimum of 8, a matrix of THREE pilots in each slot may be used.

a) Using a Four Man Matrix

- i. If competitors drop out when a four man matrix is being used, the CD should, where possible, maintain four man slots whenever the organisation and frequency allocation allows.
- ii. Where possible competitors who are moved should not have flown against any of the three other pilots in other rounds. Should this not be possible, three man slots may be flown at the CD's discretion. A competitor who refuses a CD's request to change slots may be disqualified from the competition and given a zero score.
- iii. As a last resort to maintain league status, a "guest" pilot flying the slot in addition to his/her three scoring flights is permitted to make up numbers. The other pilots' scores are percent aged on the guest pilot's score if he/she wins the slot.
- iv. Pilots should not be required to change from the frequency that they are using for remaining slots.

b) Using a Three Man Matrix

- i. The Organiser / CD must ensure that there are always three pilots in every slot, by moving pilots as necessary to achieve this.
- ii. A competitor who refuses a CD's request to change slots may be disqualified from the competition and given a zero score.
- iii. As a last resort to maintain league status, a "guest" pilot flying the slot in addition to his / her three scoring flights is permitted to make up the numbers. The pilots scores are percentaged on the guest pilot's score if he / she wins the slot.

Entry on the day of the contest will only be accepted if a vacant position is available in the matrix.

### 3.11 Rule Queries

The BARCS Competition Secretary will answer any queries on the Rules and Appendix.

### 3.12 Advisory Information

This information is provided to help those organising competitions

#### 1. Slots

The organisers must ensure that each competitor has no doubt about the precise second that the Slot Time starts and finishes.

Visual indication \* (if provided) may be by the raising of a flag or coloured board situated near the Contest control

Audible indication may be by motor horn, aerosol horn or bell etc. It should be remembered that sound does not travel far against the wind therefore the positioning of a noise source must be given some thought.

#### 2. The BARCS Matrices

A Matrix must be employed to minimise situations where any competitor flies against another more than once, except in the fly off. (It is recognised that, in practice, with certain 'awkward' numbers of competitors, or where more than three rounds are flown, a degree of "clashing" will be unavoidable, but this should be kept to the minimum).

The method by which each competitor is given his/her competition number from the Matrix is left to the organisers. Once the contest has started, neither the Matrix Table nor competition numbers must be changed.

In order to minimise the time needed to run the contest, it is very important that the matrix which gives the minimum number of slots per round, with the maximum possible competitors in each, should be selected and the number of frequency groups adjusted accordingly.

#### 3. The Fly Off

The competitors in the Fly-Off must fly against each other to reduce the luck element. The simplest method for the Fly-Off is to fly all competitors simultaneously so that they can all perform in the same block of air. If a frequency or manpower problem prevents a simultaneous fly-off, three slots should be flown ensuring that each competitor meets every other at least once.

#### 4. League Scores/League Cards

With most CD's using a computer program to assist in scoring, the League Results Co-ordinator will normally accept comp scores as Excel spreadsheets or Word Documents via email. Along with scores and classes to which they are to count, it is essential that the members name and BARCS number is supplied.

Cards can still be submitted, Postage costs for sending these will be refunded by BARCS upon request.

## 5. Safety

Finally, but not least, previous experience has made everyone very conscious of taking the utmost care to effect safety towards competitors, including helpers, officials and not forgetting spectators. Two important areas to consider are the careful layout of the flying field including a safety corridor as defined for Open, Multi-launch and 100S rules and controlling the number of persons on the field at all times.

Competitors should be reminded of the dangers of electric motors and batteries, best model operating practice and safety advice can be found in the BMFA Handbook and the BMFA LiPo battery safety leaflet.

4

## 4.1 Open Rules

1. General

The objective of these rules is to provide standards for the competition of radio-controlled soaring gliders. An Open competition must be run to these Open class rules.

2. Competitor and Helpers

In Open competitions, each competitor is permitted two helpers, plus the timekeeper.

3. Competition Flights

In Open competitions, the competitor will be allowed at least three official flights. However, if time and participating numbers permit, the CD is encouraged to fly more rounds.

If more than four rounds are flown; then, the CD may at his discretion, drop a round score after four rounds. An announcement, as to whether a score will be dropped or not, will be made at the pilots briefing prior to the first round.

## a) Two day events

Some major events such as the Radioglide championship are spread over two days of flying. In these cases the aim is to have a competition which consists of at least five rounds of competition and a fly off.

If bad weather should prevent five rounds being completed in a two day event then the best three of four will count.

If only three rounds or less are completed then all rounds will count for the competition.

## b) Number of attempts allowed

In an Open competition, the competitor has the right to two attempts at each official flight, providing that he declares his first attempt to his own and one adjacent timekeeper, within 30 seconds of release of the model from the towline. He may land at his own discretion but must make his second attempt within the allocated slot time.

4. Organisation of the Flying Slot

## a) A competition number derived from the matrix. must be allocated to each competitor

In Open competitions - the number must be retained throughout the first three rounds.

b) Slot Time - Length of slot

In Open competitions - the slot time shall be of 10 (ten) minutes duration. Alternatively providing it has been published in the BARCS Competition Calendar, a Contest Director may run an Open competition with a flight time of 10 (ten) minutes, within a slot of working time 12 minutes.

As another option for Open Competition, the contest Director may, subject to notice as defined above, use the "Multi Launch Rules" as per section 4.13 of this handbook.

c) Reflights

A competitor is entitled to a fly in a new slot in the same round if their original flight is impeded by an event which was not under their own control. The competitor must claim a re-flight immediately after the event and should land as soon as safely possible. If they continue to fly then they will be deemed to have forgone their right to a re-flight.

The re-flight will be organised according to the following priorities:

1. To be fitted into a later slot in the same round, if possible.
2. In a new group comprising any pilot claiming a re-flight plus more pilots drawn at random to make the group up to a minimum of three.

A pilot called to fly by random selection in a new group has the right to accept or reject the invitation. If a pilot chooses to fly their score for the round will be the better of that achieved in the original flight or the re-flight.

If the impeding event happens within the first 30seconds of launching during a fly off round or the last slot of a round then the CD has the right to cancel the flight and order a re-launch.

## 5. Launching

a) Permitted Methods of Launching

In OPEN competitions - the launch of the model may be by:-

- i. Hand held towline, with or without a pulley, one person only to tow. Any anchoring of pulleys to be done by means of a ground stake \*.
- ii. Powered winches.

b) General Powered winches

- i. All launching shall take place in an area as designated by the organiser with provisions made for launching into the wind. Launches may be made with an electrical powered winch as an alternative to hand towing. The winch must be capable of meeting the requirements as set out below.

- ii. Upwind turnaround devices, which must be used, shall be no more than 150 m from the winch. The height of the axis of the turnaround pulley from the ground must not exceed 0.5 metre.
- iii. Release of the model must occur within approximately 3 metres of the winch or, if there is a safety corridor in use, then launching must take place at the front of the corridor (front being where the winch is positioned) with both feet of the launcher inside the corridor. An automatic means must be provided to prevent the line unwinding from the reel during launch.
- iv. The towline (which must be of non-metallic material except for linkages) must be equipped with a pennant having a minimum area of 5 dm<sup>2</sup>. A parachute (5 dm<sup>2</sup> minimum area) may be substituted for the pennant provided it is not attached to the model aircraft and remains inactive until the release of the cable. During complete rewinding of the line on to the winch, the parachute, if used, must be removed and inactivated.
- v. (v) After release of the model aircraft from the towline, the towline should be rewound without delay by operating the winch, until the parachute (or pennant) is approximately 4 metres from, or nearer to, the turnaround pulley. However a winch must not be operated when the towline is lying on the ground and lying across other toelines or if it strikes another towline during launching.

## 6. Scoring

### a) Flight Timing

The flight will be timed from the moment of release from the launching device to:-

- i. The moment the model first touches the ground.
- ii. The moment the model first touches any object in contact with the ground. Parts of launching devices extending away from the ground shall not be interpreted as objects in contact with the ground.
- iii. Completion of the Slot Time.

### b) Flight Score

Will be composed of ONE point for each FULL second of flight time.

### c) Overflying Penalties

- i. A penalty of 30 points will be deducted from the flight score for overflying the end of the Slot Time for up to a maximum of ONE minute (sixty seconds).
- ii. A zero score will be recorded for overflying the end of the one minute penalty time.
- iii.

### d) Landing Bonus

Landing bonus will be awarded provided the model comes to rest within

the arc of the landing tape. The measurement shall be taken from the nose of the model. No landing bonus is awarded if the model touches the competitor or his assistant during landing.

A landing within 1 metre of the target scores 50 pts - within 2 metres of the target scores 45 pts.

A landing within 3 metres of the target scores 40 pts - within 4 metres of the target scores 35 pts.

A landing within 5 metres of the target scores 30 pts - within 6 metres of the target scores 25 pts.

A landing within 7 metres of the target scores 20 pts - within 8 metres of the target scores 15 pts.

A landing within 9 metres of the target scores 10 pts - within 10 metres scores 5 pts. A landing beyond 10 meters receives no bonus points.

No landing bonus points will be awarded if the model over-flies the end of the Slot Time.

e) Slot Scoring

i. The competitor, who achieves the highest aggregate of points, i.e. flight points plus landing bonus points / less penalty points, will be awarded a corrected score of one thousand points for that slot.

ii. The remaining competitors in that slot will be awarded a percentage of the slot winner's total score calculated from their own points score.

$$\text{SCORE} = \frac{\text{COMPETITORS POINTS}}{\text{SLOT WINNERS POINTS}} \times 1000$$
 (to 0 decimal place)

i.e. The slot score is rounded down to the nearest whole number.

7. Safety, Cancellation and/or Disqualification

In the layout of the field it is recommended that a "Safety Corridor" be set out of about six metres width. This corridor should extend for the full length of the flight line running to at least 10 metres beyond the end of any designated landing and launching positions or any organiser required obstruction in line with this corridor, such as a control tent or table. All launches and re-launches should take place from the safety corridor at its upwind side. In the event that model or any part thereof comes to rest, after landing, in the safety corridor a penalty of 100 points shall apply. In the event that the model hits any person in the safety corridor a penalty of 1000 points shall apply.

A flight is cancelled and recorded as a zero score if, after landing, some part of the model does not come to rest within 75 metres of the designated landing spot. The model may be re-launched to record a score within the slot time still remaining, following a first launch flight resulting in such a zero score

providing the intention to re-launch is declared within the first 30 seconds of flight as defined in Rule 3c) above.

In addition other criteria apply which will result in a zero score. Namely: The model not conforming to the required characteristics; the model being flown by someone other than the pilot; the model losing a part in mid air, other than from a collision or on landing; the CD ruling that a pilot has unnecessarily and deliberately executed dangerous manoeuvres.

#### 8. Final Classification \*

a) In OPEN competitions, at the completion of ALL rounds the competitors with the highest totals of percentaged scores must perform in a Fly-off ( the CD to decide the number of competitors in the fly-off), to produce the Final competition placings by one of the following methods:-

- i. Two further slots whereby all finalists compete simultaneously against each other twice.
- ii. Three further slots whereby all finalists will compete against each other at least once.

b) In the event of a fixed frequency clash in qualifying for the Fly-off, the competitor with the lowest total score unable to change frequency must drop out in favour of the next competitor.

c) Flight and Scoring Rules for the Final Fly-Off

In OPEN competitions, the fly-off differs from the initial rounds in no other way other than the slot time being increased to 15 minutes and an audible warning being given at 13 minutes.

### 4.2 'Multi-Launch' Open Class – Specific Rules

#### 1. Objective

- a) The objective of these rules is to provide for equitable competition of multiple types of models all flying against each other in the same slot. Specifically the rules will allow winch (or hand tow launched) gliders to fly along with height limited electric sailplanes and also allow hand launched (essentially discus launched) gliders to all participate.
- b) League entries may be made in the relevant BARCS Open, electric or HLG leagues PROVIDED the competitor uses the same type of model throughout the entire contest.
- c) The gliders flown may also, if the flyer so elects, be of a type which meet the 100S, RES, Classic, Vintage or tail-less definitions. If they meet such a definition the resulting scores may be counted for these relevant leagues PROVIDED the competitor uses that type of model throughout the entire contest. The electric models can, if the flyer so elects, be of the Restricted electric class rather than Open electric. If a Restricted electric

model is used throughout the event that will count towards a Restricted electric league score as and when such a league is established.

## 2. Model Characteristics

- a) Gliders, for winch or hand tow launching, shall conform to the definitions as in the Standard Rules.
- b) Electric models shall also lie within the area, weight, wing loading restrictions as defined in the Standard Rules but in addition they may not exceed 4000mm in wingspan, or 2000mm/100 inches (as applicable) for the Restricted class. The power source may be any form of rechargeable battery. Batteries may be charged, or changed during the competition. Any type of electric motor may be used. An

appropriate height limiter device MUST be fitted.. The height limiter device should be set for cut-off at a height of 175 metres above the launch height or for 30 seconds from “power on”, whichever comes first. The height limiter switch must be installed in such a way that adequate venting to it occurs such that outside air press is duplicated at the installation position in the model of this height limiter device.

- c) Hand (or discus) launched gliders shall have a maximum wingspan of 1500mm and a maximum weight of 600g. The use of gyros on board the model is not allowed. Devices except bungee equipment which do not remain part of the model during and after launch are not allowed.

## 3. Use of Models

Normally no more than one entry will be permitted for large multi-launch competitions. Double/multiple entries will be permitted with the specific agreement of the CD. Such double/multiple entries are applicable when the second/multiple entry is of a different model class, The CD will determine whether or not to accept such entries dependent on the total number of entries received. This is to ensure as much flying, with as many rounds as possible, for all competitors in the time available. Where a competitor enters two classes of models at an event, only one score, the highest, will be used to calculate the Multi-launch League score.

- a) Competitors may change not only the model but also the type of model used at any stage during the competition. However unless a competitor completes the entire event with a single class of model, the resulting score is NOT eligible to count towards any BARCS league scores. For example a competitor may choose to fly some rounds with a winch launched glider and others with an electric model. That is acceptable, subject to the above caveat of league score eligibility.

#### 4. Competitors and Helpers

Each competitor is allowed two helpers and a timekeeper. The timekeeper may act as a helper and may also launch the competitor's model unless it is a hand launched model.

#### 5. Competition Flights

- a) A minimum of three official flights (rounds) is required for the competition to qualify as a league event. The intent of the event is to fly multiple rounds as limited by factors such as the time available and the weather.
- b) Two attempts at an official flight are permitted for large gliders and electric models. Thus for models other than hand launched gliders, ONE (only) re-launch is allowed. That re-launch may be made at any time within the slot time. The final attempt at an official flight constitutes the score.
- c) For hand launched gliders four launches are allowed to make up their official flight – see 10 below
- d) There is an official attempt at a flight as soon as the model has left the hands of the launcher.
- e) If time and weather permit such that MORE THAN FOUR rounds are flown, the lowest score from one round is then discarded.

#### 6. Safety Cancellation and/or Disqualification

In the layout of the field it is strongly recommended that a "Safety Corridor" be set out of about 5 metres width. This corridor should extend for the full length of the flight line running to at least 10 metres beyond the end of any designated landing and launching positions or any organiser required obstruction in line with this corridor, such as a control tent or table. Other than hand launched glider, which may launch and relaunch from their designated landing area, all other launches and re-launches shall take place from the safety corridor at its upwind side. In the event that model or any part thereof comes to rest, after landing, in the safety corridor a penalty of 100 points shall apply. In the event that the model hits any person in the safety corridor a penalty of 1000 points shall apply. For safety reasons competitors must not catch large or electric powered gliders, the penalty for doing so is the complete loss of the flight points. Hand launched gliders however may be caught prior to a re-launch.

For electric models, a flight is cancelled and recorded as a zero score, if the motor is re-started either by the competitor or by the height limiter device at any time during the flight. The model may be re-launched to record a score within the slot time still remaining, following a first launch flight resulting in such a zero score. A flight is cancelled and recorded as a zero score if, after landing, some part of the model does not come to rest within 75 metres of the

designated landing spot. The model may be re-launched to record a score within the slot time still remaining, following a first launch flight resulting in such a zero score. However if a large glider or electric powered glider is re-launched, timing will only start again after the line is released or the motor stops, whichever is applicable. In addition other criteria apply which will result in a zero score. Namely: The model not conforming to the required characteristics; the model being flown by someone other than the pilot; the model losing a part in mid air, other than from a collision or on landing: the CD ruling that a pilot has unnecessarily and deliberately executed dangerous manoeuvres. If a part is lost on the first attempt at a flight, the model may be re-launched and is then eligible for a scoring flight.

#### 7. Organisation of the Flying Slots

- a) The slot time shall be of 10 minutes duration and shall be PRECEDED by a 30 second pre-slot launch window. Models may be launched (or re-launched if applicable) at any time chosen by the competitor either during, or after this pre slot launch window BUT timing can only commence once the 10 minute slot has commenced and also AFTER the timing criteria for the type of model apply – see section 10 below
- b) Safety is of paramount importance and the 30 second pre-slot window described above is to help minimise the risk of incidents including mid air collisions. To further minimise this risk it is recommended that any pilots flying hand launched gliders should be assigned a position at the ends of the flight line.

#### 8. Launching

- a) Permitted methods of launching for large Gliders.

The launch of the model may be by:-

- i. Hand held towline, with or without a pulley, one person only to tow. Any anchoring of pulleys to be done by means of a ground stake \*.
- ii. Powered Winches

- b) General Powered winch Rules

- i. All launching shall take place in an area as designated by the organiser with provisions made for launching into the wind. Launches may be made with an electrical powered winch as an alternative to hand towing. The winch must be capable of meeting the requirements as set out below.
- ii. Upwind turnaround devices, which must be used, shall be no more than 150 m from the winch. The height of the axis of the turnaround pulley from the ground must not exceed 0.5 metres.
- iii. Release of the model must occur within approximately 3 metres of the winch or, if there is a safety corridor in use, then launching must take place at the front or the corridor (front being where the winch is positioned) with both feet of the launcher inside the

corridor. An automatic means must be provided to prevent the line unwinding from the reel during launch.

- iv. The towline (which must be of non-metallic material except for linkages) must be equipped with a pennant having a minimum area of 5 dm<sup>2</sup>. A parachute (5 dm<sup>2</sup> minimum area) may be substituted for the pennant provided it is not attached to the model aircraft and remains inactive until the release of the cable. During complete rewinding of the line on to the winch, the parachute, if used, must be removed and inactivated.
  - v. After release of the model aircraft from the towline, the towline should be rewound without delay by operating the winch, until the parachute (or pennant) is approximately 4 metres from, or nearer to, the turnaround pulley. However a winch must not be operated when the towline is lying on the ground and lying across other toelines or if it strikes another towline during launching.
- c) Electric models shall be launched from the hands of the competitor or one of his helpers.
- d) Hand launched gliders shall be launched by the competitor in person (unless he is registered disabled in which case the CD shall permit a helper to launch for him). In general it is expected the launching of such hand launched gliders will be by the “discus” method.
- Mini bungees are allowed for the hand launched gliders (but full size bungees for the larger gliders are NOT as they would impede other competitors). If a mini bungee is used, it is acceptable for a helper to retrieve it and ready it for subsequent use but it must meet the following requirements:
- i. Competitors are required to provide their own mini-bungee.
  - ii. The bungee is to have a maximum un-stretched length of 20 metres, of which a minimum of 15 metres must be of non stretching line.
  - iii. A clearly visible pennant must be attached to the model end of the bungee
  - iv. The bungee must be securely staked at the upwind end using a tent peg type anchor.
  - v. The maximum stretched length of the bungee at the point of launch shall not exceed 27 metres. Any competitor using a bungee shall also provide a 27 metre non elastic tape where one end is anchored by the bungee stake; the other end shows the maximum permissible stretch at launch. The maximum pull at a 27 metre stretch of the bungee shall not exceed 6 kg.
  - vi. The bungee and 27 meter tape must be re-reeled between rounds
  - vii. The bungee should be staked such that launch of the model is

accomplished from within the safety corridor.

## 9. Scoring

- a) For gliders, other than hand launched gliders, timing of the flight starts from when the model leaves the towline OR when the slot period of 10 minutes commences, whichever comes later.
- b) For electric models, timing of the flight starts from when the power is cut to the motor or when the slot period of 10 minutes commences, whichever comes later. Note timing is from motor off, NOT from when the model is first launched.
- c) For hand launched gliders, timing of the flight starts from when the model leaves the launcher's hand or when the slot period of 10 minutes commences, whichever comes later.
- d) One point is awarded for each second of flight time.
- e) Timing of the flight stops when any part of the model touches the ground or touches any object or person on the ground.
- f) For models, other than hand launched gliders, only the final attempt at a flight counts for scoring. For hand launched gliders, four launches are allowed in each round and the flight times from these four attempts are cumulative to give the final flight score for such gliders. For these hand launched gliders a 2 second bonus will be added to the flight time of their second, third and fourth flights. This is to recognise the time lost in a landing and a re-launch. Only the final landing (in a flying slot) qualifies for potential bonus points for the landing
- g) A penalty of 30 points will be deducted from the flight score for over-flying the end of the 10 minute slot time. In addition no landing bonus points are awarded if the model over-flies the 10 minute slot period. If the over-fly exceeds one minute a zero score will be recorded.
- h) Landing bonus will be awarded provided the model comes to rest within the arc of the landing tape. The measurement shall be taken from the nose of the model. No landing bonus is awarded if the model touches the competitor or his assistant during landing.

A landing within 1 metre of the target scores 50 pts - within 2 metres of the target scores 45 pts.

A landing within 3 metres of the target scores 40 pts - within 4 metres of the target scores 35 pts.

A landing within 5metres of the target scores 30 pts - within 6 metres of the target scores 25pts.

A landing within 7 metres of the target scores 20 pts - within 8 metres of the target scores 15 pts.

A landing within 9metres of the target scores 10 pts - within 10 metres

scores 5pts. A landing beyond 10 meters receives no bonus points.

#### 10. Final Classification \*

As defined above, if more than four rounds are flown, the lowest score for any one round shall be discarded prior to totalling the scores to arrive at the final (pre fly-off) results. The competitors with the highest percentage scores from the rounds flown may be subject to a fly-off if time permits. This may be a one or two round fly-off and the intent to have a fly-off, or not (and the number of rounds it will comprise), should be announced by the CD prior to the start of

the event. The number of people in the fly off should represent 15% of the entry, rounded up to the nearest whole number and subject to be a minimum of four and maximum of nine. The fly off will use the same rules and procedures as the preliminary rounds except that the slot time period will be

15 minutes (instead of the 10 minutes used earlier). Models, other than hand launched gliders, get two attempts for their fly-off flight score, hand launched gliders get five but only one discard is permitted, The final fly-off score for hand launched gliders will be (as in the main contest) the sum of four attempts plus the extra two seconds for the second, third and fourth flights.

#### 11. Processing

The CD has the right to inspect any model before, during or after the event to ensure it complies with the required characteristics as defined in 4 above. In particular, for electric models, the CD can check if an approved height limiter device is fitted and correctly installed. The CD also has the right to ask, at any stage during or immediately after the competition, for the data from the competitor's height limiter to be downloaded and analysed.

### 4.3 '100S'

#### Class

##### 1. General

The object of these rules is to provide for the equitable competition of standardised radio controlled gliders. A 100S competition must be run to the BARCS 100S class rules.

In 100S Competitions, additional entries are permitted for Classic, Vintage and Tail-less models, providing they also meet the 100S model specification.

##### 2. Competitor and Helpers

In 100S competitions, each competitor is permitted TWO helpers, plus

the timekeeper.

### 3. Competition Flights

In 100S Competitions, the competitor will be allowed at least FOUR official flights, all to count. However, if time and participating numbers permit, the CD is encouraged to fly more rounds.

If more than four rounds are flown; then, the CD may at his discretion, drop a round score after four rounds. An announcement, as to whether a score will be dropped or not, will be made at the pilots briefing prior to the first round.

a)

b) Number of attempts allowed:-

In a 100S competition, the competitor has the right to TWO attempts at each official flight, providing that he declares his first attempt to his own and one adjacent timekeeper, within 30 seconds of release of the model from the towline. He may land at his own discretion but must make his second attempt within the allocated slot time.

### 4. Organisation of the Flying Slot

a) A competition number derived from the matrix must be allocated to each competitor.

In 100S competitions - the number must be retained throughout the first FOUR rounds

b) Slot Time - Length of slot

In 100S competitions - the slot time shall be of 8 (eight) minutes duration.

c) Pilot's Position

During flights, pilots and their helpers shall remain outside the edge of the landing area.

### 5. Launching

a) Permitted methods of Launching

In 100S competitions - the launch of the model may be by:-

i. Hand held towline, with or without a pulley, one person only to tow. Any anchoring of pulleys to be done by means of a ground stake. \*

ii. Powered Winches

b) General powered winch rules

i. All launching shall take place in an area as designated by the organiser with provisions made for launching into the wind. Launches may be made with an electrical powered winch as an alternative to hand towing. The winch must be capable of meeting the requirements as set out below.

ii. Upwind turnaround devices, which must be used, shall be no more than 150 m from the winch. The height of the axis of the

- turnaround pulley from the ground must not exceed 0.5 metre
- iii. Release of the model must occur within approximately 3 metres of the winch or, if there is a safety corridor in use, then launching must take place at the front or the corridor (front being where the winch is positioned) with both feet of the launcher inside the corridor. An automatic means must be provided to prevent the line unwinding from the reel during launch
  - iv. The towline (which must be of non-metallic material except for link-ages) must be equipped with a pennant having a minimum area of 5 dm<sup>2</sup>. A parachute (5 dm<sup>2</sup> minimum area) may be substituted for the pennant provided it is not attached to the model aircraft and remains inactive until the release of the cable. During complete rewinding of the line on to the winch, the parachute, if used, must be removed and inactivated.
  - v. After release of the model aircraft from the towline, the towline should be rewound without delay by operating the winch, until the parachute (or pennant) is approximately 4 metres from, or nearer to, the turnaround pulley. However a winch must not be operated when the towline is lying on the ground and lying across other toelines or if it strikes another towline during launching.

## 6. Landing

- a) That the landing zone shall (preferably) consist of a cross-wind rectangle where, if the field size permits, the upwind end of the zone shall be a line positioned 7 metres downwind of the launch line (on which all power winches are located) and the downwind end of the zone shall be another line 50 metres downwind of zone upwind line. That is the landing zone is 50 metres deep. The zone shall extend out to the edge of the flying field in both directions.
- b) If the field size is restricted the “downwind” edge of the landing zone shall be located upwind of the launch line with the zone’s “upwind” edge being 50 metres further upwind of that.
- c) Alternatively the CD may, if circumstances do not permit layout described above, layout a Landing circle which shall be a 75 m DIAMETER circle or a similar sized area designated by the CD and placed to one side of the winches.
- d) The centre of the designated landing area shall be marked in a visible way, for instance by the use of a spot or a cone.

## 7. Safety Cancellation and/or Disqualification

If the layout of the field permits the suggested rectangular landing area downwind of the winch line, then it is recommended that a “Safety Corridor”

be set out of about 6 metres width with the upwind edge of the landing rectangle being the downwind edge of the safety corridor. This makes the safety corridor the “Pilot’s Box”. This corridor should extend for the full length of the flight line running to at least 10metres beyond the end of any designated landing and launching positions or any organiser required obstruction in line with this corridor, such as a control tent or table. All launches and re-launches should take place from the safety corridor at it’s upwind side. In the event that model or any part thereof comes to rest, after landing, in the safety corridor a penalty of 100 points shall apply. In the event that the model hits any person in the safety corridor a penalty of 1000 points shall apply.

The flight is cancelled and recorded as a zero score if, after landing, the nose of the model is more than 75 metres from the marked point (ideally a cone) in the centre of the field. The model may be re-launched to record a score within the slot time still remaining, following a first launch flight resulting in such a zero score providing the intention to re-launch is declared within the first 30 seconds of flight. In addition other criteria apply which will result in a zero score. Namely: The model not conforming to the required characteristics; the model being flown by someone other than the pilot; the model losing a part in mid air, other than from a collision or on landing; the CD ruling that a pilot has unnecessarily and deliberately executed dangerous manoeuvres.

The Contest Director has the discretion to disqualify a flight if the flyer flies over or through the flight line at a height that is deemed to be dangerous.

## 8. Scoring

### a) Flight timing

- i. The moment the model first touches the ground.
- ii. The moment the model first touches any object in contact with the ground. Parts of launching devices extending away from the ground shall not be interpreted as objects in contact with the ground.
- iii. Completion of the Slot Time.

### b) Flight Score

Will be composed of ONE point for each FULL second of flight time.

### c) Overflying Penalties

- i. A penalty of eighty (80) points will be deducted from the flight score for overflying the end of the Slot Time for up to a maximum of ONE minute (sixty seconds).
- ii. A zero score will be recorded for overflying the end of the one minute penalty time.

### d) Landing Bonus

if after landing all or any part of the model comes to rest within the

designated landing area, a bonus of 50 points is added to the flight time score

e) Slot Scoring

i. The competitor who achieves the highest aggregate of points, i.e. flight points less penalty points, will be awarded a corrected score of one thousand points for that slot.

ii. The remaining competitors in that slot will be awarded a percentage of the slot winner's total score calculated from their own points score.

$$\text{SCORE} = \frac{\text{COMPETITORS POINTS}}{\text{SLOT WINNERS POINTS}} \times 1000 \text{ (to 0 decimal place)}$$

i.e. The slot score is rounded down to the nearest whole number.

9. Final Classification \*

a) In 100S competitions, at the completion of ALL rounds the competitors with the highest totals of percentaged scores must perform in a Fly-off ( the CD to decide the number of competitors in the fly-off), to produce the Final competition placing by one of the following methods:-

i. Two further slots whereby all finalists compete simultaneously against each other twice.

ii. Three further slots whereby all finalists will compete against each other at least once.

b) In the event of a fixed frequency clash in qualifying for the Fly-off, the competitor with the lowest total score unable to change frequency must drop out in favour of the next competitor.

c) Flight and score for the final fly-off

In 100S competitions, the fly-off differs from the initial rounds in no other way other than the slot time being increased to 12 minutes and an audible warning being given at 10 minutes.

## 4.4 BARCS ELG. Electric Launched Glider Class

Foreword: Many flyers, especially BARCS members who are accustomed to the format, prefer a fixed 10 minute slot (rather than either the F5J rules or the current BMFA eSoaring rules of a ten minute target flight within an 11 minute period). The following rules are therefore provided for competitions involving electric launched gliders.

### 1. Model characteristics

a) The model must conform to the general definition in Standard Rules for models. Many CDs run events allowing Restricted class models to fly as a sub class, either in their own right or as second entries. Thus in addition to the general definitions, Restricted class models must not exceed 2000 mm or 100 inches (as applicable) in wing span.

b) Model must be equipped with an AMRT device set to record and display the maximum height achieved during the motor run time plus 10seconds. This device can also be set to cut the motor at any chosen height up to maximum limit 300mtrs, and 30 seconds maximum motor run time. The height limiter can be any unit recognized as being commercially manufactured for the purpose, and must record and display launch height after each flight. The display to be visible either on the units own screen or via a separate reader at the completion of each flight.

CAM switches or similar commercially manufactured non recording motor cut devices can be used set to 200 mtrs, but will be scored (other than for novice competitors) as launching to 220 mtrs. Once the competition has started, a user of this type of height limiter may be required to reset their motor cut off height to a lower limit if their model is considered to be launching higher than the permitted 200 mtrs.

c) Power source – rechargeable battery, any type.

d) Any type of electric motor may be used

### 2. Battery charging

Batteries can be charged at any time during the competition.

### 3. Model processing

At the completion of a round the CD has discretion to require any pilot to confirm the launch height recorded in that round. This discretion is likely to be exercised to check the top three pilots after three rounds. If the last recorded launch height on any model's limiter device

screen or card reader cannot be verified, the pilots last recorded score for that round will be adjusted to a zero score.

#### 4. Organisation of competition

a) Any number of rounds may be scheduled. Each to contain multiple flying slots.

b) The flying order will be organised by matrix to ensure that as far as possible each competitor will fly against as many other competitors as possible.

c) Each flying slot will be of 10 minutes duration timed and started by the CD. Flight time will include motor runtime, and will commence at model launch, terminating in a spot landing within the 10 minute slot. Motor must not be started until the signal starting the slot is heard. A penalty of 100 points will be deducted from the pilots final score.

d) The height limiter switch can be set to cut at not more than 300 metres above launch height and additionally the motor run must not exceed 30 seconds.

e) One re-launch may be made at any time during the slot. Last launch only to count.

f) Claims for re-flight considered on an individual basis and are at the discretion of the CD. A mid-air collision would be accepted. A frequency clash, not caused by a claimant would be accepted. An organizer matrix mistake would be acceptable. A pilot in the wrong slot due to their own negligence would not be. A failure of time keeper's stopwatches would not be. Re-flights will be added to the next convenient slot in the same round. Where this is not possible, or the re-flight claim is made in the last slot of any round, volunteers will be requested to make up a new extra slot. The claimants score in the slot will be taken for the competition. Volunteer flyers will have the choice to use either their existing slot score or their reflight score.

g) The competitor is entitled to five minutes preparation time from the time he is called to the launching area.

h) The CD must clearly indicate the start and end the working time audibly and if possible visually.

i) It is the competitor's responsibility to provide a timekeeper and to ensure that the person is fully conversant with the rules.

j) Each timekeeper should be equipped with a timer for slot time and a separate timer(s) for flight time.

k) At the start of the slot, the timekeeper will start his own slot timer. At the launch of the competitor's model, the timekeeper will start his flight timer. The timekeeper will then assist the pilot by advising elapsed motor run time and announcing the approaching end of the slot time.

l) The timekeeper must stop the flight time watch when the model touches the ground or an object in contact with the ground. . If the model overflies the slot time, then the flight time watch must be stopped when the end of slot is sounded.

m) It is the timekeeper's responsibility to ensure the competitors flight time, landing

bonus and any penalties are recorded and delivered to the CD.

#### 5. Landing

- a) The landing target centre should be marked. A tape leading from the centre indicates the landing bonus.
- b) The targets should be laid out with reference to the wind and site topography.
- c) Competitors & timekeepers should remain upwind of the landing target centre at all times.
- d) After landing competitors may only retrieve their models if it does not impede other competitors.
- e) Each competitor should have his own landing target.

#### 6. Scoring

- a) One point per full second of flight time, to a total of 600 seconds (10:00 minutes).
- b) A deduction of 3 points per metre for launch height exceeding 200 metres
- c) A penalty of 30 points will be deducted from the flight score for overflying the end of the Slot Time for up to a maximum of ONE minute (sixty seconds).
- d) A zero score will be recorded for overflying the end of the one minute penalty time.
- e) No landing bonus points will be awarded if the model overflies the end of the Slot Time.
- f) A zero score will be recorded for a flight where motor run is in excess of 30 seconds
- g) A zero score will be recorded if the motor is re-started after the first 30 seconds (or the CD allotted time) of flight.
- h) Landing bonus will be awarded provided the model comes to rest within the arc of the landing tape. The measurement shall be taken from the nose of the model. No landing bonus is awarded if the model touches the competitor or his assistant during landing.

A landing within 1 metre of the target scores 50 pts - within 2 metres of the target scores 45 pts.

A landing within 3 metres of the target scores 40 pts - within 4 metres of the target scores 35 pts.

A landing within 5 metres of the target scores 30 pts - within 6 metres of the target scores 25 pts.

A landing within 7 metres of the target scores 20 pts - within 8 metres of the target scores 15 pts.

A landing within 9 metres of the target scores 10 pts - within 10 metres scores 5 pts.

A landing beyond 10 meters receives no bonus points.

i) Landing more than 75 metres from the target receives zero flight score. The model may be re-launched to record a score within the slot time still remaining, following a first launch attempt at a flight resulting in such a zero score.

j) In addition other criteria apply which will result in a zero score. Namely: The model not conforming to the required characteristics; the model being flown by someone other than the pilot; the model losing a part in mid-air, other than from a collision or on landing; the CD ruling that a pilot has unnecessarily and deliberately executed dangerous maneuvers. If a part is lost during the first attempt at a flight, the model may be re-launched and is then eligible for a scoring flight.

k) For each slot, the competitor with the highest score (flight + landing bonus – height penalty) will receive 1000points. Competitors with lower scores will be awarded a proportion of the winner's score i.e.  $\text{score} \times 1000 / \text{winner's score}$ .

#### 7. Final classification

a) Where more than five rounds are flown the lowest score will be discarded.

b) In the event of a tie the discarded score will decide places on the day but both competitors will receive equal League scores.

c) In the event that (b) does not produce a winner then a one round fly-off will be held.

## 4.5 'HLG' Hand Launched Glider Class

### 1. General

a) BARCS HLG is a flat field multitasking thermal soaring contest where RC gliders may be launched by hand or mini-bungee and aim to accomplish specific tasks.

#### b) Rules Objectives

To provide a standard set of rules for the competition of radio controlled hand launched gliders based on the current FAI F3K rules with BARCS variations as indicated below.

### 2. BARCS Rules Variations

#### a) Organisation

The contest should consist of at least four rounds for the event to count towards the BARCS league. The CD may announce more rounds to be flown before the start of the contest and/or a fly-off. In certain situations (for example bad weather conditions) the CD may decide that fewer rounds than initially announced will be flown and the fly-off may be omitted.

#### b) Timekeeper/Helper

For practical reasons the role of timekeeper and helper can be combined. Non flying competitors can be utilised as timekeeper/helper.

#### c) Mini-bungee

Due to the undeniably physical demands of hand launching the use of a mini-bungee is permitted at BARCS events.

The objective of allowing the use of a mini-bungee is to encourage the participation of less physically able competitors and to make the class as accessible as possible to all, regardless of physical ability.

However to remain within the spirit of the class hand launching is to be encouraged wherever possible.

#### d) Mini Bungee requirements

i. Competitors are required to provide their own mini-bungee.

ii. The bungee is to have a maximum un-stretched length of 20 metres, of which a minimum of 15 metres must be of non stretching line.

iii. A clearly visible pennant must be attached to the model end of the bungee.

iv. The bungee must be securely staked at the upwind end using a tent peg type anchor.

v. The maximum stretched length of the bungee at the point of launch shall not exceed 27 metres. Any competitor using a bungee shall also provide a 27 metre non elastic tape where one end is anchored by the bungee stake; the other end shows the maximum permissible stretch at launch. The maximum pull at a 27 metre stretch of the bungee shall not exceed 6 kg.

- vi. The bungee and 27 meter tape must be re-reeled between rounds
  - vii. The bungee should be staked approximately 5 metres from the upwind edge of the square.
- e) Tasks  
Additional tasks may be included at the CD's discretion provided they adhere to the general framework of the existing FAI tasks.
- f) Current FAI F3K rules are available from the following:  
BARCS website: [www.barcs.co.uk](http://www.barcs.co.uk)  
FAI website [www.fai.org/aeromodelling](http://www.fai.org/aeromodelling)  
BMFA contest rules Section 7 Book 1 [www.bmfa.org](http://www.bmfa.org)

## 4.6 UK F3J Variation Rules

### 1. BARCS F3J League Competitions

- a) Appropriate Rules  
A league competition must be run to the current F3J rules (FAI + BMFA UK variations) but with these BARCS variations, permitted.
- b) Minimum number of entries  
For an F3J competition to qualify as a BARCS League event, the organiser should try to achieve a minimum of 12 (twelve) competitors. If the minimum 12 cannot be attained, as a local variation a competition may be run with 9 (nine) competitors providing the CD is satisfied he can run a fair competition.
- c) Competition declared void in respect of the leagues  
In BARCS F3J competitions, in the event that the competition is terminated short of three rounds, due to bad weather or insufficient time, for example, league cards must be returned to their owners. The competition would be declared void in respect of the BARCS Leagues.

### 2. BARCS Leagues

- a) Leagues for which scores may be submitted  
In BARCS F3J competitions, scores may be submitted for any of the following leagues:- F3J, Open, 100S, RES, Classic, Vintage, Tail-less, using the score of the competitor's single entry.
- b) Additional entries  
In BARCS F3J competitions, no additional entries are permitted.

### 3. Launching

- c) In BARCS F3J competitions, electric winches may be used.

## 4.7 F3B Thermal Soaring

As a formal FAI class where the only F3B events which now take place in the UK are those staged by the BMFA as part of the F3B team selection process, F3B rules (and any UK variations thereto) have been deleted from this Handbook. See the BMFA Glider Rule Book, Section 7 of BMFA rules, Book 1.

## 4.8 F3FSlope Racing

F3F events are staged by the BARCS, the BMFA or the GBSRA and generally as part of the F3F team selection process. To avoid duplication as F3F is now an FAI adopted class, F3F rules (and any UK variations thereto) are not included in this Handbook and are provided in the BMFA Glider Rule Book, Section 7 of BMFA rules, Book 1.

## 4.9 Slope Cross Country Rules

### 1. Characteristics of Radio Controlled Glider

Characteristics as per the general Rules apply but note normally the maximum flying mass as defined in such rules of 5kg still applies however the CD may permit models in excess of this FAI limit to fly providing that, if the maximum flying mass exceeds 7 kg, the CD (or the competitor) has obtained prior permission from the appropriate air traffic control unit for such a 7kg plus model to operate in the relevant airspace. If the model weighs more than 20Kg an exemption certificate acceptable to the CAA, covering airworthiness of the model and competence of the pilot, is required before any such entry can be accepted.

### 2. Objective

The objective is to complete a course set out by the CD in the shortest time. The CD may or may not allow running or alternatively he may require all competitors to walk. During the course a number of tasks must be completed as determined by the CD such as 180 deg turns or 360 (or more) deg turns at selected waypoints and/or low pass tasks. In each case the competitor must be present at the waypoint whilst the model completes the designated task. A slot time shall be set by the CD and if a competitor has not completed the course by the end of the allotted slot time he must land and his score is the result of tasks completed at that time.

### 3. Competitor and Helper

The competitor (pilot) must operate his radio equipment personally. Each pilot is permitted one helper who may offer guidance and assist the pilot in the

negotiation of obstacles. The helper may carry the pilot's Task Schedule and present it at each gate for signing by the Gate Marshal.

#### 4. Control of Transmitters

- a) The organiser cannot begin the competition flights until all competitors have checked in all transmitters with the organisers. Failure to check in a transmitter before the official starting time of the contest will result in disqualification.
- b) Any test transmission during the competition without the permission of the organisers is forbidden and entails disqualification.
- c) If required the competitor must hand over his transmitter to the designated official immediately after finishing his flight.

#### 5. Organisation of starts

##### a) Rounds

- i. Before the start of each round the Contest Director shall describe the course to the competitors showing a map of the flying site featuring contours of the flying site, the numbered gates, the tasks required at each gate, the scale and a North point.
- ii. Dependent on the number of entrants and the time available, two or more qualifying rounds should be run.
- iii. The flying order shall be determined by a matrix system that minimises situations where competitors fly together more than once.
- iv. The flying order must be scheduled in rounds sub-divided into time slots.
- v. Dependent on the number of entrants and the time available, a fly-off may be used to determine final placing. The intent to hold a fly-off should be announced by the CD prior to the start of flying and should consist of the top 20% of pilots with four as a minimum number.

##### b) Slots

- i. The slot shall be started by an audio or visual indication e.g. the raising of a flag or a coloured board or the sounding of a sound signal.
- ii. The slot shall have a duration of between 20 mins and 60 mins. The duration of the slot, which may be changed between rounds at the discretion of the Contest Director, shall be announced at the beginning of each round.
- iii. The slot shall, ideally, consist of a minimum of 4 and a maximum of 12 competitors.
- iv. The slot shall be ended by an audio or visual indication as for the start

- v. If a model is damaged during a mid-air collision the pilot may re-start using one of his other models or using parts there from to make a new model.
- vi. Any model airborne at the completion of the slot time must land immediately it is safe to do so. The radio should be switched off and this fact reported to the nearest Gate Marshal.

#### 6. Definition of an attempt

- a) An attempt is started when the model has been hand launched by the pilot or his helper.
- b) An attempt is ended when the model comes to rest upon the ground or upon an object in contact with the ground.
- c) The pilot is allowed an unlimited number of attempts within the slot time with the final attempt to count. Each attempt shall start at the Start / Finish gate.

#### 7. Cross Country Course

- a) The course shall consist of a series of tasks numbered 1,2,3,4 etc. starting and finishing at the Start/Finish gate.
- b) The length of the course and the location of the tasks should be arranged in such a way that the course becomes increasingly difficult and provides a near impossible challenge for all of the competitors. (If pilots are able to proceed around most of the course without pausing for their model to gain height then this is a sign that the tasks are too easy).
- c) The course may be changed between rounds. If in any slot in the first round more than one third of the pilots in the slot finish the course and conditions are not deteriorating then the course shall be made more difficult for the second round.
- d) Exceptionally the course may be changed within a round if the wind shifts direction to render the course impractical or too easy. The pilots shall be re-briefed.
- e) The course may be changed for any fly-off round. Additional tasks may be introduced. The course should be increased in difficulty compared with the course(s) used in the qualifying rounds. (However, conditions may determine that the course remains the same or is made shorter).
- f) Progress around the course shall be by walking or running only.
- g) Whenever possible the course shall be designed so that the pilot and helper can move from gate to gate using existing tracks and paths.

#### 8. Completion of the Course

- a) In the qualifying rounds the course is complete when the finish task is completed. If a pilot has not finished then his score will be based on his progress at the end of the slot.

- b) In any fly-off slot if more than one pilot finishes then the time to finish determines the placings. Fastest time wins.

#### 9. Interruption

- a) An interruption shall occur if rain is falling such that be-spectacled pilots have their vision impaired. This shall be judged by the Contest Director.
- b) An interruption shall occur if the mean wind speed measured at the Start/Finish gate exceeds 25 m/s.
- c) The interruption shall be signalled at the Start/Finish gate by the waving of a flag and an intermittent sound signal. All competitors shall land their models and return to the start when the interruption is signalled.
- d) The result of the slot shall stand if one half of the slot time has elapsed at the time of interruption. Otherwise the slot shall be cancelled and re-run when the interruption has ceased.

#### 10. Re-flights

- a) A pilot shall be allowed a re-flight in the following circumstances only:-  
The pilot's progress around the course is impeded, hindered or aborted by circumstances beyond the control of the pilot and his helper, duly witnessed by one of the official judge.
- b) Organisation of Re-Flights
  - i. In case of a re-flight being granted for a pilot flying in a group that is not the final group the pilot shall fly within one of the groups remaining to fly within the round.
  - ii. If the re-flight is granted in the final group then the final group shall be re- flown. The best of the two results is the official score except for pilots who have been allowed another attempt. For those pilots the results of the re-flight group shall be the official score.

#### 11. Cancellation of a flight or disqualification

- a) The flight in progress is annulled if the model loses any part during the flight time. The loss of a part during landing (i.e. any object in contact with the ground) or due to a mid-air collision is not taken into account
- b) The competitor is disqualified if the model is controlled by anyone other than the competitor.
- c) The flight is annulled if the model touches any person other than the pilot or his helper whilst in flight or during landing.

#### 12. Cross Country Tasks

Tasks selected by the CD for the course shall be a suitable selection of the following.

- a) 360 Degree Gate  
This shall consist of one pole or two poles. If two poles are used they should be placed approximately 30m apart. Each pole should have a height of about 1.3m and be fitted with a flag and/or a number plate. The gate should be set up such that a line joining the two poles (if two poles are used) is approximately perpendicular to the wind direction. The upwind side of the gate shall be nominated by the Contest Director at the start of each round.
- b) Low Pass Gate  
This could consist of two vertical poles set approximately 10m apart. One pole shall have a minimum height of 1.3m and be fitted with a flag and/or a number plate. The other pole which shall also be effectively supported shall be fitted with a sighting pole at head height that shall be aligned with the horizon or distant object and in line with the gate. Alternatively a clear line of sight for the model to pass below – such as the far horizon can be employed.
- c) Turning Gate for 180 (or more) turns  
This shall consist of one vertical pole having a height of about 1.3m fitted with a flag. The flag shall be clearly visible against the background.

### 13. Definition of tasks

- a) N x 360 degree turns  
The model shall start the task by entering the 360 degree gate from the upwind side flying in a downwind direction at any altitude. The model should then turn through 180 degrees and then through N x 360 degrees and then exit the gate. The model shall not cross over to the upwind side of the gate during the turns. The turns shall be made in the horizontal plane.
- b) Low Pass  
The model shall perform the task on one side of the low pass gate as instructed by the Contest Director. If so required the model shall pass beneath the line of sight in b-both directions with both passes being performed consecutively. The choice of which direction of pass or passes shall be done is optional unless specified by the Contest Director.
- c) Turn Point  
The model shall pass through a vertical plane which has one vertical edge above the pole and extends to the horizon in a direction specified by the Contest Director and/or the Gate Marshal (generally in a downwind direction to a prominent landmark on the horizon).
- d) Start/Finish Gate

Flags shall be used to identify the Start/Finish gate as per the 360 degree gate. Models shall be launched from within 20 m of the Start/Finish gate. The model shall finish the course by flying over the gate at any altitude and within 30m of the centre line of the gate in a direction as specified by the Contest Director

#### 14. Validation of Tasks

- a) All tasks should be witnessed by a Gate Marshal who shall sign the pilots gate schedule when the gate has been satisfactorily completed.
- b) The Gate Marshal shall instruct the pilots to repeat the entire task if the requirements of the task are not met in full. Each task shall be completed successfully before the next task may be attempted.
- c) In the event of a task being aborted with the model still flying the task may be started again.
- d) The Gate Marshal shall stand at the pole at which the task is to be performed.
- e) Both the pilot and his helper shall stand with the Gate Marshal and within 5m of the pole while the task is being performed. The pilot may not leave the gate until the task is completed or aborted.

#### 15. Scoring

- a) Starting a task: 1 point.  
Each completed a task: 1 point.  
Finish gate: 1 point
- b) The flight time shall be measured.
- c) The competitor who achieves the highest aggregate of points will be awarded a corrected score of 1000 points for that slot.
- d) In the event of a tie on points, the fastest time shall determine placings.
- e) The remaining competitors in that slot will be awarded a percentage of the slot winner's total points score calculated from their own total points score. i.e.  
$$\frac{\text{Competitor's points in slot}}{\text{Winner's total points in slot}} \times 1000$$

#### 16. Classification

The final classification for competitors in any fly-off slot shall be determined from the aggregate of scores for the qualifying rounds and the fly-off slot. In the case of ties, the slot results from the qualifying rounds shall be considered and the aggregate of task points obtained shall be used to determine the final classification. Any further ties remaining after this shall be determined by the competitor's physical progress around the course at the end of the fly-off slot as duly witnessed by the Gate Marshal. Final classification of competitors not flying in the fly-off slot shall be based on the aggregate score achieved in the

qualifying rounds and, in the event of ties, by the time they took to complete the course.

#### 4.10 Other Class Rules

Earlier versions of the handbook included specific rules for thermal events for “Stand Off Scale” gliders, Mini Gliders and RES (Rudder Elevator & Spoiler) gliders and , in addition Slope events for Stand off Scale and 60” Pylon racing.. Competitions to such rules have not proved to be popular so these rules are now included in Appendix 1 in summary form – also see archived versions of the BARCS handbook for these rules in full. The BMFA Glider rule book also contains rule information which may help a CD wishing to run one of the types of events listed in Appendix 1.

We do not include FAI Class Rules in our handbook to avoid confusion as the BMFA maintains up-to-date information on all FAI classes in their rule books As a BARCS is a BMFA Specialist Body , all BARCS members can obtain a copy of all the BMFA rules ( which include these FAI classes) , from the BMFA office in Leicester

#### **BOOK 1 – RADIO CONTROLLED GLIDERS**

Contains the following: General Rules plus class rules for

Class F3J - Thermal Duration Gliders, 100S Thermal Soaring, Mini Glider, Thermal Stand-Off-Scale Glider, Power Scale Soaring (PSS), Class F3B Multi Task Thermal Soaring), Class F3F R/C Slope Racing, Class F3H R/C Cross Country Soaring, Class F3I Aero-Tow Soaring, Sixty Inch R/C Slope Racing, Clubman’s Sixty Inch R/C Slope Racing and Class F3K Hand Launched Glider.

#### **BOOK 2 – ELECTROFLIGHT**

Contains class rules for the following

Class F5. RIC Electric Powered Models. General Rules, Class F5A Aerobatic Electroflight , Class F5B Multi Task Electroflight, Class F5C Helicopter Electroflight,

Class F5D Pylon Racing Electroflight, Speed 400 Pylon Race, Volks Rules Pylon Racing and eSoaring Thermal Soaring Rules.

Apply to :-

BMFA Technical Secretary  
British Model Flying Association, Chacksfield House  
31 St Andrews Road, Leicester LE2 8RE

Tel 0116-2440028 Fax 0116-2440645

e-mail: [admin@bmfa.org](mailto:admin@bmfa.org)

There is a charge of £3 each for paper copies of Contest Rules Books 1 and 2. However all rule books are available free of charge by download from the BMFA web site.

#### 4.11 Recommended procedures for Safety at Competitions

When one of our gliders lands, in its last six feet to the ground, it sweeps across some 40 yards of flying site with its many feet of wingspan, thus presenting a high capacity for collecting people as it goes - people who are likely to be concentrating their attentions elsewhere as it makes its silent approach.

Such is the success of thermal soaring now that Britain's busy competition scene has to cope with around 7,000 landings a year. Now let's repeat that - SEVEN THOUSAND LANDINGS A YEAR.

Now is the time to recognise the probability of what the annual injury statistics could amount to. We do not want to be hurt, we do not want our colleagues hurt and we do not want to spend our summer weekends wearing safety helmets.

It is the responsibility of the Contest Director to ensure the safety of contestants, assistants and any members of the public who may be present at an event.

1. Landing areas must be maintained as clear as possible. - This is the responsibility of everyone on the site from spectator to organiser
2. The control point should not be located downwind of the landing area.
3. In competitions involving landing targets, each competitor in each slot should have his own landing circle. On restricted sites, the circles may overlap with a minimum of 10 metres between centres. Only the pilot and one helper is allowed to enter the landing area during the landing manoeuvre.
4. In competitions not involving landing targets, an ideal safe landing area can be marked off by isolating either an area downwind of the launch area or alternatively an area to one side of the site parallel to the direction of towing and opposite to the site access point. This way only retrievers need to enter the landing area.
5. Current rules introduce a "Safety Corridor" for many classes along with penalties for infringement of that corridor. CDs should apply these penalties as prescribed to ensure adequate safety.

## 5.1 Records

We have lots of Records for you to have a go at

Following are the Current 'ALL-TIME' record holders plus the basic details of how to go about attempting one yourself !

BARCS ALL TIME RECORD HOLDERS as at 1 <sup>st</sup> January 2010			
Record	Year	Name	Duration
		Place	Model
Open Thermal Duration	1985	T. Buckley	3:35:00
100S Thermal Duration	2004	George Binns	1:20:40
		Peterborough	Topaz 2.54m
Classic Thermal Duration	2003	Arthur McComb	0:52:01
		Peterborough	Sagitta 900
HLG Thermal Duration	2005	Martin Godden	1:03:50
		Tawney Hall	Mimic 3F6
Vintage Thermal Duration	2005	Bob Hope	0:38:31
		Tonbridge	Montagne 3.0m
Thermal Point to Point	1982	Tony Lloyd	29.2 miles
		Humber to	Wildflecken 12
Thermal Goal & Return	1981	Tony Lloyd	2.5 miles
			Wildflecken 12
Open Electric Thermal Duration	2004	Bob Hope	0:14:15
		Tonbridge	OD Home
ELG Single Thermal Duration	2002	Richard	1:07:24
ELG Treble Thermal Duration	2004	Bob Hope	0:45:37
		Tonbridge	OD Home
Slope Duration	1985	John	18:10:25
Slope Point to Point	1982	K Humber	11.5 miles
Slope Goal & Return	1981	K Humber	3.8 miles
Slope Closed Circuit 16km	1984	K Woodhouse	43.24 mph
Slope Closed Circuit 1.6km	1984	J. Hathaway	53.12 mph
Slope Closed Circuit 1km	2005	Tony Beckett	31.50 mph
		Burrough Hill	Mimic

## BARCS Annual Records

Our Records and Trophies Officer is ready, willing and able to take claims for annual records, So claims will be welcome for any of the record categories listed above.

Contact the Records and Trophies Officer

### How to make an attempt at a Record

There are just a few basic rules:-

1. Models must conform to current FAI specifications with regard to weight, maximum size, and loading limits.
2. There are two classes of flights - SLOPE start & THERMAL start
3. Launching
  - a) THERMAL models must either, be hand launched or launched on a hand tow-line not exceeding 150m, or a bungee not exceeding 150m upstretched, or a power winch with the turnaround pulley fixed 150m maximum from the winch.
  - b) ELG - models must be hand launched or R.O.G. under power
  - c) THERMAL and ELG models must be launched at a distance not less than 2 miles(3.2Km.) from obvious slope lift.
  - d) SLOPE -models must be hand launched direct from the slope.
4. Landing
  - a) THERMAL and ELG DURATION  
The landing must be within 75m of the launch point
  - b) SLOPE DURATION  
The landing must be within 75m of the launch point
  - c) THERMAL and SLOPE DISTANCE –
    - i. The landing must be within 150m of the pilot's position at the time .
    - ii. The landing may be at any point above the launch point, or if below it, a height loss of not more than 100 feet per mile flown (30m per1.6Km.) will be allowed.
5. Distance Flights
  - a) All flights must be observed by a "navigator" who must accompany the pilot from launch to landing.
  - b) Motor transport - car, pick-up truck etc, may be used to follow the model
  - c) 'Point to Point' Distance flown must be measured in a straight line from, launch to landing, as given by the grid reference of the two points. Map numbers must be given.
  - d) ' Goal and Return' Distance flown is measured as the distance in a straight line from the launch point to a nominated point and back again, as given by the grid reference of the two points. Map numbers must be given.

## 6. Claims

- a) Claims must be made on the BARCS claim form which can be downloaded from our web site [www.barcs.co.uk](http://www.barcs.co.uk) or is readily available from the Records & Trophies Officer.
- b) Members may make as many claims as they wish during the year which runs over the same period as the league season.
- c) Claims must be signed by a witness, who should also print their name and their BARCS number if a member.

## 7. Awards

The newest All-Time Record holder (if there has been more than one) receives a personalised framed certificate at the AGM

## 8. Specific comments on the various records

<b>Thermal Duration</b> Open, 100S, Classic Tail-less & Vintage	The model must comply with the model specification set out in the class rules in Section 3
<b>Thermal Duration</b> HLG	The model must comply with the model specification set out in the class rules in Section 4 The model may be launched by hand or by mini bungee. as specified in Section 4
<b>Electric Thermal Duration</b> ELG Single Flight	The model must comply with the model spec set out in the 'ELG' rules in Section 4 The motor run must also be in accordance with section 4, e.g. height limited to 200M
<b>Electric Thermal Duration</b> ELG Treble Flight	The model must comply with the ELG model spec Three consecutive flights from single charge of motive power battery- model to be relaunched within 10min of previous flight - Motor run on each of the 3 flights as defined above - Rx battery may be changed between flights .
<b>Open Electric Duration</b>	Now replaced by ELG Single Flight
<b>Slope Duration</b>	The model must comply with the model specification set out in the Cross Country rules in Section 4
<b>Distance Point to Point</b> Thermal or Slope	is a one way flight from the launch point to the landing point
<b>Distance Goal &amp; Return</b> Thermal or Slope	is a two way flight from the launch point , to an over flown point pre-nominated to the witness before launch, and then back to within 150m of the launch point
<b>Closed Circuit</b> Course to be used	16 Km - 80m course- 100 laps x 160m 1.6 Km- 80m course- 10 laps x 160m 1.0 Km- 50m course - 10 laps x 100m the course to be laid out as specified for the '60" Pylon' league in Section 5.2

Quote from a Record Holder

'.... at something less than 100 feet with my landing circuit all worked out, one wing is violently thrown up. —

..... I bend the sticks to keep it going round to head back straight into the bump.....'

'..... by this time it is too far away for me to fly accurately, I cannot make more than about 2000 ft at best.....'

'...I have already passed my personal best of 2 hours 31 minutes....'

'.....and finally land about 25 yards from the gate....'

'...Tony stops the watch at 3 hours 35 minutes 35 seconds.'

Tim Buckley.

## 5.2 Summer and Winter postals

Although suffering a decline in popularity over recent years, there may be a series of Postal Competitions arranged. These are based on the BARCS leagues season - the Postal year now starts with The Winter Series of Postal Rounds, normally held from November to April or May, covering Open, 100S, and HLG.

The Summer Postals Series, usually held from June to September, have, in the past few years, covered Open, 100S, HLG and SLG classes .

The flights are made on the contestants' own local flying field, over a set period (currently 4 weekends), with you being able to elect to fly either Friday, Saturday or Sunday. The format of the events encourages fellow club members to get together to fly them, with 'Club' Trophies & certificates being awarded.

The top individual placings in each round of each series may receive a certificate by post, and then the top places and the best junior in each series, may receive a certificate at our AGM in December.

The Postals Co-ordinator, who organises the various events, may change the rules from time to time.

Full details of the rules and dates for any current series, plus scorecards, and entry forms are issued in good time in the BARCS Newsletter and can be downloaded from the BARCS web site. [www.barcs.co.uk](http://www.barcs.co.uk)

## 5.3 Achievement Scheme

### 1. General

- a) The big development in 2002 was the BMFA and BARCS getting together to share the running of the Thermal and Slope Schemes.
- b) History - These schemes for silent flight were originally started by BARCS back in the 70's, when the development of reliable proportional radio gear encouraged free flight glider pilots to add radio control to their models. The achievement schemes were designed to appeal to the soarer who would like to progressively improve his or hers flying

abilities, and to give pilots not particularly interested in competition flying, a set of personal targets to aim for.

They were adopted by the BMFA and run as separate schemes by both BARCS and BMFA for some years as four performance levels of similar tasks, from Bronze upwards.

With the increasing need for 'Safety' and proof of 'Competence', the BMFA eventually moved the emphasis on their first two levels from performance to proficiency, by creating the 'A' and 'B' tests, giving model flyers the opportunity to reach a given standard of flying ability and safety.

c) The A Certificate

This may be equated to a 'safe solo' standard of flying. It is a kind of very basic driving test, in front of a BMFA Registered Examiner or Chief Examiner on ones own flying field. On passing the pilot is issued with a Silent Flight log- book [which will then cover all the other levels] and BMFA certificate.

d) The B Certificate

This is designed to recognise a pilot's more advanced ability with a demonstrated level of safety suitable for flying at a publicly attended event. It is like an advanced driving test-still done via the BMFA as for the 'A' but with more demanding tasks, and it has to be done in front of either two registered examiners (the 'lead' must be a Silent Flight Examiner) or one Silent Flight Chief Examiner.

On passing, the pilot's log-book is updated and he receives a BMFA certificate, together with the details of the three higher levels, and the contact details of the BARCS Achievement Co-ordinator.

Unlike the old Bronze and Silver, where one had to take Bronze before going onto Silver, there is no requirement to take the 'A' first. One may start with the 'B' test If one feels competent enough to do so. The BMFA's feeling is that the preferred route is to start with the 'A' and progress upwards from there.

e) Gold – Diamond – Diamond Star

These are the three higher levels, looked after by BARCS, to do with improving ones performance, by setting more demanding tasks as one goes up the levels.

The BARCS Achievement Co-ordinator will send the details of the 'Gold' level with a claim form and a set of Judges notes for the slope tasks, once the pilot has passed the 'B' test

As one achieves each of these levels ones log book is updated by BARCS and you are awarded a BARCS certificate and appropriate level sticker for display on ones model or model box.

Claim forms and leaflets, with judges notes for the Slope tasks, for all levels of the Thermal, Slope and Electric Silent Flight schemes are available from the BARCS Achievement Co-ordinator.

f) How to get started

You need to contact a BMFA examiner:-

- i. Each of the BMFA's thirteen geographic areas has an 'Achievement Scheme Co-ordinator', who will put you on to your nearest examiner. Get his contact details from the BMFA office.
  - ii. Examiners can be appointed by any model club, affiliated or not affiliated – check with your club to see if it has one among its members.
  - iii. the BARCS Achievement Co-ordinator, can also help with names of some examiners.
- g) For any and all information on the Achievement Scheme or Examiners for Silent Flight, contact the BMFA Office as below.

Telephone 01162 440028

Fax 01162 440645

e-mail: [admin@bmfa.org](mailto:admin@bmfa.org)

2. The A Certificate - Thermal

The examination for the Thermal 'A' Certificate may be taken on application to any Registered Club Examiner or Chief Examiner. The candidate must successfully carry out the following test. Details of the required schedule are now set out in the BMFA Silent Flight achievement scheme documentation and, to avoid confusion, are not repeated here. See the contact details above.

3. The B Certificate – Thermal

The examination for the Thermal 'B' Certificate may be taken on application to a Registered Examiner. The examination may be carried out by:

- a) Two Registered Examiners (the 'lead' must be a Silent Flight Examiner).
- b) A Silent Flight Chief Examiner

If your club does not have any Registered Silent Flight Examiners, you should contact your local Area Achievement Scheme Co-ordinator who will be able to help. Names and telephone numbers of Area Co-ordinators are available from the BMFA Leicester office. Details of the required schedule are now set out in the BMFA Silent Flight achievement scheme documentation and, to avoid confusion, are not repeated here. See the contact details above.

The A certificate must be passed before the B is attempted but both may be taken on the same day and consecutively.

4. Gold, Diamond and Diamond Star - Thermal

The purpose of these higher levels, administered by 'BARCS', are to provide a varied series of more demanding tasks as one goes up the levels, to give flyers the satisfaction of achieving set levels of competence beyond the 'A' and 'B' Certificates and without having to take part in contests, achieve recognition of increasing thermal performance on their own flying field, as their skills develop.

The schemes are voluntary, are open to all model flyers and there will be no charge to either BMFA or BARCS members or non-members wishing to register their claims.

A pilot must hold a 'B' Certificate before submitting a claim for the 'GOLD' award

Claims are to be made sequentially – i.e. 'Gold' tasks must be completed and registered before a claim may be entered for 'Diamond' and so on.

### General Rules

- a) The model must conform to the general maximum weight and size limits as laid down in F.A.I. rules
- b) Launch may be by :-  
 Hand Towline - length not to exceed 150 metres.  
 Bungee - 150 metres max. unstretched.  
 Electric Winch – with the turnaround pulley fixed a maximum 150 metres from the winch  
 Aero tow - release at approximately 150 Metres.
- c) Flights should be made on reasonably level terrain to exclude the possibility of slope lift.
- d) Each task at each level, may be attempted separately on different days over any period of time, with its achievement being recorded and witnessed
- e) Before each launch, the pre-flight checks required by the BMFA Safety Codes should be carried out.
- f) Flights are not precision time. They may exceed the required flight time by any margin.
- g) Precision landings must terminate with the nose of the model within 12.5 metres of a nominated target.
- h) To claim, the flyer has to achieve the required tasks, obtain the confirming witness signature, and then send the completed claim form to the 'BARCS' Achievement Co-ordinator.

Thermal Gold - Tasks	
Task 1	One flight of 15 minutes duration
Task 2	One flight of 20 minutes duration
Task 3	One flight of 25 minutes duration

+ Precision Landing on all 3 flights
--------------------------------------

Thermal Diamond	Tasks
Task 1	One flight of 45 minutes duration
Task 2	Five consecutive flights of 10 min duration within 150 min time period
Task 3	One flight of one lap over an equiangular course of 300 metres, the pilot to visit two corner points of the course
+Precision Landing	On all 7 flights

Thermal Diamond Star	Tasks
Task 1	One flight of 60 minutes duration
Task 2	Five consecutive flights of 15 min duration within 180 min time period
Task 3	One goal and return flight over a 1.5 km course i.e. distance covered 3 km (approx. 2 miles)
+Precision Landing	On all 8 flights

5. A Certificate - Slope

The examination for the Silent Flight Slope 'A' Certificate may be taken on application to any Registered Club Examiner or Chief Examiner.

Details of the required schedule are now set out in the BMFA Silent Flight achievement scheme documentation and, to avoid confusion, are not repeated here. See the contact details above

6. B Certificate – Slope

The examination for a 'B' Certificate may be taken on application to a Registered Examiner. The examination may be carried out by:

- a) Two Registered Examiners (the 'lead' must be a Silent Flight Examiner).
- b) A Silent Flight Chief Examiner

If your club does not have any Registered Silent Flight Examiners you should contact your 'BMFA' local Area Achievement Scheme Co-ordinator who will be able to help. Names and telephone numbers of Achievement Scheme Co-ordinators are available from the 'BMFA' Leicester office.

Details of the required schedule are now set out in the BMFA Silent Flight achievement scheme documentation and, to avoid confusion, are not repeated here. See the contact details above

A 'B' certificate cannot be attempted until the pilot has passed the 'A' certificate schedule however the 'B' can be attempted immediately following the passing of the 'A' and both can be done on the same day.

#### 7. Slope – Gold, Diamond & Diamond Star.

The purpose of these higher levels, administered by 'BARCS', are to provide a varied series of tests at different levels of complexity to satisfy graded levels of slope soaring ability beyond the Slope 'B' certificate. The aerobatic tasks are to be conducted by a 'BMFA' Silent Flight Examiner but the other flights may be witnessed by an appropriate 'BARCS' or 'BMFA' member.

The schemes are voluntary, are open to all model flyers and there will be no charge to either 'BMFA' or 'BARCS' members or non-members wishing to register their claims.

A pilot must hold a 'B' Certificate before submitting a claim for the 'GOLD' Award.

A claim form for the 'Gold' level is obtainable from the BARCS Achievement Co-ordinator or the BMFA office.

Claims are to be made sequentially – i.e. 'Gold' tasks must be completed and registered before a claim may be entered for 'Diamond' and so on.

#### General Rules

- a) The model must conform to the general maximum weight and size limits as laid down in F.A.I. rules
- b) Before each launch, the pre-flight checks required by the BMFA Safety Codes should be carried out.
- c) The flyer or helper will hand launch the model.
- d) Each task at each level, may be attempted separately on different days over any period of time, with its achievement being recorded and witnessed
- e) Task 1 at each level, must be judged and witnessed by a BMFA Silent Flight examiner [preferably with extensive Slope aerobatic experience]  
Tasks 2, 3, 4, and 5 at each level, must be witnessed by a BMFA or BARCS member.
- f) In Task 1 at each level :-
  - i. The flyer will perform the prescribed manoeuvres for the level being attempted in the order set out in the schedule.
  - ii. Should the flyer fail to perform any manoeuvre to the required standard (as illustrated in the level's Judge's Notes), he or she shall be immediately advised of the fact by the examiner. To qualify for the grade being attempted, the flyer will have to restart the whole sequence again from the launch of the model.

- iii. The examiner's decision as to the satisfactory performance of any manoeuvre shall be taken as final. No protests are allowed or are to be entered into.
- g) To claim , the flyer has to achieve the required tasks, obtain the confirming witness signature, then send the completed claim form, together with their Pilot Log Book, to the 'BARCS' Achievement Co-ordinator.

Slope Gold	Tasks
Task 1	A Slope Soaring flight of 20 minutes maximum duration to include the following manoeuvres:-
a)	3 consecutive axial rolls across wind
b)	One double Immelman
c)	3 consecutive outside loops
d)	A vertical 8
e)	A Cuban 8
f)	Landing pattern - rectangular
Task 2	3 spot landings, from a maximum of 10 consecutive attempts, within 15 metres of a pre-determined spot measured from the model's nose.
Task 3	1 spot landing, from a maximum of 3 consecutive attempts, on the slope side within the slope lift area, within 20 metres of a pre-determined spot measured from the model's nose.
Task 4	A flight of 1600 metres, within 2 minutes, over a closed circuit course – turn points to be 80 metres apart
Task 5	A slope Duration Flight of 45 minutes <u>minimum</u> duration

Slope Diamond	Tasks
Task 1	A Slope Soaring flight of 30 minutes maximum duration to include the following manoeuvres:-
a)	Slow axial roll across wind to left, immediately followed by slow axial roll to right.
b)	3 Consecutive axial rolls across wind
c)	Four turn spin
d)	Four point axial roll across wind
e)	Figure M
f)	A horizontal 8
g)	A Vertical 8
h)	3 minutes inverted flight
i)	4 consecutive inside loops across wind

j)	4 consecutive outside loops across wind
k)	One double Immelman
l)	Landing pattern - rectangular
Task 2	3 spot landings, from a maximum of 6 consecutive attempts, within 8 metres of a pre-determined spot, measured from the model's nose
Task 3	1 spot landing, from a maximum of 2 consecutive attempts, on the slope side within the slope lift area, within 15 metres of a pre-determined spot., measured from the model's nose
Task 4	A flight of 1600 metres, within 90 secs, over a closed circuit course – turn points to be 80 metres apart
Task 5	A slope Duration Flight of 60 minutes <u>minimum</u>

Slope Diamond Star	Tasks
Task 1	A Slope Soaring flight of 45 minutes maximum duration to include the following manoeuvres:-
a)	One slow axial roll across wind to left in not less than 5 secs.
b)	One slow axial roll across wind to right in not less than 5 secs.
c)	One 4 point axial roll across wind in not less than 5 secs
d)	4 consecutive axial rolls across wind
e)	6 turn spin
f)	Figure M
g)	A horizontal 8
h)	A Vertical 8
i)	One double Immelman
j)	6 consecutive inside loops across wind
k)	6 consecutive outside loops across wind
l)	3 minutes minimum duration inverted flight including one left hand and one right hand 3600 horizontal circle of minimum 50 metres diameter
m)	Landing pattern - rectangular
Task 2	3 spot landings, from a maximum of 5 consecutive attempts, within 5 metres of a pre-determined spot, measured from the model's nose
Task 3	1 spot landing , from one attempt, on the slope side within the slope lift area, within 10 metres of a pre-determined spot., measured from the model's nose
Task 4	A slope Duration Flight of 90 minutes

	<u>minimum</u>
Task 5	A goal and return flight of 2.5 km to goal, nominated before launch, total distance flown 5 km – Landing to be within 25 metres of launch point.

## 8. Electric Launched Gliders

The BARCS scheme does not extend to the higher levels of 'GOLD' upwards for ELG models, and just consists of the 'driving test' levels - the 'A' and 'B' Certificates

BARCS is therefore not directly involved in the Electric achievement scheme, but as the tasks in the tests are aimed at electric thermal gliders, rather than electric powered aerobatic models, they ideally suit anyone with an eSoaring (or ELG) type model.

Many of our members may wish to have a go, so to help we have put all the details on our web site.

The full rules for the 'A' and 'B' tests can be obtained from [www.barcs.co.uk](http://www.barcs.co.uk)  
Or the BMFA Office at Leicester.

## 5.4 Cross Country Adventure

The "JOHN WHITAKER CUP" is awarded annually for the longest Cross-Country Flight of the year, using either Thermal or Slope lift.

The following rules apply:-

- a) This annual competition runs over approximately the same period as our league competition season, October - September the following year.
- b) Models must conform to current FAI specifications with regard to weight, maximum size, and loading limits.
- c) There are two classes of flights - SLOPE start & THERMAL start
- d) The same model may be used for both Slope starts & Thermal starts
- e) Models must either, be hand launched or launched on a hand tow- line not exceeding 150m, or a bungee not exceeding 150m unstretched, or a power winch with the turnaround pulley fixed 150m maximum from the winch.
- f) Slope Start - Slope soarers must be hand launched direct from the slope.
- g) Thermal Start -Thermal soarers must be launched at a distance not less than 2 miles (3.2Km.) from obvious slope lift.
- h) Motor transport - car, pick-up truck etc, may be used to follow the model
- i) The landing may be at any point above the launch point, or, if below it, a height loss of not more than 100 feet per mile flown (30m per1.6Km.) will be allowed.

- j) The landing must be within 150m of the pilot's position at the time.
- k) All flights must be observed by a "navigator" who must accompany the pilot from launch to landing.
- l) Distance flown must be measured in a straight line from point to point, launch to landing, as given by the grid reference of the two points. Map numbers must be given.
- m) Competitors may make as many claims as they wish during the year, — for either or both Slope starts & Thermal starts
- n) The trophy is awarded each year at the AGM to the overall winner, with the best SLOPE start and THERMAL start flights each receiving a framed certificate.

A claim form :-

- a) can be downloaded from our web site - [www.barcs.co.uk](http://www.barcs.co.uk)
- b) is readily available from the Records & Trophies Officer, who will be delighted to receive as many claims as you care to put in during the year.

### 5.5 All Rounder of the Year – The Neil Webb Trophy

Traditionally, to win this award members have had to make a claim, which sadly no one has done for some years.

From 2009, we will present the trophy to the top combined league score over all disciplines. This should have the benefit of increasing the interest in some of the minority classes as well as encouraging participation in all.

For this purpose a National Open League has been established to provide an equitable score against the other nationally based leagues.

Additionally to encourage participation in more classes, 10 bonus points will be awarded for each additional league flown over the first,

eg

1 League	0
2 Leagues	10
3 Leagues	20
4 Leagues	30 etc.

If necessary, we will review the scoring system for future years.

### 6.1 Insurance

Proof of Third Party Insurance will be required for competition entry. Proof of BMFA membership confirms such insurance.

### 6.2 The BARCS Newsletter

From February 2009 the quarterly magazine 'SOARER' was discontinued due primarily to lack of an Editor and it has been replaced with a periodic Newsletter - published on the web site to get information to members quicker - it will be A5 in size and just 4 pages [ probably]

Options

- a) It is available free to members as a PDF, to download from the BARCS web site [www.barcs.co.uk](http://www.barcs.co.uk)
- b) For those members who prefer to have a 'hard' copy , a printed copy is sent by post each month --for an additional annual subscription

The Newsletter may carry advertising but is independent of any commercial interest. Its role is to inform the membership and provide an effective channel of communication on everything from technical developments to competition news and the calendar of events.

### 6.3 Bits & Pieces

#### BARCS Logo



**New BARCS logo stickers,  
fade free, laser printed  
on thin white vinyl size 63x51mm**

**Strip of 3 Stickers  
£1.00 + 75 p p&p  
(The 75p for p&p covers several  
strips in the same package.)**

**BARCS Neckstraps** are also available for sale at £5 plus £1 p&p

To order either of the above, contact Graham James at [grjinflight@yahoo.com](mailto:grjinflight@yahoo.com).

## **Appendix 1 – Summary Rules for Specialist Classes**

### 1. 'RES' Class Specific Rules Summary

#### a) Objective

- i. The objective of these rules is to provide for equitable competition of the many RES models, primarily but by no means exclusively, from the era before the advent of commercially available fully moulded models. A ten minute flight is required in a twelve minute slot. Relaunches are allowed – the final launch counts as the flight score. Landing points are as per BARCS OPEN contests.
- ii. Directional control shall be by use of rudder and elevator ONLY.
- iii. The use of releasable tow-hooks or airbrakes or spoilers, excluding any such device used additionally for directional control or camber changing devices giving altered lift generation, shall be permitted.
- iv. Models using a flying wing or canard configuration are not (for this RES Class), exempt from the wing surface restrictions set out above

### 2. Stand Off Scale Rules (Thermal) Summary

#### a) Objective

To provide the opportunity for equitable competition between Scale Model Gliders flown on flat sites.

#### b) Procedure

- i. The competition will be in two parts, static and flying.
- ii. Marks for both static and flying will be awarded from 0 to 10 in steps of 0.5 and will be multiplied by the appropriate factor. Models will be viewed from outside a circle of 15 feet radius during static judging. Cockpit or interior cabin detail will not be taken into consideration, except as it affects the accuracy of outline.
- iii. Maximum score from Static Section is 230.

#### c) Flying Section

- i. Launching may be carried out by hand tow or power winch.
- ii. The competitor will make two flights in which he will attempt to accumulate a total time of 8 minutes. The 8 minutes may be scored on one flight or the accumulation of two flights, with no penalty for overflying.
- iii. The competitor will be awarded one point for every two seconds flown.
- iv. The maximum number of marks is 240.

### 3. Original BARCS Mini Glider Rules

These rules are now obsolete and generally superseded by F3K rules where the identical model definition applies.

They allow for a four round contest using 10 minute slots where launching may be by hand throw or by mini bungee. 5 attempts are allowed for each flight, the times from the longest 3 attempts to count. A 3 minute maximum flight time for any one flight. Landing to be in the area designated by the CD.

### 4. 60" Pylon Racing Rules

#### a) Objective

The format of this competition is intended to encourage people to try slope racing. Nine pilots are the recommended minimum for good competition, with five a suggested minimum

At least two rounds must be flown and each round must involve at least two pilots flying against each other.

The winners from the rounds must compete against each other in at least one final heat to decide the final placing. Scoring is done by awarding points equivalent to the placing achieved in the competition.

#### b) Rules Summary

- i. The model must be no more than 60" span.
- ii. The course should be no less than 80 metres between pylons. Sighting lines at each pylon must be laid out parallel to one another and at 90o to the course
- iii. Models are launched 30 secs before the start to gain height and must not pass the start line and enter the course before the start signal
- iv. The racing to cover ten laps of the course.

### 5. Stand Off Scale Rules (Slope) Summary

Like Thermal Scale the contest will consist of two elements: Static judging and Flight

Static judging shall be done from outside a 15 ft radius circle and contestants must supply suitable documentary evidence relevant to the model.

Flight scoring will apply to 360 degree turns, Straight Stall, Straight & Level flight, Climb, a nominated manoeuvre, Approach and Landing plus points for continuity and realism.

## **Appendix 2 – Competition Matrices**

1. A matrix is a method of organising each competitor's slots, to aim to ensure as far as is possible, that no pilot flies against any other pilot in the competition, more than once.

2. Section 6 in archived versions of the Handbook illustrate a huge variety of matrices. It is now felt unnecessary to continue to provide such matrices in this Sixth Issue of the Handbook as the process of matrixing any competition is generally accomplished with readily available software and, as a fall back to organizers, the BMFA Glider Rule Book, Appendix 1 contains suitable sample matrices.