BMFA
FREE FLIGHT TECHNICAL COMMITTEE
MINUTES OF MEETING 2nd November 2011

					Action
Present	Mike Woodhouse	MW	Phil Ball	PB	
	Chris Strachan	CS	Trevor Grey	TG	
	John Carter	JC	Ian Kaynes	IK	
	Peter Williams	PW	Mike Francies	MF	
Apologies	John Huntley	JH			

Minutes of 21.09.11

CS apologised for a date error on some copies otherwise accepted as a true and accurate record.

Rule Changes

Rule book changes for 2012

TG had prepared a draft of all of the rule changes for 2012, including the implementation of RDT and the revised Team Selection Process.
TG lead a discussion of all items and a number of detailed changes were agreed.
These will be included in a new version of the document which will be circulated by TG for final confirmation by Friday 4th November. TG

The complete detailed changes are not minuted here but those of more significance were

- Team Selection. Under windspeed go for continuously below 15mph , measured over 20 second intervals at 10 and 5 minutes before the start of the round. If exceeded then the start will be delayed and the process will be repeated at 15 minute intervals TG
- Team Selection. Finish time of second part to be 6pm or 3 hours before sunset.
- The Full FAI rules section of the rule book to include the FAI rules verbatim with no changes of rule numbers

The completed rule change document, incorporating all changes agreed at the meeting and then circulated and confirmed as above is included with these minutes as Appendix A

SAM 35 and 1066 rules.

Nothing to report

Contest Calendar

2012 calendar

New version to be V1.7 and to include the following changes

- Team selection to be described as parts 1 and 2 and pre entry to be emphasised
- Northern Gala to be stated as Barkston or Church Fenton – to be confirmed TG

Barkston dates applied for . MW to chase up confirmation MW
Barkston gate key number should be obtained from David Phipps not round the back door. MW to talk to David MW
CS to investigate moving the Southern Gala back to Little Rissington.

2nd Team Selection Meeting CS

It has been noted that this meeting clashes with a Council Meeting. This is regrettable but it is now to late to change as dates have already gone to the magazines. TG to talk to Chris Bromley saying that we will try to do better next year. TG

Nationals

2011

MW reported that all bills are now in and the final results will show close to break-

even.

2012

- The draft entry form, incorporating the new pricing structure was reviewed and a number of detailed changes were agreed. MW to revise and circulate ready for final agreement at the next meeting. MW
- It was noted that there has been some interest expressed by Silent Flight in sharing their Nationals with the Free Flight Nationals at Barkston. This was seriously discussed and it was agreed that such sharing would be impossible due to the conflicting requirements for mobility, safety and thermal detection. TG to talk to the Technical Secretary. TG

Officer's Reports

Treasurer

Accounts all OK and no change proposed to area and centralised entry fees. Team Selection fees to be £25, pre-entry only, for the 4 days.
Proposed JC, Seconded TG. Voting - all in favour

CD Expenses

JC suggested that CD expenses should in future be described as a gratuity and should be set at £50 per day including travel costs. At the Nationals an assistant CD should be offered a gratuity of £25.
Proposed TG, Seconded JC. Voting - all in favour

Council Delegate

MF reported items from the Technical Council meeting

- The Set Agenda letter has been revised and will be circulated. MW has received a copy and will forward it to CS MW
- Stuart Lodge has now been added to the CIAM judges list, subject to his apology for previous actions appearing in Interspace. MF to circulate copies when it appears. MF
- The Free Flight Nationals report has not yet been received. CS to action. CS

PRO

All normal activities completed

Safety Officer/Results Coordinator

PB reported that results are up to date and the records officer has been provided with all needed information.
PB to write a piece on behaviour between disciplines at Barkston, especially Radio and Free Flight and pass it to PW for inclusion in News PB

Rules Officer

Attended Technical Council meeting. Nothing to report except under Rule Changes.

International Teams

F1A,B,C

Potential teams now selected. Check of availability now under way and required by 30th November. No team manager applications yet received CS

Space

Team selection events completed. Teams for Slovakia available. No manager yet selected. Some doubt on team attendance due it high cost. MF

F1E

Team trials have been completed and sufficient members for a full team have qualified. IK will be team manager and is checking on availability to enable preparation of a team proposal in early December IK

World Cup Events

Equinox Cup 2012 F1

In calendar. No planning at this stage. JC stated that he will be unable to act as co-ordinator due to its proximity to the European Championships.

Equinox Cup 2013 Space

	This event is still envisaged	
Events	**AGM Static display**	
	It was agreed that MW will provide an F1B, IK an F1E and CS a BMFA electric.	MW IK
	All to provide Martin Dilly with details for placards.	CS
	A Workshop type event	
	TG proposed three possibilities . A glider day, a technology day or a visit to a supplier of bespoke parts. The decision was made to opt for the technology day to include items such as basic CAD, Excel for design, the construction and use of electronic timers, the installation and use of RDT. A date on a Saturday in early February to be selected. TG to proceed with organisation within a budget of £650.	TG
	Museum of Aeromodelling	
	The proposal was welcomed and it was agreed that MW should talk to Jim Wright to offer our support and suggest that he speaks to John Thompson about the possibility of approaching the museum at Middle Wallop.	MW
	Local Council funding for Free Flight	
	The programmes pointed out by Nick Bosdet have been examined and are not considered relevant.	
Free Flight Info.	**Website**	
	Nothing to report	
FFTC Deliverables	Update document now completed. CS to retain	CS
BMFA Growth	Paper "BMFA Growth – Proposals for Spend" sent to the BMFA Chief Executive and Chairman. Acknowledgement received from the Chief Executive saying that he will put it before the Executive Committee	CS
A.O.B.	MW tabled a letter for Leon Cole asking if his sons could be considered for junior team membership. MW to reply that it is too late for 2012 and but consider entry in team selection next year for 2013.	MW
	CS to update Junior Team Qualification Requirements document	CS
Next meetings	**Dates**	
	Wednesday 7th December 11.00 am at Chacksfield House.	All

FFTC 07/11/11

Critical dates for FFTC

BMFA News Copy dates	February 2012 Issue (110) – Late December (estimated)
Full Council	**January 7th** Agenda deadline December 12th
Technical Council	
FFTC meetings	December 7th

Appendix A

Free Flight Rule Change Proposals for 2012 (final)

Highlighting indicates proposed changes from current 2011 rule book

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Index – Pages 1 & 2

[*Remove Index reference No.s 3.25 to 3.43 inclusive – page No.s to remain*]

Opening Caveats – Page 3

Gender

Throughout this rule book the pronoun ‘he’ is used for conciseness. ‘She’ should be substituted when appropriate.

FAI Outdoor Free Flight Rules

Note that domestic BMFA events for the FAI classes are NOT run to full FAI rules and that the full FAI rules are included in this rule book for information only, giving BMFA Free Flight competitors as much information as possible within this BMFA contest rule book. However, at BMFA events for the FAI classes, where relevant and desirable, the full FAI rules will be followed as closely as possible.

These full FAI rules are set out at the rear of the outdoor section and are set out exactly as they appear in the FAI sporting code. They use the same numbering system as per the said sporting code.

The FAI rule concerning the ***wind speed*** at which a contest may be interrupted is FAI Sporting Code, Section 4, Volume ABR, Section 4B rule B.15.1.(a) which states:
A contest should be interrupted if 'the wind is continuously stronger than 9 m/sec (for free flight), measured at 2 metres above the ground at the starting line for at least 20 seconds, unless specified otherwise in the category rules'.

The following is the definitive FAI method of ***measuring surface area*** and is taken from the FAI Sporting Code, Section 4, Volume ABR, Section 4C rule 1.4.1

The surface area includes the total surface of the wings and that of the horizontal or oblique stabilising surface or surfaces. The surfaces taken for calculation are the orthogonal projection on to a horizontal plane of the surfaces in question with each surface at zero incidence (i.e. place the wing on a flat surface with the tips propped up at the correct dihedral angle and then project its outline vertically downwards on to the flat surface - Ed).

When wings or stabilising surfaces are built into the body of the aeroplane the surface taken into account shall include that area contained within the normal contours of the flight surfaces extended so as to meet at the plane of symmetry of the model.

FAI Indoor Free Flight Rules

The numbering system of these classes gives the BMFA class number first followed by individual rule numbers taken direct from the FAI Sporting Code. Thus rule 3.21.3.4.2. in this book refers to part of BMFA class 3.21 (F1D Indoor Models, FAI Rules) and rule number 3.4.2. is that same rule in the FAI Sporting Code, Section 4.

3.1.1 Definitions

(a) Free Flight

(i) A flight where there is no physical or any other connection that may carry data

between the competitor and the model after the flight has commenced. This prohibits the use of transmissions of any type to the model in flight for the purposes of controlling any of its functions, except as noted below:

The use of transmissions to the model is permitted for DT in all classes and for motor stop in IC and Electric classes only. All such transmissions are only permitted for once-off, irreversible actions.

The use of the 40 MHz, 35mHz and 27mHz transmission bands is specifically prohibited. The FFTC recommends the use of the 2.4 GHz band.

(ii) Outdoor contest flights must take place outdoors.

3.1.4.1 Maximums

(a) The duration of flights will be used for scoring purposes with a maximum of three minutes being recorded for all but fly-off flights (unless specified otherwise in the special rules governing the contest). For Area centralised contests the maximum shall be two and a half minutes unless a lower maximum is already specified in the special regulations governing the class. Before the start of a centralised contest the Contest Director (CD) may vary the maximum to suit conditions but once the contest has started no variation is permitted. The maximum for FAI contests may be varied to suit the conditions before the start of any round.

(b) In F1E contests the maximum will be between 2 and 5 minutes (inclusive) as indicated by the CD before the start of the round concerned.

3.1.5 Procedure of Starts

(a) Each competitor must wind the rubber motor, start and adjust the engine or motor, tow his own glider and launch his own model (other than glider).

(b) Hand launching is allowed in all BMFA contests.

(c) A competitor when launching a model must be on the ground but nothing contained in this rule shall prevent a competitor making a leap or jump at the moment of launching.

(d) During a Centralised FAI contest, for classes F1A, F1B, F1C, F1P and F1Q launching must take place within 5 metres of a launch line which will be positioned perpendicular to the wind at the beginning of the round. The line will be of a finite length and marked at each end. For the F1A class the helper must position himself/herself within the required 5 metres before the launch.

(e) For F1E contests, the Contest Director will indicate any restrictions affecting the launching point. Rule 3.1.8.3 will apply.

3.1.6 Attempts For Official Flights

Attempts are of three types; scoring, non-scoring and unsuccessful.
The first non-scoring attempt for a flight may be repeated. A second non-scoring attempt for the same flight gives a zero score for the flight. An unsuccessful attempt may be repeated without penalty.

3.1.6.1 Scoring Attempts

Scoring attempts are defined as flights of 20 seconds or longer which are not covered by rules 3.1.6.2 or 3.1.6.3 or a flight of less than 20 seconds which is not covered by rules 3.1.6.2 and 3.1.6.3, if the competitor demands that the score be accepted. In addition a flight by any type of glider (including Hand Launch Gliders and Catapult Gliders but excluding F1E soarers) that is under 20 seconds (10 seconds for Hand Launch Glider and Catapult Glider) and is terminated by dethermalising will score the actual time recorded. For a flyer to appear in the results he must return a score greater than zero.

3.1.6.2 Non-Scoring Attempts

Non-scoring attempts are defined as;

(a) When the engine of a mechanically powered model runs for more than the prescribed time. The engine run shall be deemed to have terminated at the time when all audible noise from the engine ceases.

(b) When a glider still attached to its launching cable touches the ground or an object except as detailed in 3.1.6.3.

(c) When some part of the model (except for rubber bands or equivalent restrainers used for dethermaliser equipment) becomes detached during the launch or in flight.

(d) When a flight is of less than 20 seconds, as detailed in 3.1.6.1 above.

3.1.6.3 Unsuccessful Attempts

An unsuccessful attempt is defined as one in which either:

(a) The model collides with a person (other than the person who launched it) when being launched.

(b) During towing the model collides with a model in free flight (but not with a model being towed or a towline) and the towing cannot continue normally.

(c) During the flight the model collides with another model or tow line.

(d) A timekeeper fails to record the time of flight or motor run due to circumstances which, in the opinion of the CD, are beyond his control and unless there is other evidence of the time which is acceptable to the CD.

In the case of (a), (b) and (c) above, should the model continue its flight in a normal manner, the competitor may demand that the flight be accepted as an official flight, even if the demand is made at the end of the flight.

3.1.7 Cancellation of Flights

The flight scores zero:

(a) If the competitor, after processing, modifies his model by changing any item of the specification required by the regulations.

(b) When two non-scoring attempts have been made for the same flight.

(c) When no attempts are made for a flight.

(d) When a glider competitor commences a flight with the winch attached to the towline.

(e) When part of a model equipped to receive radio transmissions, as defined in rule 3.1.1 (a) i, becomes detached at any point in the flight.

3.1.8 Timekeeping

3.1.8.1 General

Any BMFA member, or person as may be approved by the CD may act as a timekeeper. The CD may at any time and without giving reasons, restrict a competitors choice of timekeeper as long as alternative timekeepers are available. For fly-offs, the CD may appoint time keepers who are, as far as possible, unconnected with the competitor. A competitor may not act as official timekeeper for his own flight. For Hand Launch Glider and Catapult Glider classes all flights made from the flight 'box' will be scoring flights. 'Trimming' flights must be made outside of the flight 'box' (See 3.13 Hand Launched Glider Class).

At all times competitors, helpers and spectators should allow the timekeeper(s) an unobstructed view of the model whilst its flight is being timed. No competitor, helper or spectator should in any way apply pressure to the timekeeper(s), which may influence them and lead to an unsporting result.

3.2 FAI Contest Regulations

3.2.1

Events run for International class models will require such models to conform to the appropriate FAI specifications. Contests will be run in accordance with the Free Flight Contest Rules (3.1) except as modified below.

3.2.2 Models

(a) Contests for FAI classes F1A, F1B, F1C, F1Q, and F1P ~~and F1Q~~ when flown by Juniors, (see rule 3.2.4.1 (a) paragraph 2), may be of two types; 5 flight events and 7 flight events (not including fly-offs). Competitors may enter and have checked 3 models for 5 flight events and 4 models for 7 flight events. Additional models shall not be allowed for fly-offs.
NOTE - This rule was clarified during 1991 and flyers should be aware that they may utilise any combination of models, within the numbers allowed, that they wish. For instance, in a 5 flight event, they may make their 5 official flights with one or two models, reserving their third model solely for a fly-off if needed.
(b) In contests for FAI class F1E, competitors may enter and have checked 5 models and are entitled to 5 official flights.
(c) Competitors may interchange the various parts of their models provided the resulting

model conforms to the rules.
(d) Competitors may use spare propellers, rubber motors, I.C. engines or electric motors. An I.C. engine or electric motor may not be used by more than one competitor in a particular contest.
(e) Repairs are permitted provided they do not in any way alter the specification of the model as defined in the rules.
(f) In Area Centralised contests where 5 flights are flown, 3.1.2 Free Flight contest rules apply.
(g) In F1A, F1B, F1C, F1E, F1Q, ~~F1J~~ and F1P when flown by juniors in F1C competitions, any models which are flown in the competition must be the property of the competitor before the competition commences and the only membership number carried on the models must be that of the competitor.

3.2.3 Fly-Offs

In order to decide the winner where there is a tie, additional deciding flights shall be made after the last flights of the event have been completed. Two attempts are allowed for each of these additional flights within the scope of rule 3.1.6.3. Should bad weather, lack of time or daylight make progressive fly-offs impractical, a single fly-off to rule 3.1.4.3 may be used at the CD's discretion. In Area Centralised events, rule 3.1.4.3. shall apply.

The set maximum flight time ~~(except for F1Q)~~ shall be incremented by two minutes on the flight time in the previous round, where the 'previous round' also includes the last flight of the event. ~~For F1Q the maximum shall remain as for the previous round but the motor run shall be reduced by 5 seconds from the previous round, down to a minimum of 5 seconds.~~ At any stage in the fly-off the Contest Director may modify these increments to accommodate the prevailing conditions or circumstances.
Note - Increments may be positive or negative but must be applied before the start of the additional round and must apply for the whole of that round.

3.2.4 Team Selection Events

3.2.4.1 Team Selection F1A, F1B, F1C and F1P

(a) Two FAI Team Selection events (parts 1 and 2) will be included in the Contest Calendar for the purpose of selecting the Senior World and European teams for F1A, F1B and F1C in the following year, and the Junior World and European teams for F1A, F1B and F1P in the following year.

At all UK F1C events, in order to provide a selection process and practice opportunities for a UK junior power team, juniors only may compete with F1P models flying to the same maximum as F1C and with motor runs as FAI class definitions for F1P.

All F1A, F1B, F1C and F1P Team Selection meetings shall be run, where relevant and desirable, as closely as possible to the FAI rules as set out in the rear of the 'outdoor section' of this book.

(b) Each event will held over 2 days and include no more than 7 rounds, although fewer may be held if conditions dictate. A minimum total of 3 rounds must be completed over both meetings for the Team selection process to be valid.

(c) The maximum will normally be 3 minutes, or 2 minutes 30 seconds, if conditions dictate a reduction. An extended maximum of 3 minutes 30 seconds for F1A Glider, and 4 minutes for F1B rubber and F1C power, may be applied for one round only, at each meeting, if the conditions are appropriate.

(d) The windspeed limit – measured at height of 2 metres above the ground at the flight line for a minimum of 20 seconds – at which the contest may be interrupted, or the start delayed, is 15.00 mph (6.7 m/s). The measurement will be taken 10 minutes and 5 minutes before the start of the round. If either measurement exceeds the limit the start will be delayed. If the start is delayed then the measurement cycle will be repeated every 15 minutes and the round will only commence when both measurements are below the limit. Once a round has started it will continue to the finish of its scheduled time span, irrespective of changes to windspeed.

(e) The start time at each meeting (parts 1 and 2) will be 9 am on the first day and may be earlier on the second day if required.

(f) Finish time on the first day at each meeting (parts 1 and 2) may be later than 6 pm to utilise the maximum available daylight. Finish time on the second day at the first meeting (part 1) will be 6pm or two hours before sunset whichever is earlier. Finish time on the second day at the second meeting (part 2) will be 6pm or three hours before sunset whichever is earlier.

(g) Scoring for the Team Selection Process will be by the total time recorded by each competitor. If after totalling any ties (down to fifth place) result these will be resolved by fly-offs held at the end of the second meeting and will be progressive: as per rule 3.2.3 para 2.

(h) Entry will be by pre- entry only. A single amount to cover both meetings must be sent to the nominated organiser, to arrive no later than 14 days prior to the date of the first meeting. The amount of the entry fee will be announced at the start of the season.

(i) If the required minimum total number of flights is not completed then a further meeting will be arranged.

3.2.4.2 Team Selection F1E

(a) Six centralised competitions and a reserve will be nominated each year for the purpose of selecting a team for either the World or the European F1E Championships in the following year. The competitions will be run to FAI rules and percentage scoring in the rounds will be to the FAI Sporting Code.

(b) Dependant on their placing in these competitions each competitor will be awarded points in accordance with the table in 3.2.6.1.(i). Only the competitor's best three results will count for team selection points.

(c) If the selection competitions flown do not produce a team then the FFTC shall take appropriate action.

(d) The number of rounds planned to be flown must be between 5 and 7 inclusive and must be announced before the start of the competition. The maximum time for each round must be between 2 and 5 minutes inclusive and must be announced before the start of that round.

(e) If fewer than 3 rounds can be flown then the contest shall be null and void.

3.5.Q Characteristics of Electric Motor Driven Models, International Formula (Class F1Q)

Motor run time will be determined by a maximum energy amount. In addition the maximum motor run allowed ..…….. 20 seconds

The maximum energy amount permitted …….. 5 joules per gram of total weight

For energy calculations total weight exceeding 550 grams is to be ignored.

On-board energy limiters are allowed for the purpose of cutting the motor when the permitted energy limit has been reached.

For models without energy limiters the motor's energy in watt-sec over the motor run is calculated as the measured wattage multiplied by the motor run. A freshly charged battery (4.15 to 4.2volts per Li cell, 1.2 volts per NiCad or NMH cell) should be used. When the motor has reached full power, wattage is measured using a commercial wattmeter via 3.5mm male and female bullet connectors furnished by the contestant.

[Editor's clarification: To calculate the allowed motor run weigh the model in a ready to fly state and note the weight in grams. Now multiply this weight by 5 (the joules per gram permitted) and note the result. Finally divide this result by the wattage produced, measured as described above. E.G: model weight 300 grams multiplied by 5 joules equals 1,500 watt-secs; divided by measured wattage of 100; equals 15 seconds.]

Lithium type battery packs must be in ‘as manufactured’ condition with the overall covering surrounding the individual cells intact. A balancer connection must be fitted if the battery contains more than one cell.

Safety locks must be used to prevent unintentional restarting of motor(s) after the motor(s) have been stopped.

Timing of motor run

The allowed motor run is to be verified by the timekeeper check timing on the ground before flying. The timekeeper shall mark the flight card to affirm this (it is only required that the ground timing procedure is carried out before the first flight). In addition the motor run shall be checked visually during each flight. If the model has not clearly stopped climbing under power after the allowed maximum motor run an over-run shall be declared.

3.7.4 Electric Class (BMFA Electric)

(a) Maximum weight of batteries: Ni based.....120 grams
Li based……..90 grams

(b) Motor run, maximum time from launch:
For Brushed motors .....…… 22 seconds
For Brushless motors.....…… 17 seconds

(c) No camber changes, surface area changes or bunt functions are permitted.

(d) Safety locks must be used to prevent unintentional restarting of motor(s) after the motor(s) have been stopped.

(e)Timing of motor run:

The motor run is to be verified by the timekeeper check timing on the ground before flying. The timekeeper shall mark the flight card to affirm this (it is only required that the ground timing procedure is carried out before the first flight). In addition the motor run shall be checked visually during each flight. If the model has not clearly stopped climbing under power after the allowed maximum motor run an over-run shall be declared.

3.13 Hand Launched Glider Class

(a) The glider must be launched by hand without mechanical aids.

(b) The launch must be from within a ‘box’ 25 m. square designated by the CD. All flights made within this box must be recorded as counting, official flights.

(c) The Free Flight General Rules apply except for the following:

(i) The competitor is allowed 7 official flights, all flights to count. (ref. 3.1.3)

(ii) The maximum time recorded for any official flight is one minute.

(iii) A scoring attempt is a flight of 10 seconds or longer. (ref. 3.1.6.1).

(iv) A competitor may use up to three different models and the combination of parts of these models.

(v) Flights do not have to be recorded on the score sheet after each is made (as per rules 3.1.8.2. (c)) but must be recorded on the score sheet at least at the conclusion of every third flight.

3.49 Catapult Glider Class

(c) [*delete*]

(d) [*rename as* (c)]

(e) Rules as for Hand Launched Glider Class - 3.13 (b) and (c) shall apply.
