FAI Sporting Code

Fédération Aéronautique Internationale

Section 4 – Aeromodelling

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[1] FAI Statutes, Chapter 1, para. 1.6
[2] FAI Sporting Code, General Section, Chapter 3, para 3.1.3.
[3] FAI Statutes, Chapter 1, para 1.8.1
[4] FAI Statutes, Chapter 5, para 5.1.1.2; 5.5; 5.6 and 5.6.1.6
[5] FAI Bylaws, Chapter 1, para 1.2.1
[6] FAI Statutes, Chapter 2, para 2.3.2.2.5,
[7] FAI Bylaws, Chapter 1, para 1.2.3
[8] FAI Statutes, Chapter 5, para 5.1.1.2; 5.5; 5.6, 5.6.1.6
[9] FAI Sporting Code, General Section, Chapter 3, para 3.1.7
[10] FAI Sporting Code, General Section, Chapter 1, paras 1.2. and 1.4
[11] FAI Statutes, Chapter 5, para 5.6.3
[12] FAI Bylaws, Chapter 1, para 1.2.2

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THIS 2005 EDITION INCLUDES THE FOLLOWING AMENDMENTS MADE TO THE 2004 CODE

Paragraph	Plenary meeting approving change	Brief description of change	Change incorporated by
3.G.1	Correction of inconsistency introduced in 2001	Other class definitions had been standardised but some words were omitted from the F1G definition	Ian Kaynes
3.L.2	Correction of typographical error introduced in 2001	The wing dimensions had been inadvertently rounded to nearest mm, these have been restored to the values in the 2000 edition of the Sporting Code	Ian Kaynes
3.L.2	2004	Deletion of alternative Imperial measurements	Ian Kaynes

NOTE: Attention is drawn to a change to Volume ABR affecting Free Flight. The Plenary meeting in March 2005 approved a change to paragraph B.17.3 to add a new prohibited item:

i) propellers which fold forwards to have exposed propeller tips pointing forwards in the direction of flight

This change is effective from April 1 2005

THIS 2005 EDITION INCLUDES THE FOLLOWING AMENDMENTS MADE TO THE 2003 AND 2002 CODES

This list is provided as a historical record

Paragraph	Plenary meeting approving change	Brief description of change	Change incorporated by
Contents list	Typographical (2003)	F1F Helicopters deleted from list, class not defined	Ian Kaynes
3.1.5.f	2001	Attempt rule to exclude dethermalising	Ian Kaynes
3.1.7	2000	Changes to maximum duration	Ian Kaynes
3.1.7, 3.2.7, 3.3.7	2003	Modification of text to defining conditions in which extend maximum should be used	Ian Kaynes
3.1.8, 3.2.8, 3.3.8	2000	Changes to procedure for deciding ties	Ian Kaynes
3.1.9, 3.2.9, 3.3.9, 3.4.9, 3.5.9, 3.G.9, 3.H.9, 3.J.9, 3.K.9, 3.N.6	2002	References to section 4b updated to reflect the changes made to section 4b, effective 2003	Ian Kaynes
3.1.11, 3.H.11	2003	Prohibition of metal cables	Ian Kaynes
3.1.11.c, 3.H.11c	2002	Restriction on shape of towline pennant, , effective 2003	Ian Kaynes
3.2.2	1999	Revision of maximum weight of motor	Ian Kaynes
3.2.5.b	2001	Attempt rule to exclude dethermalising	Ian Kaynes
3.2.7	2000	Changes to maximum duration	Ian Kaynes
3.3.5.c	2001	Attempt rule to exclude dethermalising	Ian Kaynes
3.3.7	2000	Changes to maximum duration	Ian Kaynes
3.5.2	2000	Use of radio control	Ian Kaynes
3.H.4, 3.J.4	-	Typographical corrections	Ian Kaynes
3.K.2	2002	Maximum volume of tank 2cc, effective 2003	Ian Kaynes
3.K.5.d	2002	Clarification of unsuccessful attempt for motor adjustment, effective 2003	Ian Kaynes
3.K.8.b	2002	Modification of deciding round, with waiting time 60 or 120 seconds, effective 2003	Ian Kaynes
3.K.8.c	2002	Change deciding round time to 15 minutes, effective '03	Ian Kaynes
3.K.11.b	2000	Change effective 2001	Ian Kaynes
Section 3.P	2002	Addition of new class F1P, effective 2003	Ian Kaynes
3.P.8	2002	18/1/02 Correction of typographiocal error on number of flights	Ian Kaynes
World Cup, paragraphs 1, 2, 4	2002	Creation of categories for F1A Junior and F1E Junior, , effective 2003	Ian Kaynes
Annex 2 and 3	1999	Organisers Guides added to F1 volume, with changes to align with 2003 Sporting Code	Ian Kaynes

RULE FREEZE FOR THIS VOLUME

With reference to paragraph A.12 of Volume ABR :

In all classes, the four year rule for no changes to model aircraft / space model specifications, manoeuvre schedules and competition rules will be strictly enforced, but in step with the World Championship cycle of each category. This means that in Volume F1:

a) for categories F1A, F1B, F1C, F1E changes can next be agreed at the Plenary meeting 2005 for application from January 2006

b) for category F1D changes can next be agreed at the Plenary meeting 2008 for application from January 2009

The only exceptions allowed to the four year rule freeze are genuine and urgent safety matters, indispensable rule clarifications and noise rulings.

PART THREE - TECHNICAL REGULATIONS FOR FREE FLIGHT CONTESTS

3.1. CLASS F1A - GLIDERS

3.1.1. Definition

Model aircraft which is not provided with a propulsion device and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight except for changes of camber or incidence. Model aircraft with variable geometry or area must comply with the specifications when the surfaces are in minimum and maximum extended mode.

3.1.2. Characteristics of Gliders F1A

Surface area (St) ..... 32 - 34 dm^2

Minimum weight ..... 410 grams

Maximum length of launching cable loaded by 5 kg ..... 50 m

Rule B.3.1. of Section 4b does not apply to class F1A.

3.1.3. Number of Flights

a) Each competitor is entitled to seven official flights in World and Continental Championships. For other international events the number of official flights is seven unless a different number has been announced in advance and approved by CIAM.

b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes.

3.1.4. Definition of an Official Flight

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.1.5. (If the attempt is unsuccessful for reason 3.1.5.f and a second attempt is not made then the duration of the first attempt is recorded as the official flight time).

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of any of 3.1.5.a, 3.1.5.b, 3.1.5.c, 3.1.5.d, or 3.1.5.e, then a zero time is recorded for the flight.

3.1.5. Definition of an Unsuccessful Attempt

An attempt is classed as unsuccessful if the glider is launched and at least one of the following events occur. If this happens on the first attempt then the competitor is entitled to a second attempt.

a) The glider returns to the ground without release of the cable.

b) The moment of release of the cable cannot properly be established by the timekeepers.

c) When a part of the glider becomes detached during the launch or during the flight time.

d) It is apparent to the timekeepers that the competitor has lost contact with the cable and the competitor or his team manager chose to declare an attempt.

e) It is apparent to the timekeepers that the competitor has lost contact with the cable and the cable is controlled by a person other than the competitor himself.

f) The duration of the flight is less than 20 seconds and the flight was not terminated by dethermalising.

3.1.6. An attempt may be repeated when:

a) the glider collides with a person, other than the person who launched it, when being launched.

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

c) during the flight the glider collides with another model or a towline other than its own towline.

Should the glider continue its flight in a normal manner, the competitor may demand that the flight is accepted as an official flight, even if the demand is made at the end of the flight.

3.1.7. **Duration of Flights**

The maximum duration to be taken for the official flights in world and continental championships is four minutes for the first round and three minutes for subsequent rounds. In other international events a maximum of three minutes will be used for all rounds unless different durations (not exceeding four minutes) have been announced in advance in the contest bulletin for specific rounds.

In the event of exceptional meteorological conditions or glider recovery problems the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

For any flights with a maximum duration greater than three minutes the additional time over three minutes is used only to resolve any tie.

Maximum durations greater than three minutes should only be used for rounds at times when wind and thermal activity are expected to be at a minimum.

3.1.8. **Classification**

a) The total time for each competitor for each of the official flights defined in 3.1.3. is taken for the final classification subject to a limitation of three minutes for each flight. This total time achieved is also used to determine team classification.

b) In order to decide the individual placings when there is a tie, the total time achieved in each of the official flights defined in 3.1.3 will be taken without limitation at three minutes.

c) In order to decide the individual placings when there is still a tie after the procedure in (b), additional flights shall be made after the last flight of the event has been completed. The maximum time of flight for the first of the deciding flights shall be five minutes and the maximum time of flight shall be increased by two minutes for each subsequent flight. The time of the additional flights shall not be included in the final figures of the classification for teams; they are for the purpose of determining the individual placing.

d) The organiser will establish a 10 minute period during which all fly-off competitors must tow and release their glider. Within these 10 minutes the competitors will have the right to a second attempt in the case of an unsuccessful first attempt for an additional flight according to paragraph 3.1.5. Starting positions will be decided by draw for each fly-off.

e) If for meteorological reasons or poor visibility or glider recovery problems, a fly-off must be postponed to be flown in the morning, it will be flown as early as daylight and visibility permit in order to avoid thermal activity. The maximum duration of the first flight will be a minimum of ten minutes.

f) In the event of exceptional meteorological conditions or glider recovery problems, the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

3.1.9. **Timing**

a) See Section 4b, para.B.11.

b) The timing of flights is limited to the maximum durations specified in 3.1.7. and 3.1.8. The total flight time is taken from the release of the glider from the launching cable to the end of the flight.

3.1.10. **Number of Helpers**

The competitor is entitled to have one helper.

3.1.11. **Launching Devices**

a) The glider must be launched by means of a single cable and its length, including release equipment and the launching device shall not exceed 50 metres when subjected to a tensile load of 5 kg. This tensile load shall be applied by means of an appropriate apparatus available to the competitors before and during the competition and also to officials during the competition when checking at least 20% of the gliders. Metal cables are prohibited.

b) Launching of the glider by means of this cable may be carried out with the help of various devices such as winches, single or multiple pulley trains, or by running etc. These devices (except the launching cable) must not be thrown by the competitor, under penalty of cancellation of the flight.

The competitor may release the launching cable and a lightweight marker (such as a ring, pennant or small rubber ball) at its end.

c) To facilitate observation and timing, the cable must be equipped with a pennant, having rectangular shape of a minimum area of 2,5 dm^2 and the smallest side of at least 5cm, attached directly to the main cable.

d) All types of auxiliary stabilising devices on the cable are forbidden. A parachute may be substituted for the pennant provided it is not attached to the glider and remains packed and inactive until the release of the cable.

3.1.12. **Organisation of Launching**

a) The competitor must be on the ground and must operate the launching device himself.

b) All freedom of action and movement is permitted to allow the best use of the cable, except throwing of the launching device.

c) The glider must be launched within approximately 5 metres from the starting position marker.

3.2. CLASS F1B – MODEL AIRCRAFT WITH EXTENSIBLE MOTORS

3.2.1. **Definition**

Model aircraft which is powered by an extensible motor and in which lift is generated by the aerodynamic forces acting on surfaces remaining fixed in flight, except for changes of camber or incidence. Model aircraft with variable geometry or area must comply with the specifications when the surfaces are in minimum and maximum extended mode.

3.2.2. **Characteristics of Model Aircraft with Extensible Motors F1B**

Surface Area (St) ..... 17 - 19 dm^2

Minimum weight of model aircraft less motor(s)..... 200 g

Maximum weight of motor(s) lubricated ..... 30 g

Rule B.3.1. of Section 4b does not apply to class F1B.

3.2.3. **Number of Flights**

See 3.1.3.

3.2.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.2.5. If the attempt is unsuccessful under the definition of 3.2.5b and a second attempt is not made then the duration of this first attempt is recorded as the official flight time.

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of 3.2.5.a. then a zero time is recorded for the flight.

3.2.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the model is launched and at least one of the following events occur. If this happens on the first attempt then the competitor is entitled to a second attempt.

a) When a part of the model aircraft becomes detached during the launch or during the flight time.

b) The flight duration is less than 20 seconds and the flight was not terminated by dethermalising.

3.2.6. **Repeat of an Attempt**

An attempt may be repeated when the model aircraft collides with another model in flight, or a person other than the competitor himself while being launched. 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 attempt.

3.2.7. **Duration of Flights**

The maximum duration to be taken for each flight in World and Continental Championships is to be five minutes for the first round and three minutes for subsequent rounds. In other international events a maximum of three minutes will be used for all rounds unless different durations (not exceeding five minutes) have been announced in advance in the contest bulletin for specific rounds.

In the event of exceptional meteorological conditions or model aircraft recovery problems the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

For any flights with a maximum duration greater than three minutes the additional time over three minutes is used only to resolve any tie.

Maximum durations greater than three minutes should only be used for rounds at times when wind and thermal activity are expected to be at a minimum.

3.2.8. **Classification**

a) See 3.1.8.a.

b) See 3.1.8.b.

c) See 3.1.8.c.

d) The organiser will establish a 10 minute period during which all fly-off competitors must wind their rubber motor and launch their model aircraft. Within these 10 minutes the competitor will have the right to a second attempt in the case of an unsuccessful attempt for an additional flight according to para 3.2.5. Starting positions will be decided by a draw for each fly-off.

e) See 3.1.8.e.

f) See 3.1.8.f.

3.2.9. **Timing**

a) See Section 4b, para. B.11.

b) The timing of flights is limited to the durations specified in 3.2.7. and 3.2.8.. The total flight time is taken from the launch of the model to the end of the flight.

3.2.10. **Number of Helpers**

The competitor is entitled to have one helper at the starting pole position.

3.2.11. **Launching**

a) Launching is by hand, the competitor being on the ground (jumping allowed).

b) Each competitor must wind his motor and launch the model himself.

c) The model aircraft must be launched within approximately 5 m from the starting pole position .

d) Additional heat may not be applied to the motor.

3.3. CLASS F1C – MODEL AIRCRAFT WITH PISTON MOTORS

3.3.1. **Definition**

Model aircraft in which the energy is provided by a piston type motor and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight, except for changes of camber or incidence. Models with variable geometry or area must comply with the specifications when the surfaces are in minimum and maximum extended mode.

3.3.2. **Characteristics of Model Aircraft with Piston Motor(s) F1C**

Maximum swept volume of motor(s) ..... 2,5 cm^3

No exhaust extensions whatsoever are allowed to the exhaust opening(s) of the motor

Minimum total weight ..... 300 g/cm^3 swept volume of motor(s)

Minimum loading ..... 20 g/dm^2

Maximum duration of motor run: ..... 5 seconds from release of model.

Rule B.3.1. of Section 4b does not apply to class F1C.

Fuel to a standard formula for glow plug and spark ignition motors will be supplied by the organisers, and must be used for every official flight. The composition shall be as follows: 80% methanol, 20% castor oil.

Note: Fuel for compression ignition motors is not restricted.

Before each attempt for an official flight the fuel tank must be washed out with standard formula fuel.

F1C models may use radio control only for irreversible actions to restrict the flight, that is motor stop or dethermalisation. Any malfunction or unintended operation of these functions is entirely at the risk of the competitor.

3.3.3. **Number of Flights**

See 3.1.3.

3.3.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.3.5. If the attempt is unsuccessful under the definition of 3.3.5c and a second attempt is not made then the duration of this first attempt is recorded as the official flight time.

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of 3.3.5a or 3.3.5b., then a zero time is recorded for the flight.

3.3.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the model aircraft is launched and at least one of the following events occur. If this happens on the first attempt then the competitor is entitled to a second attempt.

a) the time of the motor run from the release of the model aircraft exceeds the time specified in 3.3.2. or 3.3.8 as appropriate for the flight.

b) when a part of the model becomes detached during the launch or during the flight.

c) the duration of the flight is less than 20 seconds and the flight was not terminated by dethermalising.

3.3.6. **Repeat of an Attempt**

An attempt may be repeated when the model aircraft collides with another model in flight, or a person other than the competitor himself while being launched. Should the model aircraft 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 attempt.

3.3.7. **Duration of Flights**

The maximum duration to be taken for each flight in World and Continental Championships is to be five minutes for the first round and three minutes for subsequent rounds. In other international events a maximum of three minutes will be used for all rounds unless different durations (not exceeding five minutes) have been announced in advance in the contest bulletin for specific rounds.

In the event of exceptional meteorological conditions or model aircraft recovery problems the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

For any flights with a maximum duration greater than three minutes the additional time over three minutes is used only to resolve any tie.

Maximum durations greater than three minutes should only be used for rounds at times when wind and thermal activity are expected to be at a minimum.

3.3.8. **Classification**

a) See 3.1.8.a.

b) See 3.1.8.b.

c) See 3.1.8.c.

d) Starting positions will be decided by a draw for each fly-off. The organiser will establish a 10 minute period during which all fly-off competitors must start their engines and launch their model. Within these 10 minutes the competitor will have the right to a second attempt in the case of an unsuccessful attempt for an additional flight according to para 3.3.5.

e) See 3.1.8.e.

f) See 3.1.8.f. The maximum duration of the motor run is 5 seconds.

3.3.9. **Timing**

a) See Section 4b, para. B.11.

b) The timing of flights is limited to the durations specified in 3.3.7. and 3.3.8. The total flight time is taken from the launch of the model aircraft to the end of the flight.

c) The motor run must be timed by two timekeepers with quartz controlled electronic stopwatches with digital readout, recording to at least 1/100 of a second. The motor run is determined as the average of the two registered times, and this average is reduced to the nearest $1/10^{th}$ of a second below.

3.3.10. **Number of Helpers**

The competitor is entitled to have one helper at the starting pole position.

3.3.11. **Launching**

a) Launching is by hand, the competitor being on the ground (jumping allowed).

b) Each competitor must start and regulate the motor or motors and launch the model himself.

c) The model must be launched within approximately 5 m from the starting pole position.

3.3.12. The noise level at the perimeter of the field where F1C is being flown shall be no more than 6 dB(A) above the ambient noise level at all parts of the field boundary where there is a noise sensitivity. If the perimeter noise level exceeds this limit, the launch line shall be moved away from the field boundary to a point where the level is in compliance with the limit.

3.4. CLASS F1D - INDOOR MODEL AIRCRAFT

3.4.1. **Definition**

Model aircraft which can only be flown in an enclosed space and which are powered by extensible motors and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight, except for changes of camber or incidence.

3.4.2. **Characteristics of Indoor Model Aircraft F1D**

Maximum wingspan of the monoplane model aircraft ...550 mm,

Maximum chord of the lifting surfaces .....200 mm

Maximum tail span .....450 mm,

Minimum weight without rubber motor .....1,2 g,

Maximum weight of the lubricated rubber motor .....0,6 g.

3.4.3. **Number of Flights**

The competitor shall be allowed 6 flights of which the best 2 flights will be taken for classification.

3.4.4. **Definition of an Official Flight**

Only flights of 60 seconds or more will be considered as official. A flight may be terminated by any physical means within the first 60 seconds. A flight of less than 60 seconds duration will be considered an attempt and there will be one attempt flight allowed for each of the six official flights; the attempts will not be accumulative.

3.4.5. **Number of Model Aircraft**

There is no limit to the number of model aircraft that a competitor may use at an indoor contest.

3.4.6. **Collision Rule**

In the event of a collision between two model aircraft in flight, each competitor must choose, in the time span between the collision and two minutes following the termination of his flight, either to retain the time of flight as an official time, or to have a reflight. The reflight must be flown before the next official flight.

3.4.7. **Steering**

a) A balloon(s) with its line attached, or a rod, may be used to alter the course of the model aircraft, or to reposition it in another part of the flying space. There will be no time limit or restriction to the number of steering attempts, except that all steering shall be done from the front end of the model and never from behind.

b) Steering must only be used to avert collision with the structure of the building, its contents or other models. Movements of the model must be primarily in a horizontal plane
Note: If, in a timekeeper's opinion, a model aircraft's altitude change is approaching one half metre, or one metre for each 25 m of altitude (whichever is larger) he will warn the competitor. Continued disregard of the timekeeper's warning will result in a terminated flight.

c) During steering the propeller may get caught by the line/balloon(s)/rod and stop revolving. As soon as the propeller stops, a third watch should be used (preferably a double button watch, that records accumulative time) to determine the total of propeller stopped time, which is deducted from the running total time shown on the other two watches. If the steerer cannot disengage the propeller after steering, all three watches are to be stopped together, and the total prop-stopped time deducted as is detailed above.

d) No reflight is allowed other than if fouled by another model during steering.

e) The decision to steer is the responsibility of the competitor and must be done by him. A physically handicapped competitor must arrange for a substitute with the contest officials. In the case of poor sight, a medical doctor's affidavit certifying that the competitor's corrected vision is no less than 20/40 for the better eye must be submitted to permit a substitute steerer.

f) It is the timekeeper's responsibility to observe the use of the steering equipment, and to warn the competitor if he is likely to endanger other model aircraft. If other models are fouled by the steerer, the fouled competitor has the choice of a reflight, which, if taken, is his score for that round. He must exercise his choice to the timekeepers no later than two minutes after termination of his flight. If he chooses to restart, he must do so before his next official flight.

3.4.8. **Classification**

The total of two best flights of each competitor shall be taken for final classification. In the case of a tie the third best flight decides and so on in the case of a further tie.

3.4.9. **Timing of Flights**

The flights must be timed by two timekeepers with electronic stopwatches with digital readout recording at least 1/100 of a second.

From Section 4b. para. B.11., only B.11.1., B.11.2., and B.11.6. apply to class F1D.

The timing of each flight shall commence when the model aircraft is released. Timing will terminate when:

a) the model touches the floor of the building.

b) jettisoning occurs.

c) the model aircraft comes into contact with any part of the building or its contents other than the floor and translational movement ceases.

Note: In this case, the timekeepers shall continue to time the flight for ten seconds after translational movement has ceased. Should the model remain in contact with the building or its contents after 10 seconds, timing will cease and the 10 seconds will be subtracted from the flight time. Should the aircraft release itself from contact with the building in less than 10 seconds, timing will continue normally.

3.4.10. **Number of Helpers**

The competitor is entitled to have one helper.

3.4.11. **Launching**

a) Launching is by hand, the competitor standing on the ground.

b) Winding of rubber motors must be done by the competitor himself.

3.4.12. **Ceiling Height Categories**

The following ceiling height categories are recognised for contests and records:

I. - less than 8 metres.

II. - between 8 and 15 metres.

III. - between 15 and 30 metres.

IV. - higher than 30 metres.

The height of the ceiling is defined as the vertical distance from the floor to the highest point at which a circle of 15 metres diameter can be inscribed, below the primary structure of the building.

3.5. CLASS F1E – GLIDERS WITH AUTOMATIC STEERING

3.5.1. **Definition**

Model aircraft not provided with a propulsion device and in which lift is generated by aerodynamic forces acting on surfaces that remain fixed in flight, except for changes of camber or incidence.

The glider can be equipped with a steering device, which cannot be controlled by the competitor during flight.

3.5.2. **Characteristics of Gliders with Automatic Steering F1E**

Maximum surface area (St) ..... 150 dm^2

Maximum loading ..... 100 g/dm^2

Maximum flying weight ..... 5 kg

Rule B.3.1. of Section 4b does not apply to class F1E.

F1E models may use radio control only for an irreversible action to restrict the flight, that is dethermalisation. Any malfunction or unintended operation of this function is entirely at the risk of the competitor.

3.5.3. **Number of Flights**

The competition shall consist of five official flights, and shall be divided into five rounds in each of which one official flight may be recorded. The starting time, length and closing time for each round must be announced by the organisers prior to the start of the round and displayed throughout the round.

3.5.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.5.5. If the attempt is unsuccessful under the definition of 3.5.5b and a second attempt is not made then the duration of this first attempt is recorded as the official flight time.

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of 3.5.5a. then a zero time is recorded for the flight.

3.5.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the glider is launched and at least one of the following events occur. If this happens on the first attempt then the competitor is entitled to a second attempt.

a) When a part of the glider becomes detached during the launch or during the flight time.

b) The flight duration is less than 20 seconds.

3.5.6. **Repeat of an Attempt**

An attempt may be repeated when the glider collides with another glider in flight, or a person other than the competitor himself while being launched. Should the glider 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 attempt.

3.5.7. **Duration of Flights**

The maximum duration for each flight shall be decided by the Contest Director and shall be between two minutes and five minutes inclusive. This maximum time shall be announced prior to the start of each round and clearly displayed throughout the round.

3.5.8. **Classification**

a) In each round, the time in seconds recorded by each competitor shall be expressed as a percentage of either (i) the declared maximum time, or (ii) if no maximum time is recorded by any competitor, the highest flight time achieved in that round. This percentage is entered as the competitor's score for the round. All scores from the five rounds will decide the final classification.

b) In the event of a tie, individual placings are to be decided by additional flights made immediately after the last flight of the contest has been made. The Contest Director shall decide an appropriate maximum time for each additional round required and the above percentage scoring system is applied. Scores resulting from such additional flights are not included to decide team classification.

c) The Contest Director will establish a 10-minute period during which all fly-off competitors must release their gliders.

3.5.9. **Timing**

a) See Section 4b, para. B.11.

b) The timing of flights is limited to the duration specified by the Contest Director under 3.5.7. The total flight time is taken from the launch of the glider to the end of the flight. Timekeepers must ensure that both they and the competitor are aware of the decided maximum time for the round in progress.

3.5.10. **Number of Helpers**

The competitor is entitled to have one helper.

3.5.11. **Launching**

a) Launching is by hand, the competitor standing on the ground.

b) Each competitor must adjust and launch the glider himself.

PROVISIONAL RULES

CLASS F1G – MODEL AIRCRAFT WITH EXTENSIBLE MOTORS, "COUPE D'HIVER"

These rules for Class F1G are to be used in conjunction with the relevant paragraphs of Section 4b and 4c, parts 1 and 2.

3.G.1. **Definition.** A model aircraft which is powered by an extensible motor and in which lift is generated by the aerodynamic forces acting on surfaces remaining fixed in flight, except for changes of camber or incidence.

3.G.2. **Characteristics of Model Aircraft with Extensible Motor F1G**

Minimum weight of model aircraft less motor(s) 70 g

Maximum weight of motor (s) lubricated.....10 g

The number of models eligible for entry by each competitor is three.

Rule B.3.1. of Section 4b does not apply to class F1G.

3.G.3 **Number of Flights**

a) Each competitor is entitled to five official flights.

b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes.

3.G.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.G.5. (if the attempt is unsuccessful for reason 3.G.5.a and a second attempt is not made then the duration of the first flight attempt is recorded as the official flight time).

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of 3.G.5.b., then a zero time is recorded for the flight.

3.G.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the model is launched and at least one of the following events occur. If this happens on the first attempt, then the competitor is entitled to a second attempt.

a) the flight duration is less than 20 seconds,

b) when a part of the model becomes detached during the launch or during the time of flight.

3.G.6. **Repeat of an Attempt**

An attempt may be repeated when the model collides with another model in flight or a person other than the competitor himself, while being launched. 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 be made at the end of the attempt.

3.G.7. **Duration of Flights**

The maximum duration to be taken for each official flight is to be two minutes. In the event of exceptional meteorological conditions or model recovery problems, the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

3.G.8. **Classification**

a) The total time of the five flights is taken for the final classification.

b) In order to decide the winner when there is a tie, additional deciding flights shall be made immediately after the last flight of the event has been completed. The maximum time of flight in each additional round shall be increased by one minute over the maximum time of flight in the previous round.

The organiser will establish a 10 minute period during which all fly-off competitors must wind their rubber motors and launch their model. Within these 10 minutes, the competitor will have the right to

a second attempt in the case of an unsuccessful attempt for an additional flight according to para. 3.G.5.

3.G.9. **Timing**

a) See Section 4b, para. B.11.

b) The total time of flight is taken from the launch of the model to the end of the flight.

3.G.10. **Number of Helpers**

The competitor is entitled to have one helper at the starting position.

3.G.11. **Launching**

a) Launching is by hand, the competitor being on the ground (jumping allowed).

b) Each competitor must wind his motor and launch the model himself.

c) The model must be launched within approximately 5 metres from the starting pole position.

d) Additional heat must not be applied to the motor.

CLASS F1H -GLIDERS

The rules for Class F1H are to be used in conjunction with the relevant paragraphs of Section 4b and 4c, parts 1 and 2.

3.H.1. **Definition**

A model aircraft which is not provided with a propulsion device and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight, except for changes in camber or incidence. Models with variable geometry or area must comply with the specification when the surfaces are in minimum and maximum extended mode.

3.H.2. **Characteristics of Gliders F1H**

Maximum Surface area (St) .....18 dm^2

Minimum weight.....220 g

Maximum length of launch cable when loaded by 2 kg.50 m

The number of gliders eligible for entry by each competitor is three.

Rule B.3.1. of Section 4b does not apply to class F1H

3.H.3. **Number of Flights**

a) Each competitor is entitled to five official flights.

b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes.

3.H.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.H.5 (if the attempt is unsuccessful for reason 3.H.5.a and a second attempt is not made then the duration of the first flight attempt is recorded as the official flight time).

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definitions of 3.H.5.b, 3.H.5.c, or 3.H.5.d then a zero time is recorded for the flight.

3.H.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the glider is launched and at least one of the following events occur. If this happens on the first attempt, then the competitor is entitled to a second attempt.

a) The flight duration is less than 20 seconds.

b) The glider returns to the ground without release of the cable.

c) The moment of release of the cable cannot properly be established by the timekeepers.

d) A part of the glider becomes detached during the launch or during the flight time.

e) It is apparent to the timekeeper that the competitor has lost contact with the cable and the competitor choses to declare an attempt.

3.H.6. **Repeat of an Attempt**

An attempt may be repeated when:

a) the glider collides with a person other than the person who launched it,while being launched;

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

c) during the flight the glider collides with another model or a towline other than its own towline.

Should the glider continue its flight in the normal manner, the competitor may demand the flight be accepted as an official flight, even if the demand is made at the end of the attempt.

3.H.7. **Duration of Flights**

The maximum duration to be taken for each official flight is to be two minutes. In the event of exceptional meteorological conditions or glider recovery problems, the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

3.H.8. **Classification**

a) The total time of the five flights is taken for the final classification.

b) In order to decide the individual placings when there is a tie, additional deciding flights shall be made immediately after the last flight of the event has been completed. The maximum time of flight in each additional round shall be increased by one minute on the maximum time of flight in the previous round.

The organiser will establish a 10 minute period during which all fly-off competitors must tow and release their glider. Within these 10 minutes, the competitor will have the right to a second attempt in the case of an unsuccessful attempt for an additional flight according to para. 3.H.5.

3.H.9 **Timing**

a) See Section 4b, para. B.11.

b) The total time of flight is taken from the release of the glider from the launching cable to the end of the flight.

3.H.10. **Number of Helpers**

The competitor is entitled to have one helper at the starting position.

3.H.11. **Launching Devices**

a) The glider must be launched by means of a single cable; its length including release equipment and the launching device shall not exceed 50 metres when subjected to a tensile load of 2 kg. Metal cables are prohibited.

b) Any devices attached to the launching cable must not be thrown by the competitor, under penalty of cancellation of the flight. The competitor may release the launching cable and a lightweight marker, such as a ring, pennant or small rubber ball, at its end.

c) To facilitate observation and timing, the cable must be equipped with a pennant, having rectangular shape of a minimum area of 2,5 dm^2 and the smallest side of at least 5cm, attached directly to the main cable.

d) All types of auxiliary stabilising devices on the cable are forbidden.

3.H.12. **Organisation of Launching**

a) The competitor must be on the ground and must operate the launching devices himself.

b) All freedom of action and movement is permitted to allow the best use of the cable, except the throwing of the launching device.

c) The glider must be launched within approximately 5 metres from the starting pole position.

CLASS F1J – MODEL AIRCRAFT WITH PISTON MOTORS

The rules for Class F1J are to be used in conjunction with the relevant paragraphs of Section 4b and 4c, parts 1 and 2.

3.J.1. Definition

A model aircraft in which the energy is provided by a piston type motor and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight, except for changes in camber or incidence.

3.J.2. Characteristics of Model Aircraft with Piston Type Motors

Maximum swept volume of motor(s) ..... 1,00 cm^3

No extensions whatsoever are allowed to the exhaust opening(s) of the motor(s).

Minimum total weight..... 160 g

Maximum duration of motor run ..... 7 seconds from release of model.

Fuel constituents are not restricted.

The number of models eligible for entry by each competitor is three.

Rule B.3.1. of Section 4b does not apply to class F1J.

3.J.3. Number of Flights

a) Each competitor is entitled to five official flights.

b) Each competitor is entitled to one official flight in each round of the event. The duration of the rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes.

3.J.4. Definition of an Official Flight

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.J.5. (If the attempt is unsuccessful for reason 3.J.5.a) and a second attempt is not made then the duration of the first flight attempt is recorded as the official flight time.)

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of 3.J.5.b or 3.J.5.c, then a zero time is recorded for the flight.

3.J.5. Definition of an Unsuccessful Attempt

An attempt is classed as unsuccessful if the model aircraft is launched and at least one of the following events occur. If this happens on the first attempt, then the competitor is entitled to a second attempt.

a) The flight duration is less than 20 seconds.

b) The motor run exceeds 7 seconds from the release of the model.

c) A part of the model becomes detached during the launch or during the flight time.

3.J.6. Repeat of an Attempt

An attempt may be repeated when the model aircraft collides with another model in flight or a person, other than the competitor himself, while being launched. 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 attempt.

3.J.7. Duration of Flights

The maximum duration to be taken for each official flight is to be two minutes. In the event of exceptional meteorological conditions or model recovery problems, the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

3.J.8. **Classification**

a) The total time of the five flights is taken for the final classification.

b) In order to decide the individual placings when there is a tie, additional deciding flights shall be made immediately after the last flight of the event has been completed. The maximum time of flight in each additional round shall be increased by one minute on the maximum time of flight in the previous round.

The organiser will establish a 10 minute period during which all fly-off competitors must start their engines and launch their models. Within these 10 minutes, the competitor will have the right to a second attempt in the case of an unsuccessful attempt for an additional flight according to para. 3.J.5.

3.J.9. **Timing**

a) See Section 4b, para. B.11.

b) The total time of flight is taken from the launch of the model to the end of the flight.

c) The motor run must be timed by two timekeepers with electronic stopwatches with digital readout recording at least 1/100 of a second. The motor run is determined as the average of the two registered times and the average is reduced to the nearest 1/10th of a second below.

3.J.10. **Number of Helpers**

The competitor is entitled to have one helper at the starting position.

3.J.11. **Launching**

a) Launching is by hand, the competitor being on the ground (jumping allowed).

b) Each competitor must start his motor and launch the model himself.

c) The model must be launched within approximately 5 metres from the starting pole position.

CLASS F1K - MODELS WITH CO_2 ENGINES

The regulations for class F1K given below are to be used in conjunction with the relevant paragraphs of Section 4b and 4c, part 1 and 2.

3.K.1. **Definition**

A model aircraft which is powered by CO_2 gas engine and in which lift is generated by the aerodynamic forces acting on surfaces remaining fixed in flight, except for changes in camber or incidence.

3.K.2. **Characteristics**

Minimum weight (without CO_2).....75 g

Maximum surface area (St).....12 dm^2

Maximum volume of the CO_2 tank(s) 2 cm^3 (connecting tubes count only if their outer diam. is over 2 mm).

The number of models eligible for entry by each competitor is three (3).

Rule B.3.1. of Section 4b does not apply to class F1K.

3.K.3. **Number of Flights**

a) Each competitor is entitled to five official flights.

b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes.

3.K.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.K.5. (If the attempt is unsuccessful under the definition of 3.K.5.a and a second attempt is not made, then the duration of this first attempt is recorded as the official flight time).

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of any of 3.K.5.b., 3.K.5.c. or 3.k.5.d., then a zero time is recorded for the flight.

3.K.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the model is launched and at least one of the following events occur. If this happens on the first attempt, then the competitor is entitled to a second attempt.

a) The flight duration is less than 20 seconds.

b) When a part of the model becomes detached during the launch or during the flight time.

c) If the motor stops during the waiting time in deciding flights (see 3.K.8.b.)

d) If, after the beginning of the waiting time (see 3.K.8.b) until the end of the official flight, the motor adjustment or thermal condition of the tank is changed or influenced by any physical intervention.

3.K.6. **Repeat of an Attempt**

An attempt may be repeated when the model aircraft collides with another model in flight or a person (the competitor excluded) while being launched. 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 attempt.

3.K.7. **Duration of Flight**

The maximum duration to be taken for each official flight is to be two minutes. In the event of exceptional meteorological conditions or model recovery problems the Jury may permit the maximum for a round to be reduced. Such a modified maximum must be announced before the start of the round.

3.K.8. **Classification**

a) The total time of the five flights is taken for the final classification.

b) In order to decide the individual placings when there is a tie, additional flights shall be made after the last flight of the event has been completed. The maximum time of flight in each additional round remains two minutes.

In the first deciding round, the motor must be started, then the competitor must wait with running motor for 60 or 120 seconds (defined by the organiser prior to the round), until the timekeepers give a sign to lauch the model. The timing of the flight begins when the model is launched. In each further additional flight, the waiting time shall be increased by 60 or 120 seconds (defined by the organiser prior to the round) over the waiting time of the previous round.

c) The organiser will establish a 15 minute period during which all fly-off competitors must start their motors and launch their models. Within these 15 minutes, the competitor will have the right to a second attempt in the case of an unsuccessful first attempt.

3.K.9. **Timing**

a) See section 4b, para. B.11.

b) The total time of flight is taken from the launch of the model to the end of the flight.

3.K.10 **Number of Helpers**

The competitor is entitled to have one helper at the starting position.

3.K.11 **Launching**

a) Launching is by hand, the competitor being on the ground (jumping allowed).

b) Each competitor must fill the tank, start his motor and launch the model aircraft himself.

c) The model must be launched within approximately 5 m from the starting pole position.

CLASS F1L - INDOOR EZB MODEL AIRCRAFT

3.L.1. **Definition:** Monoplane model aircraft powered by one (1) extensible motor, and in which lift is generated by aerodynamic forces acting on fixed surfaces.

3.L.2. **Characteristics**

Wingspan, maximum projected	457.2 mm
Wing chord maximum	76.2 mm
Stabiliser area maximum	50% of wing

a) Structure

1) Only balsa wood and adhesive are to be used for the basic structure. Exempted are the propeller shaft, rear hook, thrust bearing, surface holding fittings and reinforcements for their attachments. No external bracing is allowed except balsa wood wing struts.

2) The motor stick must be a solid single piece of balsa. The tail boom must also be solid and of one piece but may be an extension of the motor stick. Balsa splices up to one centimetre in length may be used to repair breaks in the motor stick or boom.

3) The propeller must be all balsa except for ground adjustable pitch fittings, if used.

4) There are to be no devices for changing any part of the model's geometry or torque during flight. Only the normal flexing of the structure due to flight loads or motor forces is allowed.

b) Covering

1) Models are to be covered with any commercially available solid sheet material such as paper or plastic.

2) Microfilm is not allowed.

c) Weight: Weight of the model aircraft without rubber motor shall not be less than 1,2 g.

3.L.3. **Number of Flights:** The competitor shall be allowed 6 flights of which the two best flights will be taken for classification.

3.L.4 **Definition of an Official Flight**: See Section 4c para. 3.4.4.

3.L.5. **Number of Models**: See Section 4c, para. 3.4.5.

3.L.6. **Collision Rule**: See Section 4c, para 3.4.6.

3.L.7. **Steering** : See Section 4c, para 3.4.7.

3.L.8. **Timing of Flights**: See Section 4c, para 3.4.9.

3.L.9. **Number of Helpers**: See Section 4c, para 3.4.10.

3.L.10 **Launching** : See Section 4c, para 3.4.11.

3.L.11 **Ceiling Height Categories**: See Section 4c, para 3.4.12.

CLASS F1M – INDOOR BEGINNER'S CLASS

3.M.1. Definition. As Section 4c, 3.4.1 plus:

3.M.2. **Characteristics of Indoor Model Aircraft**

The wing span of the model aircraft shall not exceed 460 mm, monoplanes only permitted. The minimum weight of the airframe is 3g. The maximum weight of the rubber motor shall not exceed 1.5g. The covering of the model may consist of any material except microfilm.

3.M.3. **Number of flights.** As Section 4c, 3.4.3.

3.M.4 **Definition of an Official Flight**

Only flights of 60 seconds or more will be considered as official. A flight of less than 60 seconds duration will be considered a delayed flight and there will be one delayed flight allowed for each of the six official flights; the delayed flights will not be accumulative.

3.M.5. **Number of Model Aircraft.** As Section 4.c, 3.4.5.

3.M.6. **Collision Rule.** As Section 4c, 3.4.6.

3.M.7. **Steering.** As Section 4c, 3.4.7.

3.M.8. **Classification.** As Section 4c, 3.4.8.

3.M.9. **Timing of Flights.** As Section 4c, 3.4.9.

3.M.10. **Number of Helpers.** As Section 4c, 3.4.10.

3.M.11. **Launching.** As Section 4c, 3.4.11.

3.M.12. **Ceiling Height Categories**. As Section 4.c, 3.4.12.

CLASS F1N – INDOOR HAND LAUNCH GLIDERS

3.N.1 **Definition**

Model aircraft which is flown in an enclosed space and which is not provided with a propulsion device and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight.

3.N.2. **Characteristics**

Models with variable area (e.g. folding wings) are not permitted. The number of models eligible for entry by each competitor is three.

3.N.3. **Number of Flights**

The competitor shall be allowed 9 flights.

3.N.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.6.5.

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of 3.N.5., then a zero time is recorded for the flight.

3.N.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the model aircraft is launched and at least one of the following events occur. If this happens on the first attempt then the competitor is entitled to a second attempt.

a) the model aircraft collides with a person or an object held by a person (the competitor excluded)

b) the model aircraft collides with another model in flight.

3.N.6. **Timing of Flights**

The flights must be timed by two timekeepers with electronic stopwatches with digital readouts. The time recorded is the mean of the times registered by the timekeepers, but reduced to the nearest one tenth of a second below the resulting mean time, unless the difference between the times registered shows evidence of an error in the timing, in which case the organizer should determine, with the Jury, which time should be registered as the official time or what other action should be taken.

From Section 4b. para. B.11., only B.11.1. and B.11.2 apply to class F1N

The timing of each flight shall commence when the model is launched. Timing will terminate when:

a) the model aircraft comes to rest on the floor of the building.

b) the model aircraft comes into contact with any part of the building or its contents other than the floor and translational movement ceases.

3.N.7. **Classification**

The total of the three best flights of each competitor shall be taken for the final classification. In the case of a tie the fourth best flight decides and so on in the case of a further tie.

3.N.8. **Launching**

Launching is by hand, the competitor standing on the ground. Jumping is allowed.

3.N.9. **Ceiling Height Categories**

The following ceiling height categories are recognised for contests and records:

I- less than 8 metres

II- between 8 and 15 metres

III- between 15 and 30 metres

IV- higher than 30 meters

The height of the ceiling is defined as the vertical distance from the floor to the highest point at which a circle of 15 metres diameter can be inscribed, below the primary structure of the building.

CLASS F1P MODEL AIRCRAFT WITH PISTON MOTORS

3.P.1. **Definition**

A model aircraft in which the energy is provided by a piston type motor and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight, except for changes in camber or incidence.

3.P.2. **Characteristics of Model Aircraft with Piston Type Motors**

Minimum projected wing surface area ..... 26 dm^2

Maximum projected wing span..... 1.5m

Minimum total weight..... 250 g

Maximum duration of motor run ..... 10 seconds from release of model.

Maximum swept volume of motor(s) ..... 1,00 cm^3

Only one change may be made to the wing or tail incidence or camber during the flight before dethermalising.

No extensions whatsoever are allowed to the exhaust opening(s) of the motor(s).

The motor must drive the propeller directly, no gears allowed

Mechanical brakes are not allowed for stopping the motor.

Fuel constituents are not restricted.

The number of models eligible for entry by each competitor is four. Rule B.3.1. of Section 4b does not apply to class F1P.

3.P.3. **Number of Flights**

a) Each competitor is entitled to seven official flights.

b) Each competitor is entitled to one official flight in each round of the event. The duration of the rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes.

3.P.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of 3.P.5. (If the attempt is unsuccessful for reason 3.P.5.a) and a second attempt is not made then the duration of the first flight attempt is recorded as the official flight time.)

b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of 3.P.5.b or 3.P.5.c, then a zero time is recorded for the flight.

3.P.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the model aircraft is launched and at least one of the following events occur. If this happens on the first attempt, then the competitor is entitled to a second attempt.

a) The flight duration is less than 20 seconds.

b) The motor run exceeds 10 seconds from the release of the model.

c) A part of the model becomes detached during the launch or during the flight time.

3.P.6 **Repeat of an Attempt**

An attempt may be repeated when the model aircraft collides with another model in flight or a person, other than the competitor himself, while being launched. 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 attempt.

3.P.7. **Duration of Flights**

The maximum duration to be taken for each official flight is to be three minutes. In the event of exceptional meteorological conditions or model recovery problems, the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

3.P.8 **Classification**

a) The total time of the seven flights is taken for the final classification.

b) In order to decide the individual placings when there is a tie, additional deciding flights shall be made immediately after the last flight of the event has been completed. The maximum time of flight in each additional round shall be increased by one minute on the maximum time of flight in the previous round.

The organiser will establish a 10 minute period during which all fly-off competitors must start their engines and launch their models. Within these 10 minutes, the competitor will have the right to a second attempt in the case of an unsuccessful attempt for an additional flight according to para. 3.P.5.

3.P.9. **Timing**

a) See Section 4b, para. B.11.

b) The total time of flight is taken from the launch of the model to the end of the flight.

c) The motor run must be timed by two timekeepers with electronic stopwatches with digital readout recording at least 1/100 of a second. The motor run is determined as the average of the two registered times and the average is reduced to the nearest 1/10th of a second below.

3.P.10. **Number of Helpers**

The competitor is entitled to have one helper at the starting position.

3.P.11. **Launching**

a) Launching is by hand, the competitor being on the ground (jumping allowed).

b) Each competitor must start his motor and launch the model himself.

c) The model must be launched within approximately 5 metres from the starting pole position.

ANNEX 1

RULES FOR WORLD CUP EVENTS

FREE FLIGHT WORLD CUP

1. **Classes:** The following separate classes are recognised for World Cup competition: F1A, F1B, F1C, F1E, F1A Junior and F1E Junior.

2. **Competitors:** All competitors in the specified open international contests are eligible for the World Cup. Only Junior competitors are eligible for the F1A Junior and F1E Junior World Cup.

3. **Contests**: Contests included in the World Cup must appear on the FAI contest calendar and be run according to the FAI Sporting Code. The contests to be counted for a World Cup in one year are to be nominated at the CIAM Bureau meeting at the end of the preceding year and are to be indicated on the FAI contest calendar. A maximum of two contests may be selected for any one country.

4. **Points Allocation**

Points are allocated to competitors at each contest according to their placing in the results and the number of competitors beaten as given in the following table and the following items:

Placing	1	2	3	4	5	6	7	8	9	10	11	12
Points	50	40	30	25	20	19	18	17	16	15	14	13
Placing	13	14	15	16	17	18	19	20	21	22	23	24
Points	12	11	10	9	8	7	6	5	4	3	2	1

Each competitor awarded placing points is eligible for a bonus according to the number of competitors they have beaten in the competition. The bonus points are calculated as 1 point per 20 people beaten in F1A, 1 point per 10 people beaten in F1B or F1E, 1 point per 5 people in F1C, F1A Junior and F1E Junior. The number of bonus points is rounded down to the nearest whole number. The number of people beaten by someone in place P is (N-P) with N the number of competitors defined in b) below.

a) Points are awarded only to competitors completing at least one flight in the contest.

b) Points are awarded only to competitors in the top half of the results list (if N is the number of competitors who completed at least one flight, then the points from the above table are awarded only for places 1 to N/2, rounding up when necessary in calculating the N/2 place).

c) In the event of a tie for any placing, the competitors with that placing will share the points which would have been awarded to the places covered had the tie been resolved (round up the score to the nearest whole number of points).

d) For F1A Junior and F1E Junior points are awarded according to Junior classification.

5. **Classification**

The World Cup results are determined by considering the total number of points obtained by each competitor in the World Cup events. Each competitor may count the result of all competitions, except that only one competition may be counted from each country in Europe (taking the better score for any European country in which he has scored in two competitions). To determine the total score, up to three events may be counted, selecting each competitor's best results during the year.

In the event of a tie the winner will be determined according to the following scheme. The number of events counted will be increased from three, one at a time, until the winner is obtained. If this does not separate the tied competitors then the winner will be determined by considering the points obtained in the best three events multiplied by the number of competitors flying in each event. The winner is the one with the greatest total thus calculated.

6. Awards

The winner earns the title of Winner of the World Cup. Certificates, medals and trophies may be awarded by the Subcommittee as available.

7. Organisation

The Subcommittee shall be responsible for organising the World Cup and may nominate a responsible person or special subcommittee to administer the event.

8. Communications

The Free Flight Subcommittee should receive the results from each contest in the World Cup and then calculate and publish the current World Cup positions. These should be distributed to the news agencies and should also be available by payment of a subscription to any interested bodies or individuals. Latest results will also be sent to the organiser of each competition in the World Cup for display at the competition. Final results of the World Cup are to be sent also to the FAI, National Airsports Controls and the Aeromodelling press.

9. Responsibilities of Competition Organisers

Competition organisers must propose their event for inclusion in the World Cup when nominating events for the FAI International Sporting Calendar. The final selection of events from these proposals is made by the CIAM Bureau as defined in paragraph 3.

Immediately after the event, the competition organiser must send the results to the World Cup organiser, at least within one month as required in the Sporting Code B.6.5.. Any failure to return results promptly will be reviewed by the CIAM Bureau when considering the competition calendar for the following year.

10. Jury

A Jury of three responsible people shall be nominated by the CIAM Free Flight Sub-committee to rule on any protest concerning the World Cup during a year. Any protest must be submitted in writing to the Free Flight Sub-committee Chairman and must be accompanied by a fee of 80 CHF (Swiss Francs). In the event of the Jury upholding the protest, the fee will be returned.

ANNEX 2

A GUIDE FOR THE ORGANISERS OF FAI CONTESTS IN THE OUTDOOR FREE FLIGHT CLASSES

This issue is based on the Guide approved in 1999 with modifications to reflect changes to the FAI Sporting Code Section 4 up to the 2003 edition.

Objective

This document is intended to specify guidelines for the organisation of outdoor free flight international contests, for the benefit of both the organisers and the competitors. It is emphasised that recommendations are given and these do not have the same status as the binding regulations in the FAI Sporting Codes. However, since it is widely distributed and should be regarded as the standard for international competitions, organisers should avoid confusion by announcing in advance any changes from this guide such as may be necessary to suit local circumstances. These changes should be approved by the CIAM Bureau for a Championship or by the appointed FAI Jury for an Open International event.

This guide is applicable to World and Continental Championships in classes F1A, F1B and F1C. Organisers of Championships should note the administrative advice given in the CIAM volume ABR on the organisation of Championships. For organisers of FAI Open International events, appendix A gives changes and comments appropriate to Open Internationals for classes F1A, F1B, F1C and also F1G, F1H and F1J.

Where this guide refers to the FAI Sporting Code Section 4 the relevant paragraph is quoted in brackets.

1. SITE

A good flying site and suitable weather conditions are of primary importance to any free flight contest. The field should be flat and as large and as unobstructed as possible. A grass surface is best and there should be a minimum of dusty or rocky surfaces which can damage models. Its adequacy should be measured in terms of the likely distance which will be flown by models making good flights in thermals in the range of weather conditions to be expected for the contest. It should be noted that in a steady wind of 9 m/sec a model will travel over 3.5 km in a flight of 6 minutes and a flight of this duration may result from a 3 minute maximum flight taken high in a thermal or a fly-off flight to a longer maximum. However, weather patterns should be such that these high winds are unlikely. Where it is possible that some flights might leave the field, consideration must be given to the feasibility of retrieving models from the surrounding terrain.

Other aspects affecting the suitability of a site include (not in order of priority):

a) the model retrieving conditions on the field;

b) the ease of access for competitors arriving by road or by public transport and via international ports and airports;

c) the availability of adequate accommodation for all competitors, team managers, officials, and at least some supporters and helpers;

d) the time taken to travel between the official accommodation and the flying site (desirably this should be less than 30 minutes);

e) the availability of local hotels and camp sites for additional supporters;

f) the possibility of parking vehicles on the field;

g) local practice facilities if the field is unavailable prior to the start of official practice.

When proposing a site in a Championships proposal to the CIAM, the National Aero Club must give a detailed description of all the aspects discussed above. The accommodation and camping facilities must be described and the entry fee stated, split into an obligatory part and a part for food and accommodation (B.6.2). These fees should be justified to CIAM by including an estimated income and expenditure budget for the Championship (B.5.2 and Annex 1 to Section 4A). CIAM should be given a detailed summary of weather conditions at the time and place of the proposed event, compiled by the official meteorological organisation of the country and covering such aspects as the distribution of

wind speed and direction throughout the day, range of temperatures, sunshine and rainfall. Note that the decision on the location of a Championship is normally decided two years in advance of the event (B.5.2).

It should be arranged for a CIAM representative from another country to visit the flying site and facilities (preferably at the same time of year as the Championships); this official may be a member of the CIAM Bureau, or the Chairman or a member of the CIAM Free Flight Subcommittee, a CIAM Delegate, or a member of the FAI Jury at a recent Free Flight Championships. In the case of CIAM Delegates or CIAM Bureau members the chosen representative should have recent free flight knowledge. The CIAM representative should discuss the site with internationally known and respected modellers who fly FAI classes and regularly use the proposed site.

Well in advance of the event information should be sent to National Aero Clubs and members of the FAI Jury including a description of the site and any special features. Maps should be given showing the location of the flying field, the accommodation and arrival registration point relative to roads and local towns and also a detailed map of the flying field with its entrances and any restricted access areas.

2. TIMETABLE

The time of year for the contest should be chosen so that the flying conditions, ground surface conditions, temperature and weather may be expected to be agreeable for the majority of competitors. Times of year in which intense thermal activity or strong winds are probable should be avoided, or alternatively there should be adequate daylight available to allow contest flying to be suspended during the part of the day when thermals and wind are at their strongest (B.14.1).

The first day of a championships is for arrival and registration. The location of the registration office should signposted and be indicated on a map included in the bulletin. At registration the participants should be given all relevant information, such as maps, schedules, lists of participants, competitors numbers, meal tickets and accommodation details.

It is required (B.7.4) that at least one practice day be provided before the contest. Model processing must be carried out according to B.15.15 for the number of models (B.15.1) allowed for each competitor. Specific measurement of the model characteristics is not required before the event (B.15.15) but competitors have the right to have official checking of launching cables, rubber motors, swept volume of piston motors, and model minimum weight. To facilitate the smooth running of processing a schedule should be established with equal slots available for each team. During registration teams may choose their preferred slot from the times remaining available on the schedule. During processing the competitors will have to give the certificates of the four models entered in the competition. The organiser will mark these four models with a unique stamp or sticker. If a stamp is used it is essential that it is with a permanent ink which does not wipe off under the effect of rain, model fuel or lubricants. The organiser should record the identification of the models entered and this should be marked on the score card to be used for that competitor. If a competitor wants to replace one of these four models, he will have the right to do so up to one hour before the start of the contest (B.15.12.). In this case, he must present to the organiser the corresponding certificate for the new model. The time and place should be clearly indicated for any additional model checking which a competitor may request.

The normal schedule for Championships is for one day to be allotted to each class F1A, F1B, F1C. This demands time during the daylight hours for the seven basic rounds plus any fly-off rounds. It is possible to commence the contest before sunrise in order that there may be an interruption during the part of the day having most wind or thermal activity (B.12.1). The starting time chosen may be constrained by the catering and accommodation facilities and also the need to avoid making the hours too rigorous for all participants, but these are secondary constraints compared with the requirement to hold the flights during the best possible conditions. It is indeed a formal requirement that at least two rounds take place when wind and thermal activity are expected to be at a minimum (B.12.1). The normal round duration is one hour and there should be a short break of at least 10 minutes between each round, to allow for the time taken by competitors moving to new launch poles and by the administration of timekeeping. A longer break should be allowed if wind direction changes may require moving the starting line during the day.

For the fly-off rounds adequate time should be allowed between rounds for the preparation and recovery of models in the expected range of meteorological conditions; the gap between successive

fly-off rounds should be at least 30 minutes on even the best flying site. If daylight time may be too short to allow completion of the fly-off process in one evening, contingency plans should be established for completing the process during the following day. To cater for delays in the competition due to the weather, long fly-offs or other reasons, it is essential to allow at least one free day after the scheduled end of flying and before the conclusion of the Championships (before presentation of prizes and departure of competitors).

The published timetable should include the starting and finishing times of the rounds and also the fly-off rounds for each class. Besides the schedule for flying, the timetable should also include the time and place of:

a) a meeting of the organisers with the team managers after arrival and also in the evening before each contest flying day;

b) briefing meetings for the timekeepers for each class;

c) an opening ceremony, at a time not infringing upon model checking or practice periods

d) an awards presentation ceremony for the award of FAI Trophies and Diploma to the winners.

It is important that at least some members of the FAI Jury are invited to and are present at each of these functions, that is: each team managers meeting, each timekeeper briefing, the opening and the awards ceremonies.

Copies of the timetable should be distributed at least 2 months in advance to National Aero Clubs, with points of detail supplied if necessary in hand-outs to all participants upon arrival at the event.

3. FLYING SITE ORGANISATION

This section of the guide concerns the running of the flying site on contest days. While split into a number of headings here, it is essential that all aspects of the organisation work closely together.

Officials

Separate spheres of duty require a contest director, a chief timekeeper and a site organiser. The contest director takes overall control and is responsible for contact between the team managers, chief timekeeper, the model processing staff, other officials and the FAI Jury. He should arrange for contacting the Jury in the event of a protest being received. The chief timekeeper is in charge of all aspects of timekeeping and recording and displaying scores, discussed in section 5 of this guide. The site organiser takes care of administrative and logistic matters not immediately impinging on the contest flying.

The organisers must provide timekeepers for each launch position (two per position for Championships, at least one per position for Open Internationals). An additional timekeeper must be provided at each position for flyoffs (B.8.2). If foreign timekeepers are available, they will be used as a priority and should provide their own equipment (tripod, stopwatches and binoculars) (B.11.1).

Interpreters must be available at all stages of the Championships to allow communication between the main officials, team managers and the FAI Jury. An essential minimum is to ensure that these three categories of peoples are able to communicate via the official languages specified for the Championships; the smooth running of the event is aided by also supplying interpreters for teams which are unable to converse in any of the official languages.

Starting Line

The Sporting Code specifies the spacing between launching positions on the starting line (B.8.1.a). These positions should be clearly marked in a secure way, but in such a way that it is possible to move the line to allow for wind changes. One successful solution is to have ground markers for each starting position attached to a cable at the correct spacing: the complete cable can then be towed to a new launch position when required and without any additional need to recheck the spacing.

A good way to facilitate line changes due to wind shifts is to have a spare cable with ground markers attached, in order to prepare the new starting line before the end of the running round. This gives the possibility to save time to move the line, the new line being ready before the end of the previous round.

The only other items required to be kept at the starting line are the timekeepers' equipment and containers for impounded accessories (fuel).

Launching Area

There should be clear markings to keep spectators at least 25m away from the starting line (B.8.1.a) in the directions upwind, downwind and across wind from each end of the line. In the case of F1A the upwind limit should be at 75m to allow for the towline length. No substantial fixed structures should be permitted within this area, neither those erected by the competitors nor the organisers, and anything higher than 2 metres should be quickly collapsible. Competitors should place their model boxes, winding supports, starters, etc, at least 10m from the line (downwind of the line for F1A, or upwind of the line for F1B and F1C). An official should be designated by the contest director to monitor obstructions and the number of people in the launch area. Under rules 3.1.10, 3.2.10, 3.3.10 a competitor is allowed one helper at the launching pole, plus the team manager.

Retrieving

Advance literature should specify the aids which competitors may use when chasing and returning models. Limits should be specified as to where mechanical aids, such as cycles, motor cycles, cars, may be used and parked. They should not be allowed in the launching area nor should they be left in a position where they may obstruct the timekeepers' view of models. For safety reasons it should be forbidden for people to chase models in flight with motorised vehicles unless there are at least two people (one to drive and one to observe the model). Some teams usually employ radio aids when retrieving models and it should be specified in advance which frequencies will be available.

Equipment

An official clock, reading to the nearest second, should be used to time the rounds. It should be accurate throughout the day and should not be adjusted after the start of the contest. The clock should be available for reference by competitors and defines the timetable as published, unless changes have been announced. The start and finish of rounds should be marked by audible and visible signals, such as flares. The form and exact timing of these signals must be defined in advance (for example, the round starts or finishes at the moment the flare bursts). A public address system is helpful for communications from the organisers, calling for the Jury, making additional announcements on round times, time remaining in the round and such like. If used for communications for competitors it must be audible at all points on the starting line and announcements must be made in all official languages.

A meter should be available to measure wind speed and preferably should be have calibration confirmed by a recognised agency or procedure. The meter should be held or mounted at 2m above the ground and should be monitored throughout the contest. The Jury must be informed if the wind speed approaches the advisory limit (B.13.1.a).

The equipment required for timekeeping is described in section 5, but note that the organisers have a responsibility to ensure that all timekeepers are fully equipped - either by providing them with the equipment or confirming that they have and will bring adequate equipment of their own. Particularly note the requirements for electronic stopwatches (B.7.9) and tripods (B8.2 and B.11.7.a). The organisation must have equipment necessary for processing the times recorded by the timekeepers and the scoreboard is essential for displaying latest results. Processing requires separate facilities for spot checking models and checking new towlines or rubber motors - see section 4 of this guide. The containers for fuel must be kept at the starting line under the control of the timekeepers.

The organisers shall provide, for cost, up to 5 litres of fuel per contestant for F1C practice flying and for use in the competition. The fuel must be requested in advance (at the time of entry). Fuel supplied by organisers shall be mixed from top quality material. Methanol shall be at least commercial grade without additives. Castor oil, when used, shall be at least the equivalent in quality to Castrol M. A means of distributing the fuel to competitors must be arranged.

The organisers must be able to transport all the equipment to and across the flying field, with vehicles suitable for the terrain and able to transport it to any position on the field which may be required according to wind direction.

The organiser must have available a suitable stamp or stickers for identifying the models after registration (B.15.15.a).

The organisers should make available small stickers for competitors to place on their models to give instructions in the local language of action to take if finding a model, these to be available at the time of registration.

Facilities

Refreshment, toilet, and first aid are desirable facilities on the flying field and should be kept well away from the launching area and from the areas in which models may land. The provision of fire-fighting equipment may be appropriate if the field has a high fire risk, and in any case a means of contacting the local fire service must be defined. Arrangements should be made to supply food and drink during the day to competitors and the arrangements for this must be announced in advance. Any meals during the competition should be light meals and easy to distribute, such as packed lunches. Car parking should be designated so as not to interfere with flying but with regard to easy access to the starting line for competitors. If required and arranged in advance, a transport service may be provided to take competitors between the official accommodation and the flying site, with the bulk of this required well before the scheduled start of contest flying and after the close of flying, but with a less intensive service required during the day.

4. MODEL CHECKING

There are four phases to this operation with the following requirements:

1) The first phase involves checking the competitors and their model certificates on arrival, entails:
   a) check that the competitor holds a valid FAI Sporting Licence issued by his National Airsports Control in accordance with the Sporting Code General Section. (B.3.2). If the Sporting Licences are impounded during the event, plans should be drawn up for returning them at the end of the competition.
   b) check the FAI Model Specification Certificates for up to the maximum number of models which may be submitted by each competitor (B.15.1, B.15.6) and mark or stamp each major part of each model (B.15.15.a)
   c) in the case of models not correctly processed the organisers must carry out this processing (B.15.7).
   d) check that there is an FAI sticker on each model and equivalent markings on every main part of each model in agreement with the corresponding certificate and identifying each model with a unique code (B.15.8). Confirmation of this check should be shown by marking across the edge of the sticker and the model with an indelible special symbol or stamp of the organisation. The identifying letters or number (unique code) on the four models of each competitor should be recorded on the score sheet which will be used for recording the flight times for that competitor. This helps the timekeepers to check and record the identifying code of the model used for each flight.
   e) check that the Olympic identification and FAI licence number (or national number) of the competitor appears on the wing of the model.
   f) allow competitors to measure model characteristics on the official processing equipment (B.7.3.)
2) The second phase involves allowing competitors to check on towline length, rubber motor weight, piston motor swept volume and model minimum weight on the official processing equipment (B.7.3 and B.15.15). The team managers should be informed of the arrangements for carrying out this checking, which may be made both according to a schedule and also at any other time requested by the competitor (but possibly subject to more delay in that case).
3) The third phase of checking requires that during the competition the organiser should:
   a) process the important characteristics of at least 20% of the models (B.15.13), including the towline length for F1A and the rubber motor weight for F1B. The models checked should be chosen at random and it should be done in a manner so as not to inconvenience or hinder competitors; it is best to briefly impound and check a model immediately after it has made an official flight. Advance notice of the check should not be given. The results of these checks should be recorded.
   b) provide facilities for checking extra towlines and rubber motors in addition to those checked under (2). This may be required for the convenience of competitors at any time.

   Note that these checks are in addition to the model identification checks which the timekeepers make before each flight

4) The final phase comes after provisional results have been achieved. It requires checking of all the characteristics of each model used by competitors placing first, second and third (B.15.14). It is prudent to impound at least the fourth place models as well, for processing in case of any disqualification in the first three. It is possible that the rechecking be carried out at the flying site if good facilities are available there for accurate measurements; alternatively, the models should be impounded at the flying site and taken for processing at the chosen site.

The equipment required for processing thus includes:

FAI model certificates and stickers, item (for item 1.c above);

A means of marking registered models

Means of accurately weighing models and rubber motors, measuring models and computing the projected area, both on and off the flying site , items (1.c), (2), (3.a), (3.b), and (4);

A measure for accurate determination of the 50m maximum towline length and a means of applying the specified tensile load when checking the towlines, (1.c), (2), (3.a), (3.b), (4);

Accurate instruments for measuring motors and calculating the motor capacity, items (1.c), (2) and (4);

Official fuel for class F1C, needed for practice and the competition (3.3.2);

A means for dispensing the official F1C fuel to competitors during the competition and containers for impounding the receptacles used by the competitors to hold their working supply of fuel. Fuel bottles should be clearly marked to indicate their contents, not to be confused with drinks.

Motor volume

To determine motor swept volume the stroke and bore of the motor must be measured accurately with precision engineering tools. Note that (1.4.16) defines that the swept piston area is calculated from measurements of the bore of the liner at the top dead centre. The swept volume is then found by multiplying the swept piston area by the stroke. These calculations to determine capacity must use the full accuracy of the measured dimensions. When the swept volume has been determined (1.4.16) specifies that the calculated volume must be truncated to two decimal places. This means that the figures in third and later decimal places are deleted and the result compared to the maximum of 2.5cc specified in (3.3.2). The following examples are given to clarify the procedure:

calculated volume	2.496	2.5004	2.5084	2.5102
truncated volume	2.49	2.50	2.50	2.51
within specification?	yes	yes	yes	no

5. TIMEKEEPING

This is a most important aspect of any free flight competition. The people chosen for duty as timekeepers should have good eyesight and have some experience of the task, preferably being active free flight aeromodellers. They should be familiar with the rules of the event; to reinforce this, a detailed briefing meeting should be held on the evening before each event and the timekeepers should be issued with copies of the rules and a briefing sheet, such as presented in Appendix B.

The best method of allocating timekeepers is for a pair to be assigned to each starting line position and to time all flights at that position during the entire competition. In conjunction with this the competitors move from one pole to another between rounds (B.8.1) and thus each pair of timekeepers take duty for a different team for each round.

The timekeepers retain custody of impounded items (fuel and receptacles used by the competitors to hold their working supply of fuel) at their pole for the duration of a round and at the end of the round they should ensure safe and prompt transfer to the timekeepers responsible for that team in the next round. Competitors must be allowed free access to their impounded items at all times but the timekeepers must watch that no possibility of tampering arises. The organisers should regularly communicate with their timekeepers, so that they do not need to leave their position during rounds for such things as transmitting results or collecting refreshments. A few spare timekeepers should be available to cover for any timekeeper who must unavoidably leave his position during the day. It is most important that all timekeepers should be in position before the start of each round. Arrangements must be made to ensure custody of impounded items in the event of long breaks in the flying, such as during poor weather or over a lunch break.

Equipment required for each timekeeper includes: a pair of binoculars meeting FAI specifications (B.11.7), at least one stopwatch of specified type and accuracy (B.7.9, B.11.4), results cards on a board with pens, briefing sheets, a means of identification to competitors and team managers, and a chair (for comfort when possible to relax between flights during a long day). Note that a second stopwatch is required for each timekeeper in F1C to time motor runs. A tripod for supporting binoculars is an advised additional item of equipment.

The timekeepers should write down the results in exactly the form in which it is recorded on the stopwatch (for example, as minutes and seconds) to avoid conversion errors. The results sheets should include a second copy facility so that a copy of the recorded result for each flight may immediately be given to the team manager. After the results have been recorded the sheets should be collected by a runner and taken to a central scoring office. Here any appropriate conversions should be made (for example, into seconds) and the score recorded on a master sheet. If a computer is being used for processing the results, the scores should be entered into it after recording them on the master sheet and programs should obviously be carefully checked and regular copies of data made to safeguard the smooth and accurate preparation of the results. A public scoreboard should be updated to show latest individual and team scores and positions as soon as possible (B.7.6). Written copies of the results should be prepared at the close of the event; these must be sent to the FAI and National Aero Clubs (B.6.5) and should also be handed out at the awards ceremony to the FAI Jury, team managers, competitors, supporters and press representatives.

6. OPENING AND CLOSING CEREMONIES

It is desirable to keep all ceremonies short and readily understood in all languages.

The key elements of an opening ceremony are introduction of the teams and welcoming remarks by the organisers and the president of the FAI Jury. Depending on the number of teams it may not be desirable to play the anthem of each country. If requested the team managers should have brought recordings of their national anthem. For any country not bringing an anthem it is recommended that the FAI anthem be played in their case.

At the beginning of the opening ceremony, as soon as the teams are at their places, the FAI anthem is played, and the FAI flag raised. At the end of the ceremony, the President of the FAI Jury declares the Championship open, and the national anthem of the organising country is played.

The prize-giving should be separate from any closing banquet, so that it may be attended by all participants independent of whether they buy tickets for the meal. The key preparation for the prize-giving is to have all the trophies, medals and diploma available for presentation, with the diploma completed with the winners names. There should be a rostrum or other central area or stage for presentations to the winners which allows suitable views for photographers. After presentation of the awards in each category, the national anthem of the victor should be played while the flags of the top three nations are raised or displayed. Closing remarks by the organisers and the president of the FAI Jury complete the prize-giving.

At the end of the ceremony, the FAI anthem may be played, and the FAI flag presented, as a symbol, to the team manager of the next organising country.

In planning any closing banquet it should be remembered that the main enjoyment of participants is meeting one another and talking together. To assist in this, it is not desirable to provide major special performers or speeches or loud music for the dinner.

ANNEX 2, APPENDIX A

A GUIDE FOR THE ORGANISERS OF FAI OUTDOOR FREE FLIGHT OPEN INTERNATIONALS

There is a degree more freedom possible in the organisation of Open Internationals than there is for Championships, but this does not diminish the organiser's responsibility to run an event according to FAI regulations. There is a greater need to ensure fair arrangements for all competitors since they are not assisted by the formal representation through the team manager that they have at a Championships.

Many of the points given in the Guide for Championships organisers are still appropriate to Open Internationals and in the following Guide emphasis is placed on the differences.

1. SITE

A good flying site is as important for an Open event as it is for Championships. The major point of difference is that there is no requirement to supply official accommodation and catering. This places increased emphasis on the need for hotels and camp sites near to the flying site.

The inclusion of an event on the FAI Contest Calendar does not require a detailed presentation to CIAM, but general information together with the entry forms should be sent to National Aero Clubs and to any individual requesting them. Detailed maps showing the location of the flying field and the registration office should be sent to all competitors. If competitors will be required to assist in timekeeping then this must be explained in the advance information bulletins. Entry forms should give the possibility to identify the junior competitors, in order to identify them in the general classification and make a special junior classification if the number of juniors participating in each class is greater than three (B.3.4.b.).

Score cards should be similar to the ones used for World or Continental Championships, with a special place for timekeepers to record the code of the model flown at each round by each competitor.

2. TIMETABLE

It is equally necessary to choose a time of year which is likely to give good flying conditions and to arrange the timetable to avoid periods of strong winds or intense thermal activity.

The best schedule is to follow the Championships style, with a practice day followed by one contest day for each class and with a free day available for completion of the event if there have been any delays. However, there is usually pressure to follow a shorter timetable than this and two possible arrangements for fitting events F1A, F1B and F1C into two days are now suggested:

a) Flying F1A on one day and F1B plus F1C on the other day. The popularity of F1A means that there is a similar total number of competitors on each day. However, it is preferable not to have F1B and F1C models flown together. Separation may be achieved by scheduling short rounds for each class in succession or by setting up separate starting lines for each class.

b) Flying all classes in rounds at the same times. This requires three separate starting lines for the three classes and a large number of timekeepers. It is difficult for competitors and helpers involved with different classes, but it allows a competition to be completed in one day.

As well as the times of all rounds, the timetable should include the time and place of competitor registration and the awards presentation ceremony, together with any model checking and opening ceremony that may take place. Copies of the timetable must be sent out with entry forms.

3. FLYING SITE ORGANISATION

The comments under this heading in the Championships Guide are equally applicable to Open Internationals.

4. MODEL CHECKING

All of the comments on model checking for Championships remain valid for Open Internationals, but it is usual to place greater emphasis on checking having been carried out in advance by the competitors' National Aero Clubs. To back up this it is important that the competitors have access to any official processing equipment (B.7.3), the spot checks are carried out (B.15.13) and the models of the top three placing competitors are checked in detail (B.15.14).

5. TIMEKEEPING

This is often a most difficult part of an Open International. The timekeepers should be experienced free flight aeromodellers with good eyesight and be familiar with the rules of the event. They should be issued with copies of the relevant rules and a briefing sheet on the style of Appendix B.

Supplying an adequate number of timekeepers for an Open International is often more difficult than for a Championships - there may be a much greater number of competitors and the organisers may have smaller resources of manpower available. Starting pole positions should be allocated by draw for the first round, but with the possibility of constraining the draw to select people able to speak the same language at each pole as far as possible. Competitors at a pole fly one at a time in an order preferably established by mutual agreement of the competitors for each flight; in the event of disagreement at a pole, the official timekeeper at that pole may impose a flying order, subject to appeal to the FAI Jury.

It is preferable that the organisers supply at least one official timekeeper at each starting position in order to retain custody of the score cards, to observe that correct procedures are followed and to act as a contact point at that position. At least one official timekeeper at each position should be able to converse in one of the official languages of the event. Two timekeepers are required for each official flight; in the event of the organisers not supplying both timekeepers per position, then the required timekeepers should be other competitor(s) flying from that position or a helper of the other competitors. The official timekeeper at the position should ensure that all competitors undertake their fair share of help in the timekeeping and that there is always someone ready to help him time the next flight. Any dispute in undertaking timekeeping help should be referred to the FAI Jury and the organisers should be able to call upon a small number of additional timekeepers to allow timekeeping to continue at the pole during a dispute.

It is not permissible to reduce the timekeeper requirement by increasing the number of competitors at each starting position. Sufficient positions should be established to allow each competitor at least 15 minutes to fly if the round time is evenly distributed between all the competitors. The official timekeeper should draw the attention of the FAI Jury to any competitor taking a significantly longer time to fly than his fair allocation of round time.

Since the official timekeeper at each pole may be more actively involved in organising activities at his position than is the case at a Championship, it is even more important that the contest director arranges good communications with the timekeepers. There should be a frequent runner service between all the timekeepers and the contest director and clear audible or visual signals should be available for the timekeeper to call the contest director and hence the FAI Jury in the event of any difficulty.

The requirements for processing scores and for timekeeping equipment are the same for Open Internationals as described previously for Championships. It is important that when competitors assist in the timing of flights they should be correctly equipped with stopwatches and binoculars according to the FAI specifications. Familiarity of operation is important with these devices and so they should supply their own stopwatches and binoculars if these are acceptable, otherwise they should observe a flight with spare equipment supplied by the organiser and held by the official timekeeper.

ANNEX 2, APPENDIX B

OUTDOOR FREE FLIGHT TIMEKEEPER BRIEFING INSTRUCTIONS

The duty of timekeepers is to fairly observe and record the times of flights by the competitors. In the course of this they must follow the rules of the FAI Sporting Code and also must ensure that the flights are made in accordance with the Sporting Code. To achieve true sporting results it is essential that the timekeepers act so as to give the competitors the greatest possible opportunity for making their flights.

On a day prior to the competition, the organisers should hold a meeting to brief the timekeepers, to discuss the rules and explain the logistics and operating procedures to be followed during the event. A list of timekeepers allocated to each starting pole should be distributed.

There follow some detailed points on the task of timekeeping, specifically aimed at timing in Championships but also applicable to Open Internationals (see the closing note).

Start of Competition

The timekeepers must be present at their specified starting line position (pole) at least 10 minutes before the start of the first round. They should have collected - or have been brought by the officials - stopwatches, binoculars, tripod (one per position), score cards, pens, impounded equipment, chairs and any other personal needs.

Impounded Equipment

In class F1C standard fuel must be kept under the control of officials at all times but competitors should be given access before the start of each round. This is to enable them to be prepared and ready to fly at the start of the round: F1C fuel may be taken, the fuel tank rinsed and filled.

More than one competitor may access the impounded equipment at any one time during the competition provided that the timekeepers retain supervision of the items Between rounds one timekeeper should take a team's impounded equipment to that team's next pole while the other timekeeper waits at his pole for delivery of the equipment of the next team to fly at that pole.

Preparing to time a flight

When a competitor is ready to make a flight the timekeepers must check his name and number on their score card. The identification number or letter on the model must be checked, compared with those shown on the score card and recorded as the identification of the model used for that flight. Timekeepers must check that the model has been identified (stamped or marked) by the organisers at Championships. Timekeepers must check that the Olympic identification of the country of the competitor is written on the wing of the model, as well as the FAI licence number (or national number) of the competitor. This is particularly necessary, even at open World Cup Contests.

Timekeepers must study the shape and colour of the model to aid recognition. They should check the focus of their binoculars and zero their stopwatches.

Timing a flight

The timekeepers must check that the flight is launched after the start and before the finish signal for the relevant round. They should also check that the model is launched within 5m of the launch position (note that the model may be taken further away before launching but must return within 5m of the pole at the moment of launch).

The model should be watched carefully and continuously during the flight. Special attention should be given to the flight counting as an attempt for any reason or to detecting a collision; if either of these arise then the team manager must be informed immediately.

In the case of F1A the team manager should be informed if the model is too far away for the moment of release to be seen. Likewise, in F1C, a motor run that is too long should be reported immediately to the team manager. It is difficult to accurately time motor runs; timekeepers should endeavour to make their best judgement of the moment when the motor stops, not being influenced by model attitude or the noise of other motors running nearby.

The Sporting Code directions for using binoculars during a flight should be followed as appropriate. It is important that the binoculars are used early enough in the flight that there is no difficulty in picking out the correct model. A tripod should be used to support the binoculars if available, this is particularly helpful when timing a long fly-off flight or when the wind is strong.

If there is the chance of a model being lost from view behind a local obstruction then the timekeepers should move as far as allowed (10m radius) in order to keep the model in sight for as long as possible (B.11.5). Any distraction of looking at the stopwatch to check progress of the flight should be avoided, since this implies looking away from the model itself.

Recording a flight

If the flight was an attempt then this should be recorded on the score card. At the end of an official flight the mean of the time recorded on the two stopwatches should be calculated and recorded to the nearest whole second below. If the score card allows, the time should be recorded directly in minutes and seconds as shown on the watches and also as converted to seconds. In a Championship the team manager should be shown the time recorded and he should sign to indicate that he has seen the time. The flight should be recorded as quickly as possible if there are other competitors waiting to fly. The completed score cards should be collected from the timekeepers by an official for taking to the central scoreboard and recording position.

Disputes

A dispute that cannot be resolved between the timekeepers and the team manager must be referred to the contest director or the FAI Jury. The timekeepers should not leave their post during a dispute but should continue to time as required by other competitors at the pole. If a dispute is not resolved during a round and the competitor could be entitled to a reflight if his protest is upheld, then the timekeepers should time a reflight. The time should be recorded separately in case it is required when the dispute has been settled. This must be done before the end of the round.

OPEN INTERNATIONALS

Duties of timekeepers are similar to those at Championships. There may be only one official timekeeper at a pole and the other timekeeper must then be drawn from the competitors waiting to fly, etc. Score cards should be kept by the official timekeeper and it is he who settles any dispute between competitors at his pole, such as concerning the flying order or the time taken to fly.

ANNEX 3

A GUIDE FOR THE ORGANISERS OF FAI INDOOR FREE FLIGHT COMPETITIONS

This issue is based on the Guide approved in 1999 with modifications to reflect changes to the FAI Sporting Code Section 4 up to the 2003 edition.

Objective

This document is intended to specify guidelines for the organisation of outdoor free flight international contests, for the benefit of both the organisers and the competitors. It is emphasised that recommendations are given and these do not have the same status as the binding regulations in the FAI Sporting Codes. However, since it is widely distributed and should be regarded as the standard for international competitions, organisers should avoid confusion by announcing in advance any changes from this guide such as may be necessary to suit local circumstances. These changes should be approved by the CIAM Bureau for a Championship or by the appointed FAI Jury for an Open International event.

This guide is applicable to World and Continental Championships in class F1D. Organisers of Championships should note the administrative advice given in the CIAM general guide on the organisation of Championships. For organisers of FAI Open International events, appendix A gives changes and comments appropriate to Open Internationals for F1D, F1L, and F1M classes.

Where this guide refers to the FAI Sporting Code Section 4 the relevant paragraph is quoted in brackets.

1. SITE

A good flying site is of primary importance to any indoor competition. In fact there are so few sites suitable for F1D that the availability of a suitable site is central to the whole concept of organising a Championships. The main determining factor governing the suitability of a site should be the successful demonstration of F1D flying in the site for local or national competitions. The individuality of sites makes a list of requirements meaningless but the factors to be considered include:

Size and height of the hall - there must be an adequate area over which the height is close to the maximum, to allow enough space for models to use the height for maximum climb (this is reflected in the ceiling category definition 3.4.12);

Adequate and clear flat floor space, especially under the highest part of the ceiling;

A minimum of obstructions in the airspace (hanging ropes, cables, lights, etc);

Walls and ceilings not made of materials likely to trap models on contact;

Adequate lighting, especially in model preparation areas on the floor and up to the ceiling for model observation and steering;

The hall should be as airtight as possible (closed doors, windows, etc) to minimise draughts;

The organiser must have complete control of access to the building (for example, to keep visitors under control but allow competitors unhindered access to the site);

Minimum influence of external weather on the inside air conditions (rainproof, minimum interior heating from the sun, etc).

Aside from the hall itself a Championship requires

a) ease of access for competitors arriving by road or by public transport and via international ports and airports;
b) availability of adequate and reasonably priced accommodation for all competitors, team managers, officials, and at least some supporters and helpers;
c) time taken to travel between the official accommodation and the flying site (desirably this should be less than 30 minutes);
d) availability of local hotels for additional supporters.

When offering a site in a Championships proposal to the CIAM, the National Aero Club must give a detailed description of all the aspects discussed above, including especially a detailed plan and profile of the site with measurements. The accommodation facilities must be described and the entry fee stated, split into an obligatory part and a part for food and accommodation (B.6.2). These fees should be justified to CIAM by including an estimated income and expenditure budget for the Championship. CIAM should be given accurate scale drawings of the hall and details of transport connections to the venue, with regard to competitors travelling with large boxes.

For a site not previously used for Championships it should be arranged for a CIAM representative from another country to visit the flying site while it is being used for a national competition or practice flying. This official may be a member of the CIAM Bureau, or the Chairman or a member of the CIAM Free Flight Subcommittee, a CIAM Delegate, or a member of the FAI Jury at a recent Indoor Championships. In the case of CIAM Delegates or CIAM Bureau members the chosen representative should have recent experience of indoor flying. The CIAM representative should discuss the site with internationally known and respected modellers who fly F1D and regularly use the proposed site.

Well in advance of the event, information should be sent to National Aero Clubs and members of the FAI Jury, including a description of the site and any special features. Maps should be given showing the location of the flying site, the accommodation and the participants registration point relative to roads and local towns.

2. TIMETABLE

The time of year for the contest should be chosen to minimise the effect of external weather on the indoor flying conditions in the hall.

It is required (B.7.4) that at least one practice day be provided before the contest. It is often arranged that the opening ceremony takes place during the practice day: if this is done then the interruption to the practice flying should be as short as possible, whether the ceremony is held in the hall or elsewhere.

There are no defined round times or other constraints on the timetable for F1D competitions. The only requirement is that each competitor is allowed 6 flights. The scheduling of these flights depends on local circumstances and also on the number of competitors in the event. If the number of competitors is so large that there are likely to be enforced delays on launching (to prevent there being too many models in the air at once) then the timetable must allow more time for flights.

The most common arrangement for World Championships is to have 2 flights per day spread over 3 competition days; 3 flights per day over 2 days has been used for some Championships at large sites and for Continental Championships with smaller numbers of entries. It is convenient but not essential if each competition day is subdivided into rounds; this helps to spread the flights through the day and allows a better appreciation of the current results as the competition develops. Each round should be long enough to allow time for all competitors to fly and also to take reflights in the event of collisions, but not excessively long otherwise conditions may vary too much during the round. Time must be allowed for practice flying during each competition day, for example at the beginning and end of the day and possibly also in a break between rounds.

The published timetable should include the starting and finishing times of the rounds and practice times. The finishing time of a day or a round must refer to the last launch time: remember that a flight launched just before this finishing time may continue for a considerable time after the 'finishing time', for example 45 minutes. No other activity should be scheduled during this period after the last launch time. The timetable should also include the time and place of:

a) a meeting of the organisers with the team managers after arrival and also in the evening before each contest flying day;

b) briefing meetings for the timekeepers;

c) an opening ceremony;

d) an awards presentation ceremony for the award of FAI Trophies and Diploma to the winners.

It is important that at least some members of the FAI Jury are invited to and are present at each of these functions, that is: each team managers meeting, the timekeeper briefing, the opening and the awards ceremonies.

Copies of the timetable should be distributed at least 2 months in advance to those National Aero Clubs that have indicated their intention to participate, with points of detail supplied if necessary in hand-outs upon arrival at the event.

3. FLYING SITE ORGANISATION

This section of the guide concerns the running of the flying site on contest days. While split into a number of headings here, it is essential that all aspects of the organisation are closely integrated.

Officials

Separate spheres of duty require a contest director, a chief timekeeper and a site organiser:

The *contest director* takes overall control and is responsible for contact between the team managers, chief timekeeper, the model processing staff, other officials and the FAI Jury. He should arrange for contacting the Jury immediately in the event of a protest being received under rule B.16.

The *chief timekeeper* is in charge of all aspects of timekeeping and recording and displaying scores, discussed in section 5 of this guide.

The *site organiser* takes care of administrative and logistic matters not immediately impinging on the contest flying. He has specific responsibility to control access to the hall and to prevent actions likely to damage models or disturb the air in the hall, for example ensuring that doors and windows are closed and that only people directly involved with the flying walk around the floor or near models. All obstructions should be kept to a minimum in any area where competitors may need to go to steer models. The site organiser shall also enforce a ban on the use of flash lights or high intensity lights by photographers during practice or the competition (these can act to blind competitors during delicate operations on their models). The site organiser should also have staff available to retrieve models which become caught on the structure of the building and which cannot be retrieved safely by competitors.

In addition, interpreters must be available at all stages of the Championships for languages sufficient to allow communication between the main officials, team managers and the FAI Jury. An essential minimum is to ensure that these three categories of people are able to communicate via the official languages specified for the Championships The smooth running of the event is aided by also supplying interpreters for teams which are unable to converse in any of the official languages.

Equipment

The basic essentials for processing F1D models are devices to confirm that the weight of the model exceeds the specified minimum and that the weight of the motor does not exceed the specified maximum, and a wingspan check to confirm that the wingspan is within the maximum allowed span. These items of processing equipment will usually need to be produced especially for the purpose. They may be well engineered mechanical devices (such as two weighted strings at the correct spacing for the wingspan check) or may employ electronic equipment according to local availability. Whatever form of equipment is used it must be reliable and accurate. It must be set up on firm bases, shielded from draughts, and set up in a position which does not obstruct flying but which is accessible for models to be processed before going on to the floor to fly. Only the processing official, the competitor and their helpers should be allowed near the processing equipment. A means of marking models should be available, such as coloured soft pens.

An official clock, reading to the nearest second, should be used to time the rounds or start and finish times. It should be accurate throughout the day and should not be adjusted after the start of the contest. The clock should be available for reference by competitors and defines the timetable as published, unless changes have been announced. The start and finish of rounds should be marked by audible signals or announcements. A public address system may be helpful for communications from the organisers, calling for the Jury, making additional announcements on round times, etc, but its use should be kept to a minimum. No music may be played during the competition. Communications for competitors must be made in all official languages.

Equipment is necessary for processing the flight times recorded by the timekeepers and a scoreboard or suitable computer display is essential for showing latest results. The equipment required by timekeepers is discussed in section 5. All equipment shall be checked by the FAI Jury before the beginning of the competition.

Facilities

Refreshment, toilet, and first aid are required in the immediate vicinity of the hall (but not obstructing the flying area). Arrangements should be made to supply food during the day to competitors (and those helpers who have paid for official food) and the arrangements for this must be announced in advance. If lunch is served away from the hall during the competition it must be only a short distance away; if it is served at the flying site it must not be in a position to interfere with flying when this is in progress. A transport service should be provided to take competitors between the official accommodation and the flying site, with the bulk of this required well before the scheduled start of contest flying and after the close of flying, but with a less intensive service required during the day. The organisers must indicate suitable car parking places for competitors and also positions for delivery of model boxes to the hall entrance.

4. MODEL CHECKING

There are three phases to this operation with the following requirements:

1) The first phase, before the competition starts, involves checking that each competitor holds a valid FAI Sporting Licence (B.3.2). If the Sporting Licences are impounded during the event, plans should be drawn up for returning them at the end of the competition.
2) The competitors must be allowed access to the official processing equipment to measure model characteristics (B.7.3).
3) The third phase of checking requires that during the competition the organiser should measure the relevant characteristics of each model before it is used for an official flight. For F1D this means checking model and motor weights and wingspan. The model must be checked to have an identifying mark (B.15.9) or must be marked by the organiser at the time it is processed.

The equipment required for processing (see also Section 3 Equipment) thus includes:

A means of marking processed models;

A means of accurately checking the weight of models;

A means of accurately checking the weight of rubber motors;

A means of accurately confirming wingspan meets requirements.

5. TIMEKEEPING

This is a most important aspect of any free flight competition. The people chosen for duty as timekeepers should have good eyesight and have some experience of the task, preferably being active aeromodellers. They should be familiar with the rules of the event; to reinforce this a detailed briefing meeting should be held before the event and the timekeepers should be issued with copies of the rules and a briefing sheet, such as presented in Appendix B.

Two timekeepers are required for each national team at Championships. There are a number of possibilities for allocation of timekeepers: timekeepers may be allocated to teams at random for each round of for each day, or the same timekeepers may be assigned to a national team for the entire competition. The former method has the merit of mixing the expertise of timekeepers between the teams without forming any close association or support for "their" team, whereas the latter has the merit of enhancing efficiency through familiarity of teams and timekeepers.

The same pair of timekeepers may work together for the entire competition or the pairing may be changed for each day. A few spare timekeepers should be available to cover for any timekeeper who must unavoidably leave his position during the day (but substitution should not take place during a flight unless in exceptional circumstances). Alternatively all timekeepers may be kept in a central pool and called forward as required for each competitor as he has been processed ready for flight. It is most important that all timekeepers should be ready for duty at the start of each round.

Equipment required for each timekeeper includes: at least one stopwatch of at least the accuracy specified (3.4.9), score cards on a board with pens, briefing sheets, a means of identification to competitors and team managers, and a chair or mattress or couch from which long flights may be observed comfortably. At least one of the timekeepers in each pair must have an additional watch suitable for accumulative timing of the time for which the propeller is stopped during steering.

The timekeepers should write down the results in exactly the form in which it is recorded on the stopwatch (for example, as minutes and seconds) to avoid conversion errors. The score cards should include a second copy facility so that a copy of the recorded result for each flight may immediately be given to the team manager. After the results have been recorded the score cards should be taken to a central scoring desk. Here any appropriate conversions should be made (for example, into seconds) and the score recorded on a master sheet. If a computer is being used for processing the results, the scores should be entered into it after recording them on the master sheet and programs should obviously be carefully checked and regular copies of data made to safeguard the smooth and accurate preparation of the results. A public scoreboard or computer displays should be updated to show latest individual and team scores and positions as soon as possible (B.7.6).

Written copies of the results should be prepared at the close of the event and handed out to team managers, competitors, supporters and press representatives. Results must also be sent to the FAI and participating National Aero Clubs within one month (B.6.5).

ANNEX 3, APPENDIX A

A GUIDE FOR THE ORGANISERS OF FAI INDOOR FREE FLIGHT OPEN INTERNATIONALS

The organiser of Open Internationals has the same responsibility to run an event according to FAI regulations as does the organiser of a Championship. There is a greater need to ensure fair arrangements for all competitors since they are not assisted by the formal representation through the team manager that they have at a Championship.

Many of the points given in the Guide for Championships organisers are still appropriate to Open Internationals and in the following Guide emphasis is placed on the differences. In addition to F1D, Open Internationals may also include competitions for the F1L, F1M and F1N.

1. SITE

A good flying site is as important for an Open event as it is for Championships. The major point of difference is that there is no requirement to supply official accommodation and catering. This places increased emphasis on the need for hotels and other accommodation near to the flying site.

The inclusion of an event on the FAI Contest Calendar requires submission of a completed CIAM application form with the appropriate fee. General information together with the entry forms should be sent to National Aero Clubs and to any individual requesting them. Detailed maps showing the location of the flying site and the registration office should be sent to all registered competitors.

2. TIMETABLE

It is likely that there will be little opportunity to make the schedule for an F1D Open International significantly shorter than that for a Championship. While there is a relaxation of the team flying routine at a Championship it is likely that the major constraint on round length will be the number of models which may be allowed in the air at any one time without undue risk of collision. Depending on the numbers and the site, a schedule of three rounds per day for two days is probably the shortest possible.

The smaller model classes, F1L and F1M, are characterised by quicker flight preparation time, shorter flight times, and the possibility of allowing more models in the air at the same time. These factors combine to allow a shorter timetable, but there may not be adequate time to complete a whole competition within one day. These models should not be scheduled to fly concurrently with F1D models.

On other aspects of the timetable, note that competitors will still require practice time, but it is likely that meetings and ceremonies will be simpler and shorter than those for Championships. Details of the complete timetable should be sent in advance to all registered competitors, with any necessary points of clarification supplied in hand-outs upon arrival at the event.

3. FLYING SITE ORGANISATION

The comments under this heading in the Championships Guide are equally applicable to Open Internationals, with the addition of some different or extra equipment for processing F1L and F1M models.

4. MODEL CHECKING

All of the comments on model checking for Championships remain valid for Open Internationals. It is necessary to allow for the differences in characteristics of the additional classes and for the extra quantities to be verified. Class F1L requires checks to be made on wingspan, wing chord, ratio of tail area to wing area, and the minimum weight; furthermore the form of structure and design must be verified to meet the specifications. F1M models require checks on the wingspan, model weight and rubber motor weight.

5. TIMEKEEPING

This is just as important as in a Championship and it may be more difficult to obtain enough skilled people to act as timekeepers. The timekeepers should be experienced aeromodellers with good eyesight and be familiar with the rules of the event. They should be issued with copies of the relevant rules and a briefing sheet in the style of Appendix B.

The requirements for processing scores and for timekeeping equipment are the same for Open Internationals as described previously for Championships.

ANNEX 3, APPENDIX B

INDOOR FREE FLIGHT TIMEKEEPER BRIEFING INSTRUCTIONS

The duty of timekeepers is to fairly observe and record the times of flights by the competitors. In the course of this they must follow the rules of the FAI Sporting Code and also must ensure that the flights are made in accordance with the Sporting Code. To achieve true sporting results it is essential that the timekeepers act so as to give the competitors the greatest possible opportunity for making their flights.

On a day prior to the competition, the organisers should hold a meeting to brief the timekeepers, to explain the rules and describe the logistics and operating procedures to be followed during the event. A chart of timekeepers allocated to each nation should be distributed, unless timekeepers are to be called when required from a pool.

There follow some detailed points on the task of timekeeping, specifically aimed at timing in Championships, but also applicable to Open Internationals.

Start of Competition

The timekeepers must be ready for duty with their specified team at least 10 minutes before the start of the first round. They should have collected all the necessary equipment - stopwatches, score cards, pens - and have arranged their chairs (if used) ready for observing the flights.

Preparing to time a flight

When a competitor is preparing to make a flight the timekeepers must check his name and number on their score cards. Processing of the model must be observed, from a distance so as not to disturb the flyer or his model but watching adequately to confirm that the model is not modified or changed after processing and before launch. Timekeepers must study the shape and characteristics of the model to aid recognition. They should zero their stopwatches.

Timing a flight

The timekeepers must check that the flight is launched after the start and before the finish signal for the relevant round.

The model should be watched carefully and continuously during the flight. Special attention should be given to the period just after launch when the flight may be counted as a delayed flight. The model must be watched to check for a collision with another model in flight or for fouling by another competitor while he is steering; if this happens the timekeepers must immediately confirm to the competitor (or his team manager) that the collision has been seen. The timekeepers should continue to time the flight to its termination, unless the competitor indicates that he does not want it to be counted. The competitor may make the choice to retain the flight or to recommence at any time until 2 minutes after the flight has terminated. If he chooses to recommence the flight, then the new flight must be made through the full procedure of processing the model and preparing for flight (which may be made with a different model).

Another major task of the timekeepers during a flight is to observe any steering of the model. This must be undertaken in accordance to the rules, which should be studied and briefed carefully. Particular aspects which need to be checked include:

a) steering should only be undertaken to avoid a clear danger of collision with the building or other models,

b) the competitor must steer the model himself,

c) the altitude of the model must not be changed significantly (neither up nor down),

d) care must be taken to avoid fouling other models in flight.

As well as observing the correct conduct of the steering the timekeepers must watch the propeller and time the periods when it is stopped. This should be accumulated on an additional watch while the flight time watches are left running undisturbed as described in the Sporting Code.

At all times the timekeepers are free to walk around the hall to give themselves the best position for observing the model and any steering. They must be careful not to disturb other models.

Recording a flight

The timekeepers should record on the score sheet if the competitor had a delayed flight or if he had a collision which he chose to recommence. Otherwise, at the end of a regular flight they should record the times shown on the watches. To avoid possible misunderstanding or error, it is best to write down the times directly as recorded on each of the watches. Then the relevant calculations may be made and also written down: subtracting steering propeller-stopped time and taking the mean of the two recorded times (reducing to the nearest whole second below). The completed score cards should be taken by the timekeepers to the central scoreboard and recording position.

Disputes

A dispute that cannot be resolved between the timekeepers and the team manager must be referred to the contest director. The timekeepers should not leave their duty if they are in the middle of timing a flight. If a dispute is not resolved during a round and the competitor could be entitled to a reflight if his protest is upheld, then the timekeepers should time a reflight if so requested by the competitor or his team manager. The time should be recorded separately in case it is required when the dispute has been settled.