



**BRITISH MODEL FLYING ASSOCIATION**

**CONTEST RULES**

**SECTION 2a**

**RECORDS RULES and INFORMATION**

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## SECTION 2a - RECORDS RULES and INFORMATION

January 2011

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For ease of reference, new rules and rule changes from the last issue of this book are denoted by a side bar, thus.

#### WARNING

If you are thinking of making an attempt on any of the records, a very careful reading of the book is essential and is strongly recommended.

Apart from the notes specific to UK Records, the bulk of this book is a reproduction of that part of the FAI Sporting Code devoted to records and, as such, it deals with how world records are attempted and claimed. The FAI regulations, however, are still the best guide possible if you are attempting or claiming UK records as most of the requirements are the same.

**The list of all current UK Records is a separate document, Contest Rules, Section 2b, UK Records List , published by the BMFA Office or available on the BMFA website at [www.bmfa.org](http://www.bmfa.org)**

## **World Records**

All World records must be ratified by the FAI and they have very stringent regulations which must be followed for the record claim to succeed.

Most importantly, the Official who oversees the event must be appointed by the National Aero Club and there must be two other Officials present as witnesses who must be approved by the National Aero Club.

In the UK this means that they will be BMFA Officials or persons approved by BMFA as the BMFA is delegated by the Royal Aero Club to deal with all model flying matters.

If you are contemplating a World Record attempt, therefore, it is absolutely essential that you contact the BMFA Records Officer before any firm plans are made.

**If you make a world record attempt without the involvement of the BMFA then there is no chance whatsoever that it will be ratified by the FAI as a World Record.**

The requirements of each of the record categories are quite complex and you are advised to read them very carefully. The relevant sections laid out in this book are copied directly from the FAI Sporting Code and are completely up-to-date.

The FAI require that for world record claims all equipment used for recording and / or timing must be calibrated and certificates have to be submitted with the detailed claim dossier.

**It is also a requirement of the FAI General Statutes that a World Record claim must first have been accepted as a national record (in this case by the BMFA).** The time limits for submitting such claims to the BMFA are very tight if you wish the claim to eventually proceed to the FAI as a World Record claim.

The numbering system in the main body of this book uses the actual rule numbers from the FAI Sporting Code (ABR Volume, Part 2). This will enable you to match the rules with the numbered FAI tables that are included for your information. Any UK or BMFA specific information will be shown as notes in the appropriate places.

Again, if you have any questions you should contact the BMFA Records Officer via the Leicester office (0116 244 0028).

## **UK National Records**

The procedures for claiming UK National records are somewhat simpler than for FAI World records and are in two sections;

### **(1) Contest Records**

These are records that are broken in the normal course of BMFA contest flying. They are controlled by the rules and regulations of the specific contest and are witnessed by the Contest Officials, timekeepers etc. concerned with running the event.

### **(2) Non-Contest Records**

These are records that are broken in the course of specific record attempts.

The rules that need to be followed are, in general, the same as for the FAI World record classes. These are, for instance, 5 kg maximum weight for many of the R/C classes. You should read the relevant FAI section in this book for full details.

For such record attempts, the witnesses may be two club officials who are current BMFA members. It is, however, preferable that the involvement of BMFA Area or Technical Committee Officials be sought if at all possible.

For record claims set either in competition or as a dedicated record attempt, initial notification of the record claim should be made to the BMFA office within seven days of the flight taking place. The BMFA office should be in receipt of the Record Claim Dossier within 60 days of the flight taking place. If these conditions are not met then the record claim will be rejected.

A form to use for this 7-day notification appears at the end of this section.

**There is a difference from FAI regulations, however, in that the documentation, equipment calibration and personnel requirements are much more relaxed although you will still need to present a dossier of information along with the record claim.**

For advice and assistance on this and many other related matters, contact with the BMFA Records Officer will be invaluable to you. Should you have any queries about any aspect of attempting a UK record you would be very wise to make contact. You can be assured that all enquiries are treated in confidence.

## Initial Notification of a Record Claim

The BMFA office must be notified by email or fax within 7 days of the flight taking place

Date of this notification: \_\_\_\_\_

Name of claimant: \_\_\_\_\_

BMFA Number: \_\_\_\_\_

Contact telephone number: \_\_\_\_\_

Email address: \_\_\_\_\_

Type of claim (tick as appropriate): Flight in Competition  Flight by Record Attempt

Date of the flight: \_\_\_\_\_

Venue: \_\_\_\_\_

Class: \_\_\_\_\_

BMFA record class number (if known): \_\_\_\_\_

Performance claimed: \_\_\_\_\_

Signed: \_\_\_\_\_

Dated: \_\_\_\_\_

Send to: BMFA, Chacksfield House, 31 St Andrews Road, Leicester, LE2 8RE or [admin@bmfa.org](mailto:admin@bmfa.org)  
or Fax - 0116 2440645

**To arrive no later than 7 days after the date of the flight**

Note that a BMFA record claim form, and dossier if appropriate, needs to be completed and sent to the BMFA office for the attention of the Records Officer within accepted the time frame.

FOR OFFICE USE

Date of receipt by the BMFA office: \_\_\_\_\_

Date sent to the Records Officer: \_\_\_\_\_

## **FAI World Class Records**

Anyone planning an attempt on an FAI record is very strongly advised to obtain the current issue of The FAI Sporting Code, Section 4C, Volume ABR plus the General Section of the FAI Sporting Code, with any recent amendments, and to check the current record and whether there are any claims pending ratification. All of these can be downloaded from the FAI website at [www.fai.org/aeromodelling/](http://www.fai.org/aeromodelling/). Once there, click on 'documents'.

**The following text is a reproduction of the current FAI Records Rules with BMFA Notes at intervals that may help to clarify certain points.**

**Please note that all of the following FAI rule numbers have been prefixed with the code 2a, which identifies the rule as originating in this rule book.**

### **(2a).2.1. WORLD CLASS RECORDS:**

**(2a).2.1.1.** The FAI recognises World class records in the categories of model aircraft listed in Table I.

#### **(2a).2.1.2. Holder(s) of Records.**

A World record may belong to one person or a team. Where the record is in the name of more than one person, FAI will list those persons in alphabetical order, unless otherwise directed by the claimants' NAC

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#### **BMFA Notes:**

NAC = National Airports Control. In the case of the UK this will be BMFA.

The right of teams to hold records may only be applicable in certain circumstances.

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#### **(2a).2.1.3. Builder of the Model Aircraft**

In all records, the claimant(s) must be the builder(s) of the model aircraft flown in the attempt, except where the competition rules for the class exempt that class from rule B.3.1. The claimant(s) has/have to confirm this by his/their signature(s) on form "Table II, Application for Record Confirmation".

#### **(2a).2.1.4. Categories of World Records**

There are three categories of World Records, viz:

- 1) Records performed with special record model aircraft under the specifications given in paragraph 2.2. (Open Records)
- 2) Records performed with model aircraft built to competition specification but with flights not necessarily in a competition (Specific Model Aircraft). These records can be set in classes F1D, F1L, F1M and F1N and in these classes the record may belong only to one person, not a team.
- 3) Records performed in regular competitions with model aircraft and competitions defined in Sporting Code Section 4C, parts 1, 2, 3, 4 and 5 (Competition Records).

In Free Flight competition, duration records can be set in classes F1D and F1L and in these classes the record may belong only to one person, not a team.

In Control Line competition the following records may be set only in World or Continental Championships:

- (a) speed records in class F2A (sub-class 134 in Table I);
- (b) race time records in class F2C (sub-classes 136 & 137 in Table I).

In classes F3D and F5D, records may be set only in World or Continental Championships.

#### **(2a).2.1.5 Claimants**

Claimants shall refer to the FAI Sporting Code General Section 2.3 and Chapters 6 & 7 as well as the whole of this Part Two - Records section of Volume ABR Section 4C.

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**BMFA Notes:** In the FAI Sporting Code, General Section,

Clause 2.3 says “**FLIGHT DEFINITIONS**. The definitions of types of flights, courses, start, turn and finish points, etc, required by each airsport activity shall be determined by each FAI Air Sport Commission and published in the appropriate specialised section of the Code. FAI Preferred Terminology for flight definitions is given at Annex A”.

Chapter 6 covers World Records.

Chapter 7 covers Measurement Requirements.

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#### **(2a).2.2. GENERAL SPECIFICATIONS OF MODEL AIRCRAFT FOR RECORD ATTEMPTS:**

##### **(2a).2.2.1. Weight:**

For records mentioned under 2.1.4, item 1), the total weight of the model aircraft in flying order, with fuel when carried, shall not exceed 5.00 kg. The maximum total weight in flying order with fuel of a helicopter shall not exceed 6.00 kg. For records in regular competition under 2.1.4. item 3), the model aircraft must comply with the specifications required for the class concerned.

No refuelling shall be permitted after the model aircraft is airborne during any record attempt.

##### **(2a).2.2.2. Motive Power:**

The total swept volume of the piston(s) of the motor(s) shall not exceed 10 cm<sup>3</sup>

Pulse-jet reaction motor(s) are not permitted except for circular flight (record No. 135).

Power sources for electro models:

There will be three different possibilities of power sources:

F5 - "S" With rechargeable sources of current only (secondary elements).

F5 - "SOL" Solar cells only permitted.

F5 - "COMB" All sources of current are allowed. All kinds of combinations are expressly allowed. There must be a minimum of two sources of current.

No connection between the source of current aboard the record model aircraft and the ground, or to another model aircraft or flying object is allowed.

There are no restrictions on the weight of extensible motors in model aircraft records except in the case of competition records.

Metal bladed propellers are not permitted.

### **(2a).2.2.3. Surface Area:**

a) Fixed wing aircraft

a (1) For fixed wing aircraft the maximum surface area shall be 150 dm<sup>2</sup>

a (2) See 1.4.1

b) Rotary wing aircraft

See 1.4.15

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### **BMFA Notes:**

The sections referred to above are as follows.

#### **1.4.1. Surface Area (st)**

The surface area includes the total surface of the wings and that of the horizontal or oblique stabilising surface or surfaces. The surfaces taken for calculation are the orthogonal projection on to a horizontal plane of the surfaces in question with each surface at zero incidences.

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

#### **5.4.1. Definition Of A Radio Controlled (R/C) Helicopter**

An R/C helicopter is a heavier-than-air model aircraft that derives all of its lift and horizontal propulsion from a power driven rotor system(s) rotating about a nominally vertical axis (or axes). Fixed horizontal supporting surfaces up to 4% of the swept area of the lifting rotor(s) are permitted. A fixed or controllable horizontal stabiliser of up to 2% of the swept area of the lifting rotor(s) is permitted. Ground effect machines (hovercraft), convertiplanes or aircraft that hover by means of propeller slipstream(s) deflected downward are not considered to be helicopters.

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### **(2a).2.2.4. Surface Loading:**

For free flight model aircraft, the loading on the surface area must be between 12 g/dm<sup>2</sup> and 50 g/dm<sup>2</sup>. For radio control model aircraft, the loading of the surface area must not exceed 75 g/dm<sup>2</sup>. For control line model aircraft, the loading of the surface area must not exceed 100 g/dm<sup>2</sup>. There are no area loading requirements or wing span restrictions for indoor model aircraft for record purposes.

**(2a).2.2.5. Controlling the Model**

For radio controlled model aircraft or gliders in F3 or F5 record attempts, the pilot must be in direct control of the model aircraft via a transmitter for the whole of the flight.

**(2a).2.2.6. Sight of the Model**

For radio controlled model aircraft or gliders in F3 or F5 record attempts, the model aircraft must be in the pilot's sight for the whole of the flight other than for momentary periods.

**(2a).2.2.7. Launching:**

The model aircraft may be hand-launched or take off from the ground for record attempts in any category except seaplanes, the launcher standing on the ground. Aerotow is not permitted. Seaplanes must take off from a water surface.

For free flight a glider is launched by means of a cable of maximum 100 m in length. For radio controlled flight a glider is launched by means of a cable of 300 m maximum length. Launching of a glider may be carried out with the help of various devices such as winches, single or multiple pulley trains, or by running etc. To facilitate observation and timing the cable must be equipped with a pennant having a minimum area of 2.5 dm<sup>2</sup>. All types of auxiliary stabilising devices 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.

The claimant, or a member of the team, must operate the launching device and must be standing on the ground, except for R/C gliders where an assistant may operate the device.

All freedom of action and movement is permitted to allow the best use of the cable length.

Auxiliary take-off devices, such as a cart or a dolly undercarriage are permitted for all model aircraft except seaplanes. No means of auxiliary power is permitted on such devices. The device may become airborne and subsequently ejected.

For seaplanes, the landing gear must remain attached to the model throughout the flight.

**(2a).2.2.8. Point of Landing:**

The point where the model first touches the ground or water shall be considered the Point of Landing. It is not required that seaplanes land on water.

**(2a).2.2.9. Jettisoning or Loss of Parts:**

The voluntary or involuntary jettisoning of any part of the model aircraft, except auxiliary take-off devices, during the flight, is forbidden.

**(2a).2.2.10. Assistant Pilots:**

Following Rule 2.1.2, in case of a team effort, each member of the team may act as pilot during the attempt.

Note: In the event that it is desired that a distance or duration record shall be listed in a single name only, an assistant pilot may be utilised after two hours from the start of the flight, up to a maximum of 10% of the total flight time recorded.

**(2a).2.2.11. Difference between Consecutive Records:**

There is no minimum figure by which the old record should be exceeded.

**(2a).2.2.12. Officials and Observers:**

The head official shall be delegated by the National Airsports Control of the country where the attempt is made and the attempt must be witnessed by a minimum of 2 additional observers who are approved by that National Airsports Control.

**(2a).2.2.13. Flying Site**

Duration and Distance in Closed Circuit records for powered model aircraft (any power source) shall be made without the benefit of slope lift, rotors, lee waves and similar forms of lift. The land within a sufficient distance from the course must be free from objects which during the attempt are generating such lift including but not limited to hills, tree lines, vehicles and hand held devices.

**(2a).2.2.14 Repeated Record Improvements on One-and-the-Same Day.**

On any date that a record is broken by more than one claimant, or repeatedly by the same claimant and model aircraft, the best performance only will be awarded the new record.

**(2a).2.2.15. Safety**

All safety precautions and instructions of paragraph B.18 are applicable to record attempts

**(2a).2.2.16 Competition Timing**

In situations where records are claimed for flights made during the course of Championship competition, it may not be possible for the claimant to determine the specific stopwatches or timing device employed for recording the flight, or the claimant may not have access to the device for calibration purposes. In such cases, the Jury shall, to the best of its ability, attest to the accuracy of the devices.

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**BMFA Notes:**

The 1997 FAI Sporting Code required that stopwatches 'demonstrated accuracy of 0.1% over the full period of the measure claimed'. We think that It would be wise to assume that the current (un-stated) requirement will expect at least the same level of accuracy.

For UK records we suggest that watches should be checked over a minimum of a six hour period against GMT signals to an accuracy better than 0.02% (this allows the watch to be over 4 seconds out over six hours). Consult the BMFA Records Officer for further advice on timing and the necessary certification requirements.

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## **(2a).2.3. SPECIAL RULES FOR DURATION RECORDS**

### **(2a).2.3.1. Recording the Time:**

1. For all powered sub-classes the flying time starts at the moment when the model aircraft is released.
2. For model aircraft rising off the ground or water, the model aircraft must become airborne in a period that does not exceed 2% of the total flight time.
3. For all gliders, the timing starts when the glider is released from its launching device, or after hand launching.
4. For radio controlled model aircraft with piston engines or electric motors, the engine must be turning the propeller (fully unfolded if a folding propeller is fitted) for at least 98% of the time claimed as a record.

### **(2a).2.3.2. End of Flight:**

The flight ends when the model aircraft touches the ground or water or encounters an obstacle which definitely terminates its flight, or when it definitely disappears from the sight of the timekeepers, or from the sight of any devices being used by the timekeepers to track the model. The use of optical devices, electronic devices and other means of proving the model remained airborne is permitted if approved by the National Airports Control.

For radio controlled models, the point of landing must be within a distance of 500 metres of the point at which the model was released from the ground during the launch.

In the case of a simultaneous record attempt for distance in a straight line and duration, the landing must be within 500 metres of the indicated landing point for the distance record.

### **(2a).2.3.3. Timekeeping:**

In the event the time is taken by using electronic stopwatches, two timekeepers must be used. The times registered must be recorded at the scene of the record, and must be signed by the officiating timekeepers. Only these times will be officially recognised. To follow the model in flight, the timekeepers are permitted to move by any means of locomotion available to them

Recording barographs or electronic means of recording time other than stopwatches may be used if they have received prior approval by the organising National Airports Control. In such cases the time which is established is that recorded by the barograph or electronic device. The loss of altitude between the starting and landing points must not exceed 2 metres for each minute of flying time.

### **(2a).2.3.4. Accuracy of Measurement:**

In the case of the use of stopwatches, a synchronous electric clock may be used as a standard of calibration. When other electronic forms of measurement are used, commercial or governmental means may be employed for certification.

Fractions of a second will not be retained in a time registered for a record flight.

### **(2a).2.3.5. Competition Records in Free Flight:**

Competition records are recognised for free flight models in competitions which have been registered on the FAI Sporting Calendar. All types of international contests are eligible: Open International, Limited International, Continental Championships, World Championships.

In competition, records are recognised for the following duration in classes F1D and F1L:

- i) the longest duration single flight;
- ii) the longest total of the two best flights (as used for F1D and F1L classification).

For the purposes of Free Flight competition records, the National Airsports Control of the claimant is responsible for lodging the record claim. The claim must be supported by data from the competition. The supporting documentation must include copies of the flight cards recorded at the competition and signed by the timekeepers of the flights. The director of the competition must certify that these records are authentic and certify that the model aircraft used in the record were processed in accordance with the Sporting Code.

For indoor competition records, there is no subdivision according to ceiling categories.

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**BMFA Note:**

For UK National Contests and Records, The following ceiling height categories are recognised:

- 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.

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## **(2a).2.4. SPECIAL RULES FOR DISTANCE RECORDS IN A STRAIGHT LINE**

### **(2a).2.4.1. There are two possibilities of setting a distance record in a straight line:**

- a) Distance from A to B; and
- b) Goal and Return, that is, from A to B and back to A.

### **(2a).2.4.2. Measurement of Distance**

The distance of the record shall be that measured in a straight line between the point of departure and landing, whatever may have been the actual path of the model aircraft.

In the case of Goal and Return record, the record distance is the distance from the starting point to turning point plus that from turning point to the landing point.

Distances up to 50 kilometres may be measured on an official map of a scale at least 1:100.000.

Distances up to 500 km may be measured on an official map at least 1:200.000 in Gauss/Krieger system.

Distances greater than 500 kms shall be calculated from the earth model WGS84 ellipsoid. The exact position of the take-off point, landing point and turning point may be determined by GPS. For further details, refer to the Sporting Code General Section 7.3.1.1

The dossier claiming the record must contain a detailed calculation, made by a recognised scientific body, of the distance, with reference to the geographical ordinates of the place of departure and arrival.

The degree of accuracy of the measurement must be stated in the dossier.

The distance shall be calculated to an accuracy of at least 1% for distances up to 500 km and 0.5% for distances in excess of 500 km.

### **(2a).2.4.3. Point of Departure:**

For powered model aircraft the point of departure is the place where the model aircraft was released. For models rising off the ground or water, the distance covered in take-off cannot exceed 2,0% of the total record claimed.

For gliders, the point of departure is the place where the claimant is at the time when the glider is released from the launching device.

### **(2a).2.4.4. Point of Landing as Defined in 2.2.8.**

For radio controlled model aircraft, the pilot must indicate in writing before the flight the place where his model aircraft will land. The actual point of landing must be within a radius of 500 m of the point indicated.

### **(2a).2.4.5. For radio controlled model aircraft, the pilot may follow the model aircraft with his transmitter by any means of transport, the official observers accompanying him.**

### **(2a).2.4.6. Turning Point**

In case of Goal and Return distance records, the turning point must be as specified for the landing point in Rule 2.4.4. and the official observers must certify that the turning point has been properly rounded.

## **(2a).2.5. SPECIAL RULES FOR SPEED RECORDS IN A STRAIGHT LINE**

### **(2a).2.5.1. Base:**

For model aircraft of the Free Flight sub-classes, the record is measured over a base of 50 m for model aircraft with elastic type motors and of 100 m for model aircraft with piston type motors.

The course must be flown in both directions within 30 minutes.

For radio controlled model aircraft the base must be 200 m, and it must be traversed in both directions without any intermediate landing.

The altitude of the model aircraft must remain below 35 m and above 5 m during the 100 m entry and 200 m course. These altitudes are measured from the point where the pilot is standing.

The dossier of the record must include a certified measurement of the course and a statement of the methods used to determine altitude and speed.

For radio control speed record attempts the model aircraft must be fitted with a throttle or any other device to stop the motor by radio control.

### **(2a).2.5.2. Timing:**

The timing of speed records must be accomplished by timing instruments approved by the organising National Airsports Control. If electronic stopwatches are used, timekeeping must be effected by two timekeepers, utilising devices which register to at least 1/100 of a second. The difference between the times registered by the two timekeepers must not exceed 0.05 second. Automatic and other electronic timing devices which register a single time are allowed, provided the system is properly documented in the dossier and approved by the NAC of the claimant(s).

For speeds above 300km/h, manual activation of timing devices is not permitted. Only automatic means of timing which eliminate human error factors are permitted and must be certified accurate within 1/100 of a second.

The mean of the two speeds of the two runs over the timing base gives the record speed.

## **(2a).2.6. SPECIAL RULES FOR SPEED RECORDS IN A CLOSED CIRCUIT**

### **(2a).2.6.1. Base:**

The course consists of a square, defined by four prominently coloured pylons set 200 m apart on a 90 degree angle to each other, situated on flat land, or land with a maximum fall not to exceed 1 metre in 200 m within 1 km of the course. Each pylon shall be consecutively numbered one through four. Using a line between Pylon One and Pylon Two as a base line, set Pylon Five (or a wire sighting device) midway between them (i.e. 100 m from each pole). At an angle of 90 degrees to the Base Line set Pylon Six 20 m distant from the Base Line. Place a 10 mm wide reflective (contrasting) strip of tape between Pylon Five and Six as the Start/Finish line.

**Note:** It is essential for accurate speed measurement that all pylons be absolutely vertical in order to prevent course length differences with altitude.

R/C gliders must be free of the launching cable (specified in 2.2.7.) prior to crossing the Start/Finish line. Models which land prior to completion of all four legs of the course, or intrude into the forbidden airspace (except after timing is completed) are disqualified and the flight void. There is no altitude restriction or prohibition against circling in thermals outside the course.

### **(2a).2.6.2. Timing:**

The timing of speed records must be effected by timing instruments approved by the National Airports Control.

Timing begins when the model aircraft crosses the Start/Finish line and ends when the model aircraft completes the course and again crosses the Start/Finish line still airborne within 30 minutes from launch.

Timekeeping must be effected by two timekeepers equipped with timepieces timing to at least 1/100 of a second. The difference between the times registered by the two timekeepers must not exceed 1/50 of a second.

Four judges will be situated immediately under each pylon and will raise a red flag when the model aircraft infringes the space bounded by the poles.

The pilot, his helper, timekeepers and the timing equipment must be located and remain during the record attempts inside the course at Pylon Five. Each pylon judge, also inside the course, will signal with a light when the nose of the model aircraft has passed the sighting device.

Each pilot may have one (1) helper who may launch or release the model aircraft for take-off and keep the pilot informed of the position of his model aircraft during the record attempt.

### **(2a).2.6.3. RC Pylon Race Time Record (10 laps):**

Time records in pylon racing can be set over a ten lap course provided the record performance is achieved during a race under normal contest conditions in a World or Continental Championship. The record figure will be the time recorded for completing the appropriate course.

## **(2a).2.7. SPECIAL RULES FOR SPEED RECORDS IN CIRCULAR FLIGHT**

**(2a).2.7.1.** The speed will be timed over a minimum distance of one kilometre. Minimum flight circles must be:

Sub-class 130: Swept volume of motor 0 to 1,0 cm<sup>3</sup> inclusive. R = 13,27 m (12 laps = 1 km)

Sub-class 131: Swept volume of motor 1,01 to 2,5 cm<sup>3</sup> inclusive. R = 15,92 m (10 laps = 1 km)

Sub-class 132: Swept volume of motor 2,51 to 5 cm<sup>3</sup> inclusive. R = 15,92 m (10 laps = 1 km)

Sub-class 133: Swept volume of motor 5,01 to 10 cm<sup>3</sup> inclusive. R = 19,90 m ( 8 laps = 1 km)

Sub-class 134: Swept volume of motor 1,01 to 2,5 cm<sup>3</sup> inclusive. R = 17,69 m ( 9 laps = 1 km)

Sub-class 135: Jet reaction motors. R = 19,90 m (8 laps = 1 km)

Note: Longer lines may be used providing that the distance of one kilometre is made up by a whole number of laps except for competition class 134.

### **(2a).2.7.2. Control Line(s):**

For record attempts there shall be no limit to the diameter of the control line(s) or restrictions on the construction of the control line(s). This does not apply to competition classes F2 (sub-class 134) or F2C (sub-class 136 and 137).

### **(2a).2.7.3. Fuel:**

There shall be no restriction to the composition of the fuel except in competition class 134.

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#### **BMFA Note:**

Whilst no general restriction is placed on the type of fuel formulations used, the BMFA, in the interests of health and safety, reserves the right to forbid the use of any dangerous or injurious chemical(s) at any time. Participants should note that the use of **TETRANITROMETHANE** and **DIOXAN** is strictly forbidden

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### **(2a).2.7.4. Timekeeping:**

The timing must be carried out by two timekeepers using stop watches or an electronic timing apparatus registering to at least 1/100th of a second.

The difference between the two recorded times must not exceed 12/100th of a second.

The timing commences officially when the competitor has placed his handle in the pylon fork and the model, having made 2 complete circuits again passes the height marker on the edge of the circuit directly opposite the timekeepers.

The handle and pylon must conform to the specifications for control line speed contests except that in the case of single line control the competitor may use any handle with a single flexible point of attachment on the control handle and a horizontal bar (handle pivot) as for two line handles, with a 6 mm maximum distance between the flexible point of attachment and the point of contact on the horizontal bar on the pylon fork.

Also for single line control systems, no rigid reinforcement of the line in front of the handle shall be permitted and any torsional, geared or other control mechanism must be positioned behind the pylon fork.

During the whole of the timed portion of the flight, the horizontal bar must rest in the pivoted fork.

All physical effort for the purpose of increasing the speed of the model during a record attempt is forbidden and will entail immediate cancellation.

**(2a).2.7.5. Height of Flight:**

The normal flying height must be between 1 and 3 metres.

**(2a).2.7.6. Accuracy of Measurement:**

The speed recorded will be in kilometres per hour rounded to the nearest lower 1/10th of a kilometre.

**(2a).2.7.7. Team Race, (Race Time) Records Over 100 laps (sub-class 136) and 200 Laps (sub-class 137) (10 and 20 km):**

Race time records in team race can be set over a 10 km (100 laps) course (normal race or semi-final) or a 20 km (200 laps) course (final) provided the record performance is achieved during a race under normal contest conditions in a World Championship or Continental Championship. The record figure will be the time recorded for completing the appropriate course.

## **(2a).2.8. SPECIAL RULES FOR ALTITUDE RECORDS**

### **(2a).2.8.1. Verification of Measurements:**

In order to establish the height above the starting point it is required:

- a) either to use small barographs made especially for model aircraft and carried on board; the barographs having previously been approved by the National Airports Control.
- b) or, to ensure control by qualified observers using theodolites or telemeters, provided these instruments have been previously approved by the National Airports Control.
- c) or, by means of a barograph carried in an aircraft which follows the model but never exceeds the maximum altitude of the model. An official observer must be present in the aircraft during the flight, and the barograph record must be counter signed by the official observer and the pilot of the aircraft.
- d) or by means of an electronic device carried on board the model aircraft and designed to register altitude and record the readings either in graph or digital format. Any such electronic device must be calibrated prior to the attempt and the calibration certificate included in the record claim dossier.

The measuring device must be zeroed at the point of launch. If the device does not have such a facility, then the start (launch) point altitude must be established and recorded. A statement clearly indicating the altitude of the start (launch) point and the altitude attained, is required. This must be signed by the pilot and substantiated by the official observer(s) and must be included in the dossier.

If theodolites or telemeters are used, the National Airports Control:

- e) Must give a description of the instruments and the methods employed in using them, a signed statement certifying the degree of accuracy reached and a check report on the instruments and the method used.
- f) In the case of a barograph, the calibration must be performed against an absolute pressure gauge and the International Civil Aeronautics Organisation Pressure vs. Altitude Tables may then be used to compute altitude.

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**BMFA Note:** in the case of the UK, the National Airports Control will be BMFA.

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### **(2a).2.8.2. Point of Landing:**

For radio controlled models, the landing must occur within a radius of 500 metres of the point of departure as described in 2.3.2. In the case of simultaneous attempts for distance and altitude, the landing must be made as described in 2.4.4.

**(2a).2.9. SPECIAL RULES FOR DISTANCE IN CLOSED CIRCUIT RECORDS**

- (2a).2.9.1.** For radio controlled models, the length of the circuit must be over a straight base of 500 m for piston/electro type motor models, and over a base of 100 m for gliders.
- (2a).2.9.2.** Fractions of a circuit will not be included in the record claimed.

**(2a).2.10. DOSSIER OF A RECORD ATTEMPT**

It is the purpose of homologation procedures and requirements to ascertain as well as possible, that a given model aircraft indeed attains the flight performance claimed and that the flight was made within the requirements and standards of this Sporting Code. The many factors involved in the flight require that adequate data be submitted to confirm a record attempt. In unusual circumstances, FAI may request additional substantiating data to insure that these purposes have been achieved.

- (2a).2.10.1.** A dossier must be submitted to the FAI within 120 days of the Record Attempt. It shall include:
- a) A completed official form as shown in Table II.
  - b) A three view drawing of the model aircraft showing all basic dimensions and stating the scale of the drawing. Certification countersignature of the National Airsports Control official is required.
  - c) A photograph of the model aircraft. Certification countersignature by a National Airsports Control official is required.
  - d) Certification that the record has been recognised as a national record by the claimant's NAC.
  - e) A statement of supporting data as listed in 2.11 below.
  - f) A properly filled out Table III, Record Dossier Check Form.
- (2a).2.10.2.** Photocopies of record dossiers are available, upon written request of a National Airsports Control, at a fee of 40 Euro for dossiers up to 10 pages and 5 Euro for each additional page.

**(2a).2.11. SUPPORTING DATA:**

Whenever numerical limits are established for special categories, such as 2.3.2. for point of landing, duration of motor run, or as 2.4.3. for take-off run a measurement of these specific quantities should be stated in the supporting data section.

If barographs, special electronic devices, timing equipment, etc., are employed, a description adequate to ascertain the accuracy and validity of the devices must be included.

A statement must be made that all requirements for the specific categories were met.

Latitude and longitude of take-off and landing points, as well as mathematical calculations must be shown for records involving great circle distances.

A listing of all officials and participating observers shall be included. The supporting data sheet shall be signed by the directing official.

For historical purposes, a brief description of the flight is desired. Pertinent factors, such as weather, special equipment in the models or on the ground, or any unusual circumstances occurring during the flight will be of value. This section is not officially required but officials are encouraged to submit it on a separate sheet of paper for future reference.

For Duration and Distance in Closed Circuit records for powered model aircraft (any power source), a statement must be made which shows beyond reasonable doubt that the requirements of paragraph 2.2.13 Flying Site have been met. Documentation such as photographs, maps, and weather observations may be part of such statement.

a) TIME-KEEPING 2.3.3 (Duration) 2.5.2. and 2.6.2. (Speed)

Describe in brief, the method of timekeeping employed.

No. of watches

Position of timekeepers

Electronic equipment used

b) BASE 2.4.1. (Distance) 2.5.1. (Speed) 2.6.1. and 2.9.1. (Closed Circuit)

Describe in brief, the method of establishing the base measurement.

Measuring equipment

Method of marking base limits

Number of observers at base limits

Method of signalling, base to pilot

Supply a sketch of the course, defining base, turning points, marker poles, altitudes of base limits and position of officials relative to course.

**ALL REQUIREMENTS OF ARTICLES 2.4.2, 2.8.1, 2.11 MUST ALSO BE OBSERVED AND RECORDED IN THE DOSSIER.**

## **BMFA NOTES ON PRELIMINARY CLAIMS**

According to the FAI General Section, notice of a preliminary claim for a World record must be submitted by the organising or the controlling NAC, the Official Observer, the Sport Event Organiser or the Claimant and must be received by the FAI within 5 working days of the completion of the record flight. In exceptional circumstances the President of CIAM may grant an extension.

However, an extension cannot be guaranteed so it is extremely important that you work to the time limit stated or you may well have your record claim turned down by the FAI.

### **NOTES:**

The regulations quoted above make it doubly necessary that you contact the BMFA Records Officer well in advance of making your attempt.

A preliminary claim must be submitted to the FAI within only seven days (that is only five working days) after the record flight is competed. However, this preliminary claim may be by fax or e-mail and it does not need a record dossier. It is simply to get notification of the record attempt 'on the books' of the FAI.

A successful attempt must then go to BMFA Council, with its dossier, and be ratified as a UK national record before it can be submitted to the FAI. The official claim, complete with dossier, then has to reach FAI not later than 120 days from the date of the attempt.

Also note that any claimant for an FAI World Record must hold an FAI Sporting Licence (available at reasonable cost from the BMFA's Leicester office). You must get this before your attempt or the attempt will be invalid. This is not necessary for a UK National Record.

If the correct procedures are not followed, it is likely that a genuinely successful attempt at a World Record would not be recognised.

The dossier requirements for UK records are not as stringent as those required by the FAI for World records but you must still ensure that the dossier you submit to BMFA gives an accurate representation of the attempt, complete with clear indications of how timing and/or measuring was done.

The BMFA also holds copies of some of its past successful claims for World Record which can be made available for a reasonable fee. These are invaluable to a potential claimant as they set out the level of detail that would be expected by the FAI.

Copies of UK record claim dossiers are also available from BMFA and you should contact the BMFA Records Officer for more details.

**TABLE I FAI CLASSIFICATION OF RECORDS**

SUB CLASS		CATEGORY (Type Of Model Aircraft)	GROUP (Method Of Propulsion)	TYPE			
				Duration	Distance In A Straight Line	Altitude	Speed
F1 FREE FLIGHT	Open	Glider		101	102	103	
		Aeroplane	Extensible Motor	104	105	106	107
			Piston Motor	108	109	110	111
	Open	Indoor Aeroplane		DURATION			
				Ceiling Cat I < 8m (a)	Ceiling Cat II 8 < 15m (b)	Ceiling Cat III 15 < 30m (c)	Ceiling Cat IV > 30m (d)
			Extensible Motor	115(a)	115(b)	115(c)	115(d)
				125(a)	125(b)	125(c)	125(d)
		116(a)		116(b)	116(c)	116(d)	
		F1M		117(a)	117(b)	117(c)	117(d)
		F1N	Indoor Glider		118(a)	118(b)	118(c)
	Open	Indoor Aeroplane	Extensible Motor	DURATION IN COMPETITION			
				One Flight		Two Flights	
				119		120	
F1L			122		123		
F2 CONTROL LINE CIRCULAR FLIGHT	Open	Aeroplane	Piston Motor	SPEED			
				SWEPT VOLUME cm <sup>3</sup>			
				0.00 to 1.00	1.01 to 2.50	2.51 to 5.00	5.01 to 10.00
	F2A		130	131	132	133	
				Speed in Competition			
	Open			134*			
		Reaction Motor	135				
F2C	Open	Piston Motor	Team Race (Race Time)				
			100 Laps - 136*		200 Laps - 137*		

\* Only in World or Continental Championships, ref Para 2.1.4.

**TABLE I FAI CLASSIFICATION OF RECORDS (Continued)**

SUB CLASS		CATEGORY (Type Of Model Aircraft)	GROUP (Method Of Propulsion)	TYPE						
				Duration	Distance In a Straight Line	Altitude	Distance Goal and Return	Speed	Distance in a Closed Circuit	Speed in a Closed Circuit
F3 RADIO CONTROL FLIGHT	Open	Aeroplane	Piston Motor	141	142	143	144	145	146	147
		Seaplane		148	149	150	151	152	153	154
		Glider		155	156	157	158	159	160	161
		Helicopter	Piston Motor	162	163	164	165	166	167	168
	F3D	Aeroplane		In Competition - 10 Laps						83*
F5 RADIO CONTROL FLIGHT	Open	Aeroplane	Electric .Motor. S	171	172	173	174	175	176	177
			Electric .Motor. SOL	185	186	187	188	189	190	191
			Electric .Motor. COMB	192	193	194	195	196	197	198
		Helicopter	Electric Motor	199	200	201	202	203	204	205
	F5D	Aeroplane		In Competition - 10 Laps						90*

\* Only in World or Continental Championships, ref Para 2.1.4.



**TABLE III****FAI WORLD RECORD DOSSIER CHECKLIST - MODEL AIRCRAFT**

**When preparing a world record dossier please check against the list that all requirements have been met.**

In Check Mark column: If OK mark with a tick, If not applicable mark with a dash

<b>Item No.</b>	<b>Description</b>	<b>Check Mark</b>
0	GENERAL FAI Office in Lausanne notified by email or fax within seven (7) days of the day the record was set	
1	Form Table II completely filled out and properly signed (names also in block letters). Remember certification by NAC Official.	
2	Three-view drawing of model, certified by NAC Official (2.10.1.b).	
3	Photograph of model, certified by NAC Official (2.10.1.c).	
4	List of officials and observers, signed by Directing Official (2.11)	
5	Summary of all supporting data submitted with the dossier (2.10.1.e)	
6	All supporting data signed by Directing Official (2.11).	
7	Description of record attempt (2.11)	
7a	Claimant is the builder of the model (if applicable, see 2.1.3)	
7b	Claimant(s) confirm that the aircraft is intended to be a model (1.1).	
7c	Claimant's NAC to confirm that the claim is a national record (2.10.1d)	
8	For R/C records a statement confirming that the model was in sight of the pilot who was in direct radio control of the model aircraft via a transmitter, for the whole of the flight.	
8a	For F5 COMB records, claimants must provide authenticated evidence for each of the minimum two power sources.	
9	DURATION RECORDS Flight card, showing both stopwatch readings entered in ink, signed by both time-keepers (2.3.3).	
9a	Final record figure rounded off to lower whole second, discarding fractions of a second (2.3.4).	
9b	Certificate on accuracy of stopwatches (2.3.4) or special timing devices (2.11).	
9c	Statement that duration of take-off run of hydroplane does not exceed 2% of total flight time (2.3.1.2).	
9d	Statement that duration of engine run of RC models is not less than 98% of total flight time (2.3.1.4).	
9e	Statement on landing point for RC models (2.3.2).	
9f	Statement on flying site required for powered models (2.2.13).	

10	<p>DISTANCE RECORDS IN STRAIGHT LINE</p> <p>Official map showing record distance, take-off and landing points (2.4.2) (or WGS84 software calculation):</p> <p>at least scale 1:100.000 for distances up to 50 kms;</p> <p>at least scale 1:200.000 in Gauss-Krieger system for distances from 50 to 500 km.</p> <p>WGS84 software calculation for distances greater than 500 km. (2.4.2).</p>	
10a	Geographic co-ordinates of take-off and landing point (2.4.1 and 2.11).	
10b	Calculation of record distance by Geographic Scientific Body including statement on degree of accuracy of the calculation (2.4.2) signed by the Directing Officials.	
10c	Statement of actual landing point with reference to point of landing made in writing before start of record attempt (2.4.4).	
11	<p>SPEED RECORDS IN STRAIGHT LINE (Free Flight and Radio Controlled)</p> <p>Flight card with both stopwatch readings of each of the two flights required (2.5.2) or the time recorded thereof by an electronic timing device (B.8.9), signed by the time-keepers and the Directing Official.</p>	
11a	Certificate on measuring of the speed course (2.5.1 and 2.11).	
11b	Statement on method used to determine altitude and speed (2.5.1).	
12	<p>SPEED RECORDS IN CLOSED CIRCUIT</p> <p>Flight card with both stopwatch readings of the record flight, or the time recorded thereof by an electronic timing device (B.8.9), signed by both time-keepers and the Directing Official (2.6.2).</p>	
12a	Description and sketch of arrangement of the course (2.12.b)	
12b	Statement on measurement of the base (2.6.1).	
13	<p>ALTITUDE RECORDS</p> <p>Barograph record signed by Directing Official (2.8.1).</p>	
13a	If model has been followed by full size aircraft, barograph record should be countersigned by both the pilot and official observer (2.8.1)	
13b	Barograph calibration record or calibration table (2.8.1).	
13c	If theodolites were used, readings should be recorded and calculations of height must be submitted, signed by official observer (2.8.1).	
13d	Description of special equipment used, include a signed statement on accuracy and calibration certificate for any electronic device used to record altitude (2.8.1).	
13e	Statement on landing point for RC models (2.8.2).	
14	<p>SPEED RECORDS IN CIRCULAR FLIGHT (Control Line)</p> <p>Flight card with both stopwatch readings or the time recorded thereof by an electronic timing device (B.8.9), signed by the time-keepers and Directing Officials.</p>	
14a	Statement that line length is in accordance with the requirements of 2.7.1.	
15	<p>DISTANCE RECORDS IN CLOSED CIRCUIT</p> <p>Description and sketch of arrangement of course (2.9.1).</p>	
15a	Statement on measurement of base (2.9.1).	
15b	Statement on flying site required for powered models (2.2.13)	

**FAI SAFETY NOTES**

**B.18. SAFETY PRECAUTIONS AND INSTRUCTIONS**

The large majority of model flying today in most countries takes place as recreation rather than within a competition framework and sometimes on publicly accessible sites with little or no formal control. Any accident involving model aircraft may result in property damage, injury and possibly even death. Apart from the direct harm, a less obvious result is the poor image of model flying that comes from the media coverage of such incidents which leads to public antagonism and the loss of flying facilities.

While the following information is intended primarily for FAI competition flying, much of it can be applied both to national contests and recreational model flying.

**B.18.1. Premise**

It is of the utmost importance that all model flyers observe safety rules. Any accident caused by carelessness is a hindrance to the progress of model aviation.

Safety rules are not an obstacle to the enjoyment of model flying, they help to prove that model flyers are the responsible citizens they proclaim to be.

It is not a sign of intelligence to show one's own skill among spectators. The flyer may know what he is doing but has no way of knowing what anyone else will do. So, it is to his personal benefit to make certain that no action on his part will result in an accident. It is therefore very important not to fly any model aircraft in competition or in the presence of spectators until it has been proved airworthy.

**B.18.2. Competence**

The following officials are competent to apply and enforce safety rules:

the Jury;

the Contest Judges;

the Contest Director;

the Circle Marshals;

the Flight Line Director;

the Processing Officials;

all officials of the Organising Body.

**B.18.3. Prohibited**

- a) Metal-bladed propellers and rotor blades;
- b) Repaired propellers and rotor blades;
- c) Improperly mounted engines;
- d) Knife-edge leading edges;
- e) Sharp spinners or propeller fasteners;
- f) Non shock-mounted radio equipment, where there is engine vibration;
- g) Any ballast or heavy parts subject to jettisoning;
- h) Any burning fuse that is not enclosed in a snuffer tube or similar device to retain and extinguish it;

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

#### **B.18.4. Required**

- a) The model should bear an identification of the owner.
- b) All spinners and other forward-facing metal or equally rigid projections should have a minimum radius of 5 mm.

#### **B.18.5. Pre-flight Checks**

Immediately before each flight, the flyer must verify the actual condition and the proper functioning of all parts contributing to efficient and safe flight of the model and the proper fitting and fixation of the various parts, with special reference to engines and propellers.

Models that have not been tested and proven airworthy must not be flown in the presence of spectators. Endeavour to conduct all flights in a manner that avoids danger to spectators and other flyers.

**B.18.6.** Immediately after the competitor has launched his model, he must leave the starting area, remove his equipment, and in the case of gliders wind up his launching cable.

#### **B.18.7. Flying Sites**

It is imperative that all flying sites be situated sufficiently far from power lines.

The starting area must be carefully chosen in such a way that adequate safety to persons and property be granted. The points to be considered in this context are: wind strength and direction, relative position of buildings, runways, vehicle parking and spectator areas, and the area where the models are assumed to land after a normal flight, according to the wind.

Flying sites in the vicinity of an airport or airfield, especially along the landing path, can be chosen as contest venues only with the permission of the airport operator and in full compliance with its safety rules and requirements.

#### **B.18.8. Penalties**

All dangerous models must be excluded from a competition. For any action against the Safety Rules, the penalties listed in the Sporting Code General Section apply.

## **SPACE MODEL RECORDS**

### **14.1. GENERAL**

All FAI space model performance records must be established in or at FAI first or second category sporting events listed in the FAI Sporting Calendar and organised by the FAI representative National Airsports Control or its affiliate in accordance with this Sporting Code if the weather conditions and schedule of the event permits.

Established records, for any class of model for which new rules or rule changes apply, such that the performance of that class of models is affected in any way, shall be retired whenever those new rules or rule changes become effective.

### **14.2. SURPASSING PREVIOUS RECORD**

Attempts to surpass an established record must exceed by one percent (1%) the value of the established record performance.

All models used for establishing or surmounting of the existing record must correspond to all regulations of Part Two of the Sporting Code, Section 4, Volume SM.

### **14.3. HOMOLOGATION REQUIREMENTS**

In addition to the standard FAI homologation data, the following special space model record homologation requirements must be met by any record claimant.

**14.3.1.** The competition flight card of the submitted record attempt shall be marked, "Record Attempt."

Tracking station angular data must be entered in ink. The name, signature, license number and address of the record claimant must appear, written in ink, on the contest card. The following data, entered in ink, must also appear on the contest flight card: competition sanction number, event in which the record attempt was flown, date of record attempt, location of record attempt, certifying signatures of three witnessing judges, a signed statement certifying the calibration and accuracy of the tracking system used, and a statement signed by the three judges giving the make, type and manufacturer of the engines used in the attempt.

**14.3.2.** In the case of parachute/streamer duration record attempts, the three witnessing judges must submit a signed statement giving size, material and design of the parachute used.

### **14.4. HOMOLOGATION DATA**

The record claimant must submit the following homologation data:

- a). An accurate drawing to scale of the model used in the record attempt, said drawing to include all principal dimensions, gross weight, and burnout weight.
- b). A clear, glossy photograph enlargement of the model used in the record attempt with a ruler, hand, or other object of known size appearing in the photograph indication size of the model.
- c). The record dossier should contain the completely filled out forms as shown in tables II through V as far as applicable to the class concerned.

### **14.5. JUSTIFICATION**

It is the purpose of homologation procedures and requirements to ascertain as will as possible that a given model did indeed attain the flight performance claimed and that the flight was made within the requirements and standards of this Sporting Code. The many factors involved in the flight of a space model require that the above additional data be submitted to confirm a record attempt. In unusual circumstances, the FAI may request additional substantiating data to insure that these purposes have been achieved.

SPACE MODELS "S" CLASSIFICATION OF RECORDS, FAI SECTION VOLUME SM

Space Model Category	FAI Record No.	Class	Total Impulse N sec	Maximum Weight	Number of Payloads
S-1 Altitude	040	S1A	0 - 2,50	30	
	141	S1B	2,51 - 5,00	60	
	102	S1C	5,01 - 10,00	120	
	142	S1D	10,00 - 20,00	240	
	143	S1E	20,01 - 40,00	300	
	104	S1F	40,01 - 80,00	500	
S-2 Payload Altitude	105	S2C	5,01 - 10,00	90	1
	106	S2E	20,01 - 40,00	180	2
	107	S2F	40,01 - 80,00	500	4
S-3 Parachute Duration	008	S3A	0 - 2,50	100	
	109	S3B	2,51 - 5,00	100	
	110	S3C	5,01 - 10,00	200	
	111	S3D	10,01 - 20,00	500	
S-4 Boost Glider Duration	012	S4A	0 - 2,50	30	
	013	S4B	2,51 - 5,00	60	
	014	S4C	5,01 - 10,00	120	
	044	S4D	10,01 - 20,00	240	
	045	S4E	20,01 - 40,00	300	
	016	S4F	40,01 - 80,00	500	
S-5 Scale Altitude	117	S5A	0 - 2,50	90	
	018	S5B	2,51 - 5,00	120	
	119	S5C	5,01 - 10,00	150	
	146	S5D	10,01 - 20,00	180	
	147	S5E	20,01 - 40,00	240	
	121	S5F	40,01 - 80,00	500	
S-6 Streamer Duration	022	S6A	0 - 2,50	100	
	123	S6B	2,51- 5,00	100	
	124	S6C	5,01 - 10,00	200	
	125	S6D	10,01- 20,00	500	
S-8 Rocket Glider	026	S8A	0 - 2,50	60	
	027	S8B	2,51 - 5,00	90	
	028	S8C	5,01 - 10,00	120	

Duration	029	S8D	10,01- 20,00	240	
	030	S8E	20,01 - 40,00	300	
	031	S8F	40,01 - 80,00	500	
S-9 Gyrocopter Duration	032	S9A	0 - 2,50	60	
	133	S9B	2,51 - 5,00	90	
	134	S9C	5,00 - 10,00	150	
	135	S9D	10,00 - 20,00	200	
S-10 Flex-wing Duration	036	S10A	0 - 2,50	60	
	137	S10B	2,51 - 5,00	90	
	138	S10C	5,01 - 10,00	120	
	139	S10D	10,01 - 20,00	240	

**Note:** Three figures record numbering was introduced to designate version of rules revision. First figure "0" shows the rules stayed unchanged with respect to the FAI Sporting Code Section 4d - edition 1997. The first figure "1" shows the new rules became effective Jan 1, 2001, and established record was retired. The first figure "2" corresponds to the rules effective Jan 1, 2005 and established record was retired."

**TABLE II**

**APPLICATION FOR RECORD ATTEMPT CONFIRMATION  
SPACE MODELS**

RECORD CATEGORY (Class) .....  
PERFORMANCE (altitude or duration) .....  
DATE AND PLACE OF THE RECORD ATTEMPT .....  
CONTEST .....  
EVENT .....  
NAME OF SPACE MODELLER .....  
SPORTING LICENCE NUMBER.....  
NATIONALITY .....  
NATIONAL AERO CLUB .....  
CHARACTERISTICS OF MODEL.....  
TYPE OF MODEL .....  
TOTAL SURFACE AREA ( for classes S4, S8 and S10:  
LENGTH .....  
TOTAL WEIGHT WITHOUT FUEL .....  
TOTAL WEIGHT WITH FUEL .....  
ENGINE: TYPE .....  
    MANUFACTURER .....  
    DESIGNER .....  
    TOTAL IMPULSE IN Ns .....  
NUMBER OF ENGINES .....  
  
TOTAL IMPULSE (ALL ENGINES) IN Ns .....

We confirm, that all conditions necessary for this event, in accordance with Sporting Code of the FAI have been fulfilled.

First Judge..... Signature:.....  
Judges.....  
.....

Signature of Space Modeller: .....

Date: .....

Certification by NAC Official:

Name..... Signature .....

**TABLE III**

**PERSONNEL**

**SPACE MODELLER:**

Name: .....

Permanent address .....

Sporting license No.: .....

**FIRST JUDGE:**

Name: .....

Permanent address: .....

Sporting license No.: .....

**JUDGES AND TIME-KEEPERS:**

Name: .....

Permanent address: .....

Sporting license No.: .....

Name: .....

Permanent address: .....

Sporting license No.: .....

Name: .....

Permanent address: .....

Sporting license No.: .....

**CERTIFICATION BY NAC OFFICIAL:**

Name .....Signature .....

**TABLE IV**

**DURATION RECORD ATTEMPT DATA**

DURATION OF RECORD FLIGHT .....  
DATE OF ATTEMPT .....  
PLACE OF ATTEMPT .....  
NAME OF SPACE MODELLER .....  
SPORTING LICENSE NO. ....  
CATEGORY AND CLASS OF MODEL .....  
DIMENSIONS OF PARACHUTE(S)/STREAMER .....  
MATERIAL OF PARACHUTE(S)/STREAMER .....  
DESIGN OF PARACHUTE(S) .....  
CHRONOMETERS (Type used) .....  
OPTICAL INSTRUMENTS USED .....  
TIME OF START .....  
TIME OF LANDING .....  
TIME OF RETURN OF MODEL .....

Name of Judge-Timekeeper:	Time of Duration of flight:	Signature of Judge:
.....	.....	.....
.....	.....	.....
.....	.....	.....

AVERAGE TIME OF DURATION OF FLIGHT: .....

DATE AND PLACE: .....

SIGNATURE OF FIRST JUDGE: .....



**TABLE V (SHEET 2)**

**ALTITUDE RECORD ATTEMPT DATA – TRIANGULATION METHOD**

$\alpha =$  \_\_\_\_\_  $^{\circ}$       \_\_\_\_\_  $\sin \alpha =$  \_\_\_\_\_  
 $\beta =$  \_\_\_\_\_  $^{\circ}$       \_\_\_\_\_  $\sin \beta =$  \_\_\_\_\_  
 $\gamma =$  \_\_\_\_\_  $180^{\circ} - (\alpha + \beta) =$  \_\_\_\_\_       $\sin \gamma =$  \_\_\_\_\_

$a =$  length of base in metres \_\_\_\_\_ m

$b = \sin \beta \frac{a}{\sin \gamma}$  = \_\_\_\_\_ m

$c = \sin \alpha \frac{a}{\sin \gamma}$  = \_\_\_\_\_ m

And  $H1 = b \cdot \tan \phi$  = \_\_\_\_\_ m

$H2 = c \cdot \tan \theta$  = \_\_\_\_\_ m

Average altitude  $H = \frac{(H2 + H1)}{2}$  = \_\_\_\_\_ m

THE RESULT \_\_\_\_\_ m and \_\_\_\_\_ m  
 IS IN COMPLIANCE WITH THE ADMISSIBLE TOLERANCE OF 10% ACCORDING  
 TO SPORTING CODE SECTION 4d ART No. 4.9.4.

PLACE AND DATE: \_\_\_\_\_

SIGNATURE OF OBSERVERS : 1. \_\_\_\_\_

2. \_\_\_\_\_

SIGNATURE OF FIRST JUDGE: \_\_\_\_\_

**TABLE V (SHEET 3)**

**ALTITUDE RECORD ATTEMPT DATA PAGE 1  
(METHOD OF HORIZONTAL DISTANCE MINIMUM)**

ALTITUDE OF RECORD ATTEMPT .....

DATE OF ATTEMPT .....

PLACE OF ATTEMPT .....

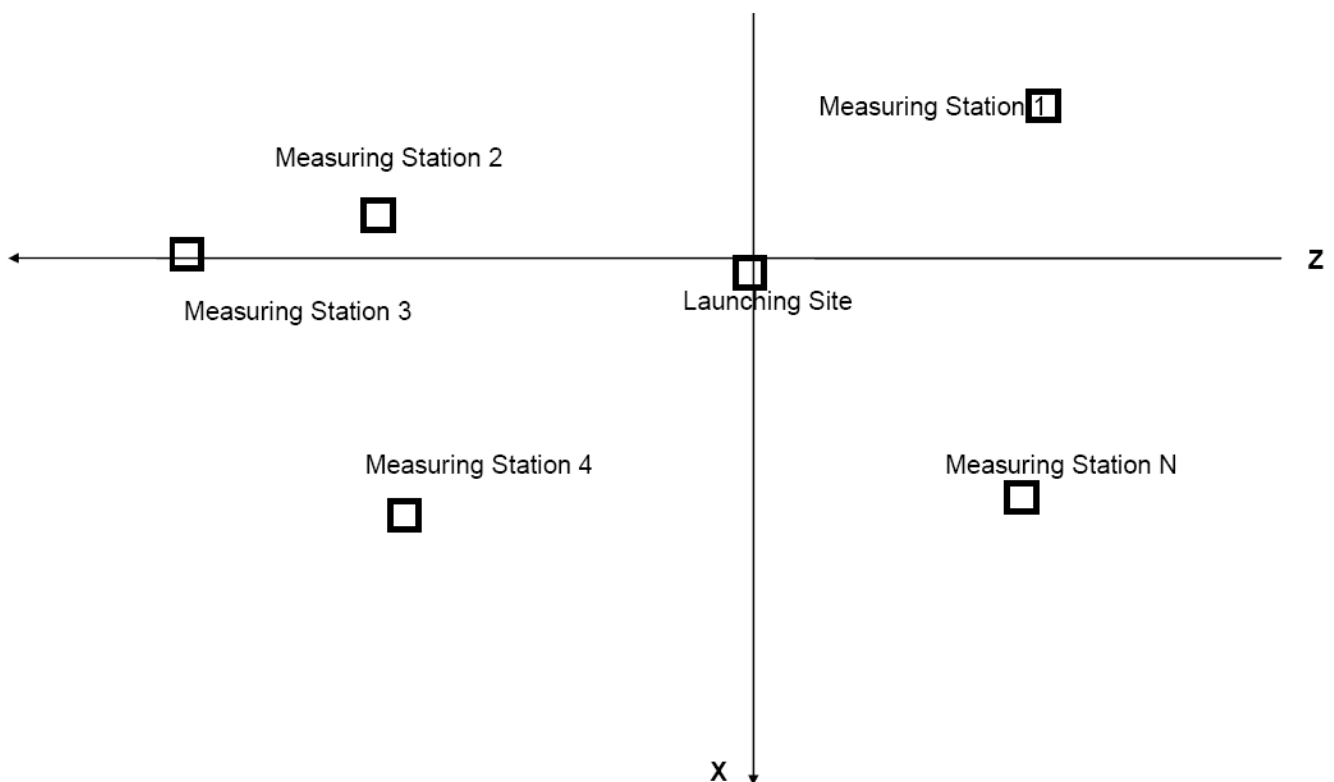
NAME OF SPACE MODELLER .....

SPORTING LICENSE.....

CATEGORY AND CLASS OF MODEL .....

	Station 1		Station N
Horizontal Rectangle Vertical Rectangle			
Horizontal Accuracy Vertical Accuracy			
X Co-ordinate Z Co-ordinate Y Co-ordinate			

**Drawing of Launch Site**



**TABLE V (SHEET 4)**

**ALTITUDE RECORD ATTEMPT DATA PAGE 2  
(METHOD OF HORIZONTAL DISTANCE MINIMUM)**

Measuring Station	Horizontal Angle	Vertical Angle
1		
...		
N		

StationPair	PairResult	Horizontal Error	Vertical Error	PairStatus*
1/2				
...				
N/1				

\* OK = Valid PairResult

NC = NotClosed (One of horizontal or vertical Pair Errors are greater than 5°)

TL = TrackLost (One of the Measure Stations has no tracking angles)

**TABLE VI****CHECK LIST DOSSIER – SPACE MODELS**

WHEN PREPARING A WORLD RECORD DOSSIER PLEASE CHECK AGAINST THIS LIST THAT ALL REQUIREMENTS HAVE BEEN MET

In Check Mark Column: If OK Mark , if not applicable mark X.

<b>ITEM No.</b>	<b>DESCRIPTION</b>	<b>CHECK MARK</b>
0	<b>GENERAL</b> FAI Office in Lausanne notified by email or fax within seven (7) days after the record was set.	
1	Form Table II completely filled out and properly signed (names also in block writing). <b>DO NOT FORGET CERTIFICATION BY NAC OFFICIAL</b>	
2	Drawing of model, including principal dimensions and weight certified by NAC Official. Reference Sporting Code Section 4c (2.10.1.2.) and Section 4d (14.4.1.).	
3	Photograph of model, certified by NAC Official Reference Section 4c (2.10.1.3) - Section 4d (14.4.2.).	
4	List of officials and observers, signed by Directing Official/First Judge Reference Section 4c (2.11) - Section 4d (Table III).	
5	Summary of all supporting data supplied. Reference Section 4c 2.10.1.4.)	
6	All supporting data signed by Directing official/First Judge.	
7	Description of record attempt. Reference Section 4c (2.11).	
8	Competition Flight Card, properly marked and signed, with data entered in ink, as per Section 4d para. 14.3.1.	
9	Competition Flight Card, reference item 8 above, showing both stopwatch readings entered in ink and signed by both official timekeepers.	
10	Form Table IV completely filled out and properly signed.	
11	Final record figure rounded off to lower whole second, discarding fractions of a second. Reference Section 4c (2.3.4.).	
12	Certificate on accuracy of stopwatches or special time device.	
13	<b>ALTITUDE RECORDS</b> Form Table V (2 sheets) completely filled out and properly signed	
14	Competition Flight Card, reference item 8 above, showing theodolite readings in ink and signed by both official theodolite operators Reference Section 4d (14.3.1).	
15	Statement on calibration and accuracy of the tracking system used. Reference Section 4d (14.3.1.).	

**NOTE: ALL DOCUMENTS MUST BE ORIGINAL DOCUMENTS. COPIES WILL NOT BE ACCEPTED.**

# NOTES

# NOTES

# NOTES

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