

## ANNEX 5M

### F3P–NEW PROVISIONAL CLASS

#### 5.M.1. CLASS F3P – INDOOR AEROBATIC POWER MODEL AIRCRAFT

##### **5.M.1.1 Definition of a R/C Indoor Aerobatic Power Model Aircraft**

Model Aircraft, but not a helicopter, which flies indoors (usually a hall) and is aerodynamically manoeuvred by control surface(s) in attitude, direction, and altitude by a pilot on the ground using radio control.

##### **5.M.1.2 General Characteristics of R/C Indoor Aerobatic Power Model Aircraft**

Maximum total weight.....500g

External parts that protrude which could be considered dangerous, (i.e. landing gear struts, shaft tips etc.) must be covered in order to avoid injuries.

Power source limitations: Any suitable power source may be utilised except those generating any kind of exhaust emission. Electric powered model aircraft are limited to a maximum of 42 Volts for the propulsion circuit.

Paragraph B.3.1. of Section 4b (Builder of Model aircraft) is not applicable to class F3P.

Radio equipment shall be of the open loop type (i.e. no electronic feedback from the model aircraft to the ground). Auto-pilot control utilising inertia, gravity or any type of terrestrial reference is prohibited. Automatic control sequencing (pre-programming) or automatic control timing devices are prohibited.

Example: Permitted:

1. Control rate devices that are manually switched by the pilot.
2. Any type of button or lever control that is initiated and terminated by the pilot
3. Manually operated switches to couple control functions.

**Not permitted:**

1. Snap buttons with automatic timing mode.
2. Pre-programming devices to automatically perform a series of commands.
3. Auto-pilots for automatic wing levelling.
4. Propeller pitch change with automatic timing mode.
5. Any type of voice recognition system.
6. Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.

##### **5.M.1.3 Definition and Number of Helpers**

A helper may be a Team Manager, another competitor or an officially registered supporter. Each pilot is permitted one helper during the flight.

##### **5.M.1.4 Number of Flights**

Competitors have the right to the same number of flights. Only completed rounds will be counted.

##### **5.M.1.5 Definition of an Attempt**

There is an attempt when the competitor is given permission to start.

Note: If the motor fails to start within the one (1) minute allowed, the competitor must immediately make room for the next competitor. If the motor stops after the take-off has begun, but before the model aircraft is airborne, it may be restarted within the one (1) minute starting period.

##### **5.M.1.6 Number of Attempts**

Each competitor is entitled to one (1) attempt for each official flight.

Note: An attempt can be repeated at the contest director's discretion only when for any unforeseen

reason outside the control of the competitor the model aircraft fails to start (e.g. there is radio interference). Similarly, in a flight that is interrupted by any circumstance beyond the control of the competitor, the competitor is entitled to have a reflight, but only manoeuvres affected and the unscored manoeuvres that follow will be judged.

#### **5.M.1.7 Definition of an Official Flight**

There is an official flight when an attempt is made whatever the result.

#### **5.M.1.8 Marking**

Each manoeuvre may be awarded marks, in whole number of increments, between 10 and 0 by each of the judges during the flight. These marks are multiplied by a coefficient which varies with the difficulty of the manoeuvre. Any manoeuvre not completed shall be scored zero (0). Manoeuvres must be performed where they can be seen clearly by the judges. If a judge, for some reason outside the control of the competitor, is not able to follow the model aircraft through the entire manoeuvre, he may set the "Not Observed" (N.O.) mark. In this case, the judge's mark for that particular manoeuvre will be the average of the numerical marks given by the other judges. Centre manoeuvres should be spaced equally above the centre line of the manoeuvring area, with turn around manoeuvres at the left or right of it. Infractions of this rule will be cause for downgrading by each judge individually and in proportion to the degree of infraction.

AeroMusicals are judged for flying style, artistic quality, and overall performance, in marks of 0.5 increments between 10 and 0 by each of the judges for the overall flight.

Judges shall be seated on a line parallel to the longest wall of the hall and in the middle between its side walls, while viewing the opposite longest wall.

The manoeuvring area is limited by the floor, ceiling, and walls of the hall, as well as by the safety line (the line that the judges are seated on). A model aircraft must never cross this safety line. The centre line of the manoeuvring area stretches from the safety line (perpendicular) to the opposite long wall, and is positioned in the middle between the side walls. The recommended dimensions of the hall should be about 40 x 20 metres in length and width, and between 8 to 12 metres in height.

Audible and visual signals to indicate violations of the manoeuvring area are not to be employed.

If a model aircraft is unsafe in the opinion of judges or being flown in an unsafe manner, they may instruct the competitor to land.

The scores given by each judge for each competitor shall be made public at the end of each round of competition.

#### **5.M.1.9 Classification**

Each competitor will have three (3) official flights. All scores (summary of marks of each flight) will be normalised to 1000 points as described below. Only scores of fully completed rounds may be used for classification. Individual placing is determined for each competitor by the sum of points of his best two (2) rounds counting.

$$\text{Points}_x = \frac{S_x}{S_w} \times 1000$$

$\text{Points}_x$  = points awarded to competitor X

$S_x$  = score of competitor X

$S_w$  = score of winner of round.

#### **5.M.1.10 Judging**

For each competition in F3P, there must be a minimum of three (3), and a maximum of five (5) judges, plus one timer.

For larger events, there might be several groups of judges.

Each judge has to assess each manoeuvre and any other relevant action of the competitor individually and independently from the other judges. The criteria for judging are contained in the Schedules of Manoeuvres and the Judge's Guide (Appendix 5B, SC 4a).

To avoid errant judging, it is recommended that training flights be performed, before the beginning of official flying. These training flights are judged and tabulated according to the regulations, but the results are not made public.

#### **5.M.1.11 Organisation for R/C Indoor Aerobatic Contests**

For transmitter and frequency control see Section 4b, Para. B.8. The draw for the flight order will be done for each flight line, except when possible, frequency will not follow frequency, nor team member follow team member. Also team members on separate flight lines will be separated by at least two competitors.

For flights two, the flight order will start in the middle of the original flight draw and then from the beginning to the middle. For flights three, the flight order is the same as the original draw, but in reverse.

During the flight, the competitor must stay in proximity of the judges and under the supervision of the Flight Line Director.

Competitors must be called at least five (5) minutes before they are required to occupy the starting area.

If his frequency is clear the competitor will be given his transmitter when he occupies the starting area so that he can perform a radio check. If there is a frequency conflict he must be allowed a maximum of one (1) minute for a radio check before the start of the one (1) minute starting time. The timer will notify the competitor when the minute is finished and immediately start timing the one (1) minute starting time.

#### **5.M.1.12 Execution of Manoeuvres**

The manoeuvres must be executed during an uninterrupted flight in the order that they are listed on the score sheet. The direction of take-off is the competitor's choice. The direction of each manoeuvre is determined as a result of the take-off direction.

In schedules with turn around manoeuvres, there is no unjudged flying between the first manoeuvre after the take-off and the last manoeuvre before landing.

In AeroMusicals, judging is done for the entire flight, without interruption.

If the model aircraft touches the floor, ceiling, walls, or any structures or fixtures of the hall, or crosses the safety line during a manoeuvre, this manoeuvre is scored ZERO.

In AeroMusicals, this rule only applies regarding the safety line.

The competitor may make only one attempt at each manoeuvre during the flight. The pilot has one (1) minute to start his motor and five (5) minutes to complete his flight, both the one (1) minute and the five (5) minutes to start when the competitor is given permission to start.

In AeroMusicals the competitor has to signal the operator of the music his wish to start the music within the first (1) minute.

The duration of the music must be 120 +/- 5 seconds. Judging of the flight starts with its beginning.

The model aircraft must take-off and land unassisted, that is, no hand launched flights. If any part of the model aircraft is dropped or if it comes to stand still during the flight, scoring will cease at that point and the model must be landed immediately.

In AeroMusicals, this rule only applies regarding the take-off.

The flight ends when the landing sequence is completed. Scoring will cease with the expiration of the five (5) minutes time limit.

In AeroMusicals the flight ends at the stop of the music, or 125 seconds after it had started. At least then the model aircraft has to be landed.

#### **5.M.1.13 Schedule of Manoeuvres**

The schedule F3P-A is for expert pilots in Indoor Aerobatic Power Model Aircraft.

The schedule F3P-AM is for competitors to demonstrate their artistic performances in Indoor Aerobatic Power Model Aircraft in conjunction with music. It is recommended that competitors in F3P-AM have to go through a prequalification in F3P-A first.

SCHEDULE F3P-A	K-Factor
A1. Take-off Sequence.....	2
A2. Reverse Cuban Eight.....	4
A3. 1/4 Roll, Half Circle, 1/4 Roll.....	3
A4. Looping with 1/2 Roll .....	4
A5. Turn with horizontal 1/2 Roll .....	3
A6. Triangle Loop with 1/2 Roll .....	5
A7. Half Circle inverted.....	2
A8. Rolling Circle with 1/1 integrated Roll.....	5
A9. Top Hat with two 1/4 Rolls .....	4
A10. 2/4 Points Roll.....	3
A11. Push-Push-Pull Humpty-Bump .....	3
A12. Torque-Roll .....	6
A13. Landing Sequence.....	2

**46**

Schedule F3P-AM	K-Factor
AM1. Take-off	
AM2. Freestyle (freely composed sequence of manoeuvres choreographed to music of the competitor's choice.)	
AM3. Landing	

The description of manoeuvres, judging notes and Aresti diagrams are in Annex 5A. The Judge's Guide may be found at F3A Annex 5B.

