

5.9. CLASS F3P – INDOOR RADIO CONTROL AEROBATIC POWER MODEL AIRCRAFT

5.9.1 Definition of an R/C Indoor Aerobatic Power Model Aircraft

As 5.1.1 except that variable thrust direction of the propulsion device(s) is allowed for F3P-AFM.

5.9.2 General Characteristics of R/C Indoor Aerobatic Power Model Aircraft

As 5.1.2 except for the following:

Maximum total weight.....300g

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

Power device limitations: any suitable power device may be utilised except those generating any kind of exhaust emission.

5.9.3 Definition and Number of Helpers

See 5.1.3 except for the following:

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

5.9.4 Number of Flights

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

5.9.5 Definition of an Attempt

See 5.1.5

5.9.6 Number of Attempts

See 5.1.6

5.9.7 Definition of an Official Flight

See 5.1.7

5.9.8 Marking

See 5.1.8 except for the following:

- (a) The manoeuvring area is limited by the floor, ceiling, and walls of the hall, as well as by the safety line which is parallel to the longest wall of the hall and in front of the judges. 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 competitor is normally placed on the intersection of the safety line and the centre line.
- (b) 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.
- (c) Centre manoeuvres should be positioned 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.
- (d) Aerobatics Freestyle to Music (AFM) are judged for flying style, artistic quality, and overall performance, in marks of whole number increments between 10 and 0 by each of the judges for the overall flight.
- (e) 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.

5.9.9 Classification

See 5.1.9 except for the following:

For World and Continental Championships, each competitor will have four (4) preliminary flights (schedule F3P-AP), with the best three normalised scores to determine the preliminary ranking. The top 20% (twenty percent) of the classified competitors with a minimum of five (5) will have three (3) additional flights. These final flights will be flown as a known, finals schedule (schedule F3P-AF). The total of the best three preliminary flights normalised again to 1000 points will count as one score. This score and the

three finals scores will give four (4) normalised scores. The sum of the three best will give the final classification. In the case of a tie, the sum of all the four (4) scores will determine the winner.

Note 1: Final flights to determine the individual winner are only required for World and Continental Championships

5.9.10 Judging

- a) For each competition in F3P, there must be a minimum of three (3), and a maximum of five (5) judges, plus one timer.
- b) For larger events, there might be several panels of judges.
- c) For World or Continental Championships the organiser must appoint one or more panels of five judges each. The judges must be of different nationalities and must be selected from a current list of international Judges. Those selected must reflect the approximate geographical distribution of teams having participated in the previous World Championships (if applicable) and the final list must be approved by the CIAM Bureau.
- d) The invited judges for World or Continental Championships must be selected from a current list of FAI international judges and must have had F3P judging experience within the previous twelve months and must submit a resume of his judging experience to the organiser when accepting the invitation to judge at a World or Continental Championship. The organiser must in turn submit the resumes to the CIAM Bureau for approval.
- g) 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.

5.9.11 Organisation for R/C Indoor Aerobatic Contests

See 5.1.11 except for the following:

- a) If his FM frequency is clear the competitor will be given his FM transmitter when he occupies the starting area so that he can perform a radio check. If there is a FM 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. According to paragraph 5.1.2. the voltage of the propulsion battery of electric powered models, must be checked by an official in the preparation area before the 1-minute starting time is started.

5.9.12 Execution of Manoeuvres

- a) In the preliminary flights (schedule F3P-AP) and the finals flights (schedule F3P-AF), the manoeuvres must be executed during an uninterrupted flight in the order that they are listed in the schedule. The competitor may make only one attempt at each scored manoeuvre during the flight. The direction of take-off is the pilot's choice. The direction of the first manoeuvre determines the direction of all following manoeuvres.
- b) 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.
- c) In AFM, judging is done for the entire flight, without interruption.
- d) 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.
- e) In AFM this rule only applies regarding the safety line.
- f) The competitor may make only one attempt at each manoeuvre during the flight. The pilot has one (1) minute starting time and five (5) minutes to complete his flight, both the one (1) minute and the five (5) minutes begin when the competitor is given permission to start.
- g) In AFM the competitor has to signal the operator of the music his wish to start the music within the first minute.
- h) The duration of the music must be 120 +/- 5 seconds. Judging of the flight starts with its beginning.
- i) 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.

- j) In AFM this rule only applies regarding the take-off.
- k) Scoring will cease at the expiry of the five (5) minutes time limit.
- l) In AFM 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.

5.9.13 Schedule of Manoeuvres

The schedule F3P-AP is a preliminary schedule for expert pilots in Indoor Aerobatic Power Model Aircraft competitions.

The schedule F3P-AF is a finals schedule for expert pilots in Indoor Aerobatic Power Model Aircraft competitions.

The schedule F3P-AFM 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-AFM have to go through a prequalification in F3P-AP and F3P-AF first.

SCHEDULE F3P-AP-13 (2012-2013)

	K-Factor
AP-13.01 Square Loop with ½ roll up, ½ roll down	K= 3
AP-13.02 Top Hat with ¼ roll up, ½ roll, ¼ roll down	K= 4
AP-13.03 Roll Combination with consecutive two rolls in opposite directions	K= 5
AP-13.04 Stall Turn with ¼ roll up, ¼ roll down	K= 3
AP-13.05 Horizontal Circle 8 with ¼ roll, roll, ¾ roll in opposite directions	K= 5
AP-13.06 Push-Push-Pull Humpty-Bump with ¼ roll up (Option: Push-Pull-Pull, ¼ roll down)	K= 3
AP-13.07 Loop with ¼ roll, ¼ roll in opposite directions integrated	K= 3
AP-13.08 ½ Horizontal Square Circle with ¼ roll, four consecutive ⅛ rolls, ¼ roll	K= 4
AP-13.09 1 ½ Torque Rolls	K= 6
AP-13.10 ½ Square Loop with ½ roll up	K= 2
AP-13.11 45° Downline with two consecutive ¼ rolls	K= 4

	K=42

SCHEDULE F3P-AF-13 (2012-2013)

	K-Factor
AF-13.01 Knife-edge Loop with ½ roll	K= 4
AF-13.02 Stall Turn, 1 ½ roll up, ½ roll down	K= 3
AF-13.03 Roll Combination with two consecutive ¼ rolls, two consecutive ¼ rolls in opposite directions	K= 5
AF-13.04 Shark Fin with four consecutive ⅛ rolls up, ½ roll down	K= 4
AF-13.05 Horizontal Circle with three consecutive rolls in opposite directions	K= 5
AF-13.06 Trombone with ¼ roll, ¼ roll	K= 2
AF-13.07 Six-sided Loop with ½ roll	K= 3
AF-13.08 ½ Horizontal Square Circle with ¼ roll, two consecutive 1/2 rolls in opposite directions, ¼ roll	K=4
AF-13.09 Knife-edge Cuban 8 with ¼ roll, ½ roll, ¼ roll	K= 6
AF-13.10 ½ Square Loop with ½ roll down	K= 3
AF-13.11 Two consecutive ¾ Torque Rolls in opposite directions	K= 6

	K=45

The descriptions of the manoeuvres and the Aresti diagrams for F3P-AP and F3P-AF appear at Annex 5M.

An explanation of the Aresti diagrams appears in F3A Annex 5A.

The Manoeuvre Execution Guide appears in F3A Annex 5B.

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SCHEDULE F3P-AFM

AM1. Take-off

AM2. Freestyle (freely composed sequence of manoeuvres choreographed to music of the competitor's choice.)

AM3. Landing

The description of the manoeuvres for F3P-AFM appear at the end of Annex M.

ANNEX 5M**F3P – RADIO CONTROLLED AEROBATIC MODEL AIRCRAFT****DESCRIPTION OF MANOEUVRES****Preliminary Manoeuvres – Schedule F3P-AP-13 (2012-2013)****AP-13.01 Square Loop with $\frac{1}{2}$ roll up, $\frac{1}{2}$ roll down**

From upright, pull through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{2}$ roll, push through a $\frac{1}{4}$ loop into a horizontal line, push through a $\frac{1}{4}$ loop into a vertical downline, perform a $\frac{1}{2}$ roll, pull through a $\frac{1}{4}$ loop, exit upright.

AP-13.02 Top Hat with $\frac{1}{4}$ roll up, $\frac{1}{2}$ roll, $\frac{1}{4}$ roll down

From upright, pull through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{4}$ roll, pull into a horizontal cross – box line, perform a $\frac{1}{2}$ roll, push through a $\frac{1}{4}$ loop into a vertical downline, perform a $\frac{1}{4}$ roll, push through a $\frac{1}{4}$ loop, exit inverted.

AP-13.03 Roll Combination with consecutive two rolls in opposite directions

From inverted, perform a roll consecutively followed by another roll in opposite direction, exit inverted.

AP-13.04 Stall Turn with $\frac{1}{4}$ roll up, $\frac{1}{4}$ roll down

From inverted, push through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{4}$ roll, perform a stall turn into a vertical downline, perform a $\frac{1}{4}$ roll, push through a $\frac{1}{4}$ loop, exit inverted.

AP-13.05 Horizontal Circle 8 with $\frac{1}{4}$ roll, roll, $\frac{3}{4}$ roll in opposite directions

From inverted, perform a $\frac{1}{4}$ horizontal circle while performing $\frac{1}{4}$ roll to the outside, then, while performing a roll in the opposite direction, perform immediately another (full) circle in the opposite, then, while performing a $\frac{3}{4}$ roll again in the opposite direction, finish the remaining $\frac{3}{4}$ of the first circle, exit inverted.

AP-13.06 Push-Push-Pull Humpty-Bump with $\frac{1}{4}$ roll up (Option: Push-Pull-Pull, $\frac{1}{4}$ roll down)

From inverted push into a vertical upline, perform a $\frac{1}{4}$ roll, push through a $\frac{1}{2}$ cross-box loop into a vertical downline, pull through a $\frac{1}{4}$ loop, perform a $\frac{1}{4}$ horizontal circle, exit upright.

Option: from inverted, perform a $\frac{1}{4}$ horizontal circle, push into a vertical upline, pull through a $\frac{1}{2}$ cross-box loop into a vertical downline, perform a $\frac{1}{4}$ roll, pull through a $\frac{1}{4}$ loop, exit upright.

AP-13.07 Loop with $\frac{1}{4}$ roll, $\frac{1}{4}$ roll in opposite directions integrated

From upright, pull through a loop, while performing a $\frac{1}{4}$ roll integrated into the second quarter of the loop and another $\frac{1}{4}$ roll in opposite direction integrated in the third quarter of the loop, exit upright.

AP-13.08 Half Horizontal Square Circle with $\frac{1}{4}$ roll, four consecutive $\frac{1}{8}$ rolls, $\frac{1}{4}$ roll

From upright, perform a $\frac{1}{4}$ roll, perform a $\frac{1}{4}$ circle into a horizontal cross-box knife-edge line, perform consecutively four $\frac{1}{8}$ rolls, perform a $\frac{1}{4}$ circle, perform a $\frac{1}{4}$ roll, exit upright.

AP-13.09 $1\frac{1}{2}$ Torque Rolls

From upright, reduce flying speed until the longitudinal axis of the model aircraft is in a vertically hovering attitude. Perform $1\frac{1}{2}$ torque rolls in this position, then accelerate to exit inverted.

AP-13.10 Half Square Loop with $\frac{1}{2}$ roll up

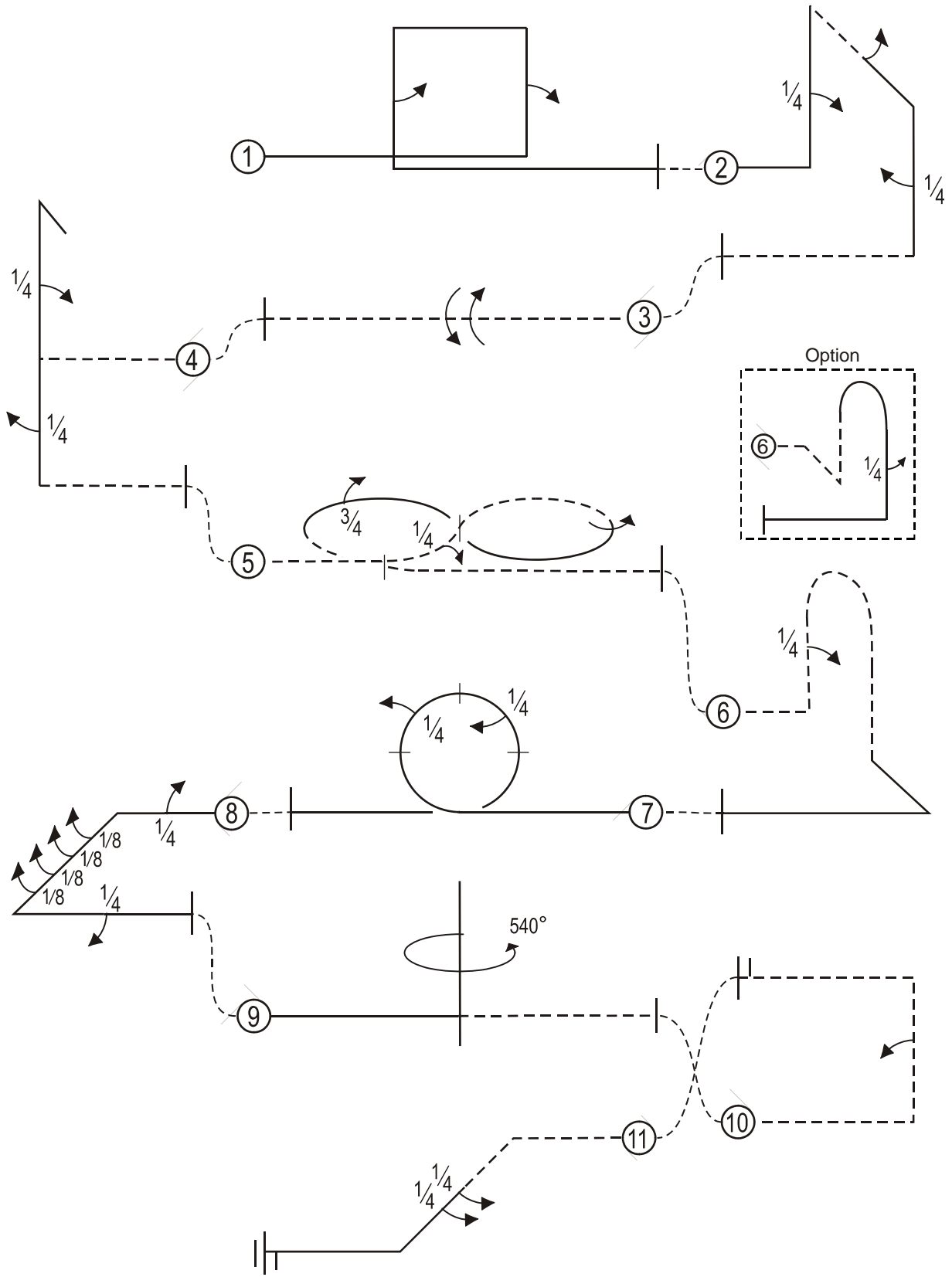
From inverted, push through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{2}$ roll, pull through a $\frac{1}{4}$ loop, exit inverted.

AP-13.11 45° Downline with two consecutive $\frac{1}{4}$ rolls

From inverted, pull through a $\frac{1}{8}$ loop into a 45° downline, perform consecutively two $\frac{1}{4}$ rolls, pull through a $\frac{1}{8}$ loop, exit upright.

The Aresti diagrams appear overleaf.

F3P PRELIMINARY SCHEDULE AP-13 (2012-2013)



Drawings by Ken Hirose
June 2011

Finals Manoeuvres – Schedule F3P-AF-13 (2012-2013)**AF-13.01 Knife-edge Loop with $\frac{1}{2}$ roll**

From upright, perform a $\frac{1}{4}$ roll, perform a knife-edge loop while performing a $\frac{1}{2}$ roll integrated in the top 90° of the loop, perform a $\frac{1}{4}$ roll, exit inverted.

AF-13.02 Stall Turn, 1 $\frac{1}{2}$ roll up, $\frac{1}{2}$ roll down

From inverted, push through a $\frac{1}{4}$ loop into a vertical upline, perform $1\frac{1}{2}$ rolls, perform a stall turn into a vertical downline, perform a $\frac{1}{2}$ roll, push through a $\frac{1}{4}$ loop, exit inverted.

AF-13.03 Roll Combination with two consecutive $\frac{1}{4}$ rolls, two consecutive $\frac{1}{4}$ rolls in opposite directions

From inverted, perform consecutively two $\frac{1}{4}$ rolls, perform consecutively another two $\frac{1}{4}$ rolls in opposite direction, exit inverted.

AF-13.04 Shark Fin with four consecutive $\frac{1}{8}$ rolls up, $\frac{1}{2}$ roll down

From inverted, push through a $\frac{1}{4}$ loop into a vertical upline, perform consecutively four $\frac{1}{8}$ rolls, pull through a $\frac{5}{8}$ loop into a 45° downline, perform a $\frac{1}{2}$ roll, pull through a $\frac{1}{8}$ loop, exit upright.

AF-13.05 Horizontal Circle with three consecutive rolls in opposite directions

From upright, perform a horizontal circle while performing a roll to the outside integrated in the first 120° of the circle, consecutively followed by another roll in the opposite direction integrated in the second 120° of the circle, and consecutively followed by another roll in opposite direction integrated in the final 120° of the circle, exit upright.

AF-13.06 Trombone with $\frac{1}{4}$ roll, $\frac{1}{4}$ roll

From upright pull through a $\frac{1}{8}$ loop into a 45° upline perform a $\frac{1}{4}$ roll, push through a $\frac{1}{2}$ circle into a 45° downline, perform a $\frac{1}{4}$ roll pull through a $\frac{1}{8}$ loop, exit upright.

AF-13.07 Six-sided Loop with $\frac{1}{2}$ roll

From upright, pull through a six-sided loop while performing a $\frac{1}{2}$ roll in the third leg, exit inverted.

AF-13.08 $\frac{1}{2}$ Horizontal Square Circle with $\frac{1}{4}$ roll, two consecutive $\frac{1}{2}$ rolls in opposite directions, $\frac{1}{4}$ roll

From inverted, perform a $\frac{1}{4}$ roll, perform a $\frac{1}{4}$ circle into a horizontal cross-box knife-edge line, perform consecutively two $\frac{1}{2}$ rolls in opposite directions, perform a $\frac{1}{4}$ circle, perform a $\frac{1}{4}$ roll, exit upright.

AF-13.09 Knife-edge Cuban 8 with $\frac{1}{4}$ roll, $\frac{1}{2}$ roll, $\frac{1}{4}$ roll

From upright pull through a $\frac{1}{8}$ loop into a 45° upline, perform $\frac{1}{4}$ roll, perform a $\frac{3}{4}$ knife-edge loop, perform a $\frac{1}{2}$ roll, perform another $\frac{3}{4}$ knife-edge loop, perform a $\frac{1}{4}$ roll, push through a $\frac{1}{8}$ loop, exit upright.

AF-13.10 $\frac{1}{2}$ Square Loop with $\frac{1}{2}$ roll down

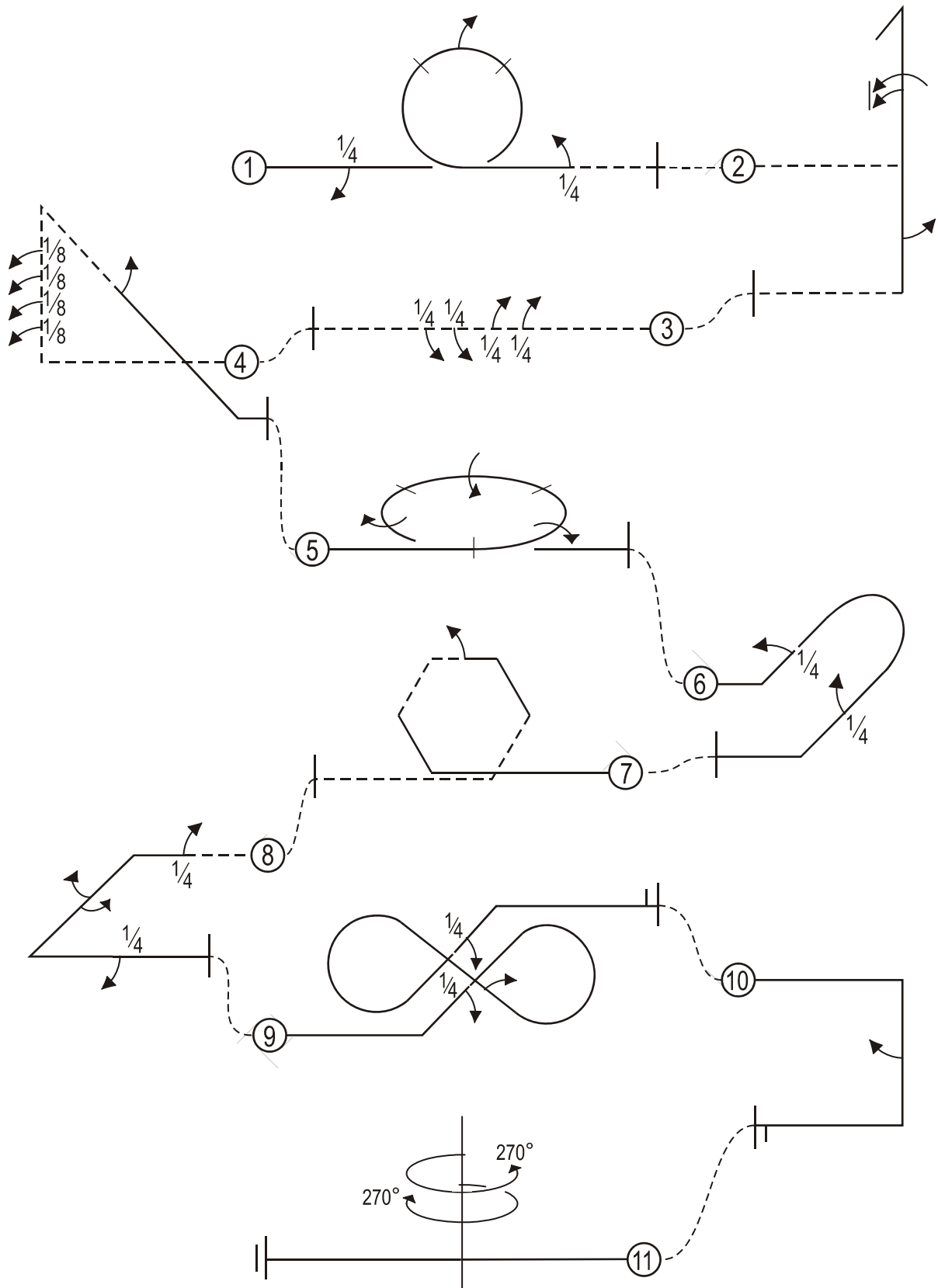
From upright, push through a $\frac{1}{4}$ loop into a vertical downline, perform a $\frac{1}{2}$ roll, push through a $\frac{1}{4}$ loop, exit upright.

AF-13.11 Two consecutive $\frac{3}{4}$ Torque Rolls in opposite directions

From upright, reduce flying speed until the longitudinal axis of the model aircraft is in a vertically hovering attitude. Perform in this position a $\frac{3}{4}$ torque roll and consecutively another $\frac{3}{4}$ torque roll in opposite direction, then accelerate to exit upright.

The Aresti diagrams appear overleaf.

F3P PRELIMINARY SCHEDULE AF-13 (2012-2013)



Drawings by Ken Hirose
June 2011

Manoeuvres – Schedule F3P-AFM

AFM1. Take-off Sequence

Place the model aircraft on the floor and take-off.

AFM2. Freestyle

A sequence of manoeuvres, freely composed by the competitor and flown in harmony to simultaneously played music of his choice. Any possible flight manoeuvres may be flown and "show effects" presented, as long as safety is not compromised and conformity to the rules is met. It is permitted to perform different programs in conjunction with different music in each round. The performance is judged for the entire flight from start to finish and in accordance to the following three criteria:

	K Factors
1 Flying Style	
- Precision of manoeuvres	2
- Utilisation of flight performance scope/difficulty of manoeuvres	2
-Variety of manoeuvres/new manoeuvres	2
2 Artistic Quality	
- Synchronisation to music	3
- Reflection of the mood of the music/show effects	2
- Sequence of quiet and dynamic phases	1
3 Overall Impression	
- Utilisation of manoeuvring area	2
- Continuity of schedule	2
- Positioning/safety	2

Judges Notes:

Unlike class F3A, although accompanied by its basic rules, F3P-AFM mostly focuses on spectator and media efficacy. This is why the performances should be extraordinarily spectacular and entertaining under these aspects.

For the Judges it is recommended to make "pencil" notes right away during the presentation. So corrections are still possible in course of the flight. All three criteria have to be marked simultaneously and evenly.

Although it is subjective, judging the presentations has to follow the judging guide and judging notes. Bias in favour of, or against, particular persons, models, music pieces etc must not influence the judging.

1 Flying Style

The flying skills of the pilot count herein. Flight sections and manoeuvres should be precise in the sense of F3A. Difficult manoeuvres are marked higher. The pilot is to demonstrate that he safely governs his model in any position. (Judges Guide F3A Annex 5B)

In addition, the pilot is to utilise the full flight performance scope of his model. Fast and slow flying, snap manoeuvres, hovering etc. The manoeuvres should show positive as well as negative "g"-portions: loops, rolls, snaps, spins, stall-turns, tailslides, hovering, torque-rolls, flat circles, Lomcevacs, circles, etc. New or extraordinary manoeuvres are marked higher. Frequent repetition of the same manoeuvre has to be downgraded respectively. Manoeuvres should be positioned in parallel or rectangular to the safety line. Poorly governed, unplanned or casually flown manoeuvres will be downgraded. The same applies to phases less extraordinarily attractive.

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2 Artistic Quality

The music (choreography) has to enhance the presentation and to create a complimentary atmosphere. The flight performance should be synchronised with the music and must not be a "3D-sketch" with background music. On the other hand the music must not detract from the presentation. The selected music piece(s) should contain fast-slow, soft-loud and dramatic sections. The manoeuvres should follow the music and end with it. The mood of the selected music should be reflected in the manoeuvres and the presentation. Show effects can support this. Music pieces with little contrast, variety or tempi result in downgrades.

3 Overall impression

A well made combination of flying style-music-entertainment is desired. The presentation should fill the manoeuvring area and form an uninterrupted unit with fluent transitions between the individual elements. Various thrill effects are requested. The performance should be orientated towards judges and spectators, although risky flying towards judges and spectators will result in downgrades.

AFM3. Landing Sequence

The termination of the flight in any kind of way provided it is performed in a safe manner