Agenda ANNEX 7d F3M RC Aerobatics Large Schedule of Manoeuvres (Annex 5L)

2008 Plenary Agenda Item N^{o} F3 Aerobatics, item a)

F3M – RADIO CONTROLLED AEROBATIC MODEL AIRCRAFT

Annex 5L
5l.1.14

Known schedule of manoeuvres 2009 – 2010		**K**
01	**Take-off procedure**	**1**
02	**Inside loop, upper half in knife edge flight, full snap roll (positive or negative) on top**	**4**
03	**Humpty bump (+ + +) with stall turn, ¼ roll up, ¼ roll down then stall turn with ½ roll up and down**	**3**
04	**Alternating knife edge flight, exit inverted**	**4**
05	**Half Cuban eight with 2-point roll, entry inverted**	**2**
06	**Triangle loop with rolls in up and down lines and with two opposite neg, snap rolls in upper line**	**3**
07	**Humpty bump (+ - +) with full roll up and two snap rolls (negative or positive) down, exit inverted**	**2**
08	**Three opposite rolls in circle (each 120 degree), first roll outside, entry and exit Inverted**	**4**
09	**Half diamond loop with full rolls in both sides, entry inverted**	**2**
10	**Double reversed hat with ½ rolls in all verticals and snap rolls in horizontal lines (2 x neg., 1 x pos.)**	**5**
11	**Two and half revolutions of normal spin …….**	**2**
12	**Alternating 4-point roll (3 x ¼ roll and 3 x ¼ roll in opposite direction)**	**4**
13	**¾ of vertical eight with integrated full roll in bottom ½ loop and pos. snap roll on the top of the upper loop**	**3**
14	**Landing procedure .**	**1**

Description of Manoeuvres

01 Take-off procedure

The model aircraft is placed on the runway, takes off, then turns 90 degrees towards the line defined by the upwind and downwind marker. When approximately over this line the model aircraft turns 270 degrees for a downwind trim pass. When approximately even with the downwind marker the model aircraft initiates a 180 degree turn, reversal, or other turn-around figure of pilot's choice.

Judging notes:

- Take off sequence not followed, zero points.
- Model aircraft passes behind the judges line (zero line), zero points.
- Only two scores, a zero or a 10, may be awarded for the take-off sequence.

02 Inside loop, upper half in knife edge flight, full snap roll (positive or negative) on top

Model performs ¼ of inside loop, then ¼ roll to knife edge in which performs second ¼ of the loop, then full snap roll (positive or negative) and third ¼ of loop in knife edge position, then ¼ roll and last ¼ of loop to level flight.

Judging notes:

- Wing of the model is not in vertical plane during the knife edge flight
- Model is not keeping round shape of the manoeuvre

03 Humpty bump (+ + +) and stall turn, ¼ roll up, ¼ roll down then stall turn with ½ roll up and down

Pull to vertical up line, then ¼ roll and ½ of inside loop to vertical down line, then ¼ roll and ½ inside loop to vertical up line, ½ roll and then stall turn to vertical down line, ½ roll and pull to level flight.

Judging notes:

- Humpty bump other than (+ + +) – zero points
- Stall turn with radius bigger than two wing span – zero points
- Vertical lines not true vertical

04 Alternating knife edge flight, exit inverted

Model performs in level flight ¼ roll to knife edge flight, hesitates briefly and then performs ½ roll to opposite knife edge flight, hesitates briefly and performs ¼ roll to inverted level flight.

Judging notes:

- Wing is not in vertical plane during knife edge flights
- The length of knife edge parts has to be the same
- The ½ roll has to be on the center line of the flight area

05 Half Cuban eight with 2-point roll, entry inverted

From inverted level flight push to perform 5/8 of outside loop to 45 degree down line, then 2-point roll and pull to level flight.

Judging notes:

- The part of outside loop is not round shaped
- 2-point roll is not in the middle of down line

06 Triangle loop with rolls in up and down lines and with two opposite neg, snap rolls in upper line

Pull to 45 degree up line, perform full roll, then pull to horizontal inverted flight and perform two opposite negative snap rolls, then push to down line 45 degree with full roll and pull to level flight.

Judging notes:

- Both opposite snap rolls have to be in the middle of upper line
- The full rolls have to be in the middle of 45 degree lines
- The radii of corner loops have to be the same
- Up and down lines are not true 45 degrees

07 Humpty bump (+ - +) with full roll up and two snap rolls (negative or positive) down, exit inverted

From level flight pull to vertical up line, perform full roll, then ½ outside loop to vertical down line and two negative or positive snap rolls and then push to level inverted flight.

Judging notes:

- Humpty bump other than (+ - +) – zero points
- The rolls have to be in the middle of the verticals

08 Three opposite rolls in circle (each 120 degree), first roll outside, entry and exit inverted

Model from inverted level flight performs three integrated opposite rolls in level circle. For each roll there is the segment of 120 degrees.

Judging notes:

- Model is changing altitude during the circle
- The roll rate of the rolls is not constant
- The circle is not round shaped

09 Half diamond loop with full rolls in both sides, entry inverted

From level inverted flight push to 45 degree up line, than perform full roll and then ¼ inside loop to 45 degree up line with second full roll and push to level flight.

Judging notes:

- The rolls are not in the middle of the diamond sides
- The up lines are not true 45 degrees

10 Double reversed hat with ½ rolls in all verticals and snap rolls in horizontal lines (2 x neg., 1 x pos.)

Model performs two reversed top hats with ½ rolls in the up and down verticals and with negative snap rolls in the bottom horizontal lines and one positive snap roll in the upper horizontal line.

Judging notes:

- The ½ rolls are not in the middle of the verticals
- Snap rolls are not in the middle of horizontal lines
- Both hats have to be the same size

11 Two and half revolutions of normal spin

From level flight is model slowing down and performs two and half turns of normal spin ending in vertical down line and pull to level flight.

Judging notes:

- Spin not ending correctly – apply the 15 degree rule for downgrading
- Forced entry of the spin – downgrade 4 – 5 points
- Entry via snap roll – zero points

12 Alternating 4-point roll (3 x ¼ roll and 3 x ¼ roll in opposite direction)

From level flight model performs 3 points of 4-point roll followed by 3 points of 4-point roll in opposite direction.

Judging notes:

- The roll rate in both directions has to be the same
- The pauses between ¼ rolls have to be the same length

13 ¾ of vert. eight with integr. full roll in bottom ½ loop and pos. snap roll on the top of the upper loop

Model performs half of inside loop with integrated full roll and then full outside loop with positive snap roll on the top and finally ½ roll on the exit from the manoeuvre.

Judging notes:

- Both loops do not have the same radius
- The upper loop is not correctly above the bottom ½ loop

14 Landing procedure

At reduced power execute a 180 degree level or descending turn to a downwind heading. Fly a downwind leg, then turn 180 degrees into the wind. Fly a descending approach to the runway touching down in the landing zone. The landing sequence is completed when the model aircraft has either rolled 10 meters or comes to rest.

Judging notes:

- Model aircraft does not follow landing sequence, zero point.
- If any landing gear leg retracts on landing, zero point. If the model aircraft lands outside the landing zone, zero point.
- Only two scores, a zero or a ten, may be awarded for the landing sequence.

The Known Schedule Manoeuvre Diagram appears overleaf.

Known Schedule Manoeuvre Diagram