Agenda ANNEX 7g F3P Aerobatics Indoor Manoeuvres Schedule (Annex 5M)

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

ANNEX 5M F3P – PROVISIONAL CLASS

5.M.1.14 Description of Manoeuvres for F3P Indoor Aerobatic Power Model Aircraft

Schedule F3P

01. Take-off Sequence:

Place the model aircraft on the floor and take-off in parallel to the security line. After having reached a reasonable height, turn 90° away from the security line, fly a straight line, turn again 90° and fly a line in opposite to the take-off direction until having crossed the centre line. Turn 180° towards the security y line; fly a line in parallel to the security line until having crossed the centre line and turn 180° away from the security line.

Judging Notes:

- Only two scores, a Zero (0) or a Ten (10), may be awarded for the take-off sequence.

02. Horizontal Eight with 1/2 rolls.

The model performs a centered horizontal eight. Pull into 1/4 loop, 1/2 roll, pull into a completed loop, 1/2 roll and pull into 3/4 loop to recover upright.

Judging note:
- The two 1/2 rolls must be integrated.

03. Half circle with a roll to the outside of the circle.

Perform a half horizontal circle with an integrated roll to the outside of the circle to recover upright.

Judging notes:
- Roll rate must be constant.
- Circle must be of constant radius
- The roll must begin with the half circle and finish with the half circle.

04. Triangular loop.

Pull to a 45° up line, pull 135° to a horizontal inverted flight, pull 135° to a 45° down line, pull 45° to recover upright.

05. Pull-push-push Humpty-bump exit inverted.

Pull to a vertical up line, and then push to through a half outside loop to a vertical down line and push to exit inverted.

06. Slow roll, from inverted.

From level inverted flight, perform a slow roll to recover in level inverted flight.

07. Top hat with 1/4 rolls, from inverted exit upright.

Push to a vertical up line, perform a 1/4 roll, pull to a level inverted flight, pull to a vertical down line, perform a 1/4 roll, then pull to exit upright.

08. Loop with integrated half roll on top.

Pull up and complete an inside loop. Over the top of the loop, perform a half roll, integrated with the circular path of the loop. Exit inverted.

09. Level half rectangle in knife-edge from inverted, exit upright.

On a horizontal line from inverted, perform 1/4 roll followed by a level half rectangle in knife-edge, then perform a second 1/4 roll to exit upright

10. Rolling circle with one and a half roll to the inside of the circle.

Perform a rolling circle with one and a half roll to the inside of the circle to recover inverted, at the same point as entry.

Judging notes:
- Circle must be of constant radius.
- The altitude must be constant.
- The roll and a half must begin with the circle and finish with the circle.
- The roll rate must be constant

11. 180° Turn from inverted.

From level inverted flight, perform a 180° turn with a constant inclination.

12. Torque roll, 2 points roll.

From level inverted flight, pull and reduce flying speed until the model's longitudinal axis is in a vertically hovering attitude on the centre line, pause, perform a half roll, pause, another half roll, pause, pull to recover the level inverted flight and then accelerate.

Judging note:

- Altitude have to remain constant during the manoeuvre.

13. Stall turn from inverted.

From level inverted flight, push up into a vertical flight path to a stop and immediately perform a 180° turn on the yaw axis to a vertical dive, then push to recover into level inverted flight.

14. Four points of an eight point-roll.

From level inverted flight, perform four points of an eight point-roll to exit in level flight upright.

15. Landing sequence.

Turn 180° away from the security line and fly a line in opposite to the take-off direction until having crossed the centre line, turn 180° towards the security line, and gently on a straight line in parallel to the security line and let the model run straight until stop.

Judging notes:

- After having crossed the centre line, the model must not climb anymore.
- Only two scores, a zero (0) or a ten (10) may be awarded for the landing sequence.

Unknown manoeuvre schedules (final)

Unknown manoeuvre schedules shall be used in the final flights for world or continental championships and shall be composed by the finalists.

The composition of the unknown manoeuvre schedules shall be done by the finalists with each finalist nominating, in turn, an appropriate centre or turn-around manoeuvre from the approved list of manoeuvres. The order will be determined by random draw with the order repeating until the manoeuvre schedule is complete. The nominated manoeuvres must conform to the following criteria:

1. The entry of one manoeuvre must be matched to the exit of the previous manoeuvre, for entry altitude, entry attitude (level upright or level inverted flight), size of manoeuvres (wide as in a horizontal eight or narrow as in a stall turn) and direction of flight.
2. No duplication of manoeuvres.
3. No duplication of centre manoeuvres from the same manoeuvre group but excluding group 7 manoeuvres (roll).
4. One manoeuvres must be K = 5 and two manoeuvres must be K = 4 of each schedule.
5. Only 13 manoeuvres per unknown schedule with 6 centre manoeuvres, including take-off and landing sequence:

Once an unknown schedule has been composed and checked for correctness it must receive the final approval of the jury and the contest director. Printed copies shall then be distributed to team managers,

finalists, judges, jury members, and non-finalists who are scheduled to perform warm-up flights. A sufficient number shall be made available by the organisers for spectators.

The judges shall receive instructions after the composition of the unknown schedule covering the unknown manoeuvres and to ensure that the judges are fully aware of the sequence of manoeuvres.

Aresti drawings of the unknown schedules must be provided to finalists and judges.

Finalists may not attempt practice flights of an unknown schedule between its composition and the finals flights neither with a flyers model aircraft nor via electronic flight simulator. Evidence of such practice shall be deemed cheating and shall lead to disqualification from the championships.

In addition to the warm-up flight for the finals known schedule, at least two warm-up flights must be arranged for the unknown schedule. The unknown warm-up flights may be observed by the finalists and must be judged. Under no circumstances should the flight scores of any warm-up flights be tabulated.

List of manoeuvres for composition of unknown schedules.

Centre manoeuvres.

Group 1
1.1 Inverted flight (K2)
1.2 Inverted 360° turn (K2)
1.3 Inverted level eight (K2)
1.4 Half loop, inverted flight, half loop (K2)

Group 2
2.1 Double immelmann (K4)
2.2 Double immelmann, inverted entry (K4)

Group 3
3.1 Inside loop (K2)
3.2 Outside loop (K3)
3.3 Inside loop, inverted entry (K3)
3.4 Outside loop, inverted entry (K3)
3.5 Two loops with half rolls at top (K4)
3.6 Inside loop with half roll at top (K4)
3.7 Inside loop with one roll at top (K4)
3.8 Outside loop with half roll at top, inverted entry (K4)
3.9 Outside loop with one roll at top, inverted entry (K4)

Group 4
4.1 Inside square loop (K3)
4.2 Outside square loop (K3)
4.3 Inside square loop, inverted entry (K3)
4.4 Outside square loop, inverted entry (K3)
4.5 Inside square loop, half roll at top (K4)
4.6 Inside square loop, half roll at bottom, inverted entry (K4)
4.7 Outside square loop, half roll at top (K4)
4.8 Outside square loop, half roll at top, inverted en (K4)
4.9 Inside square loop, half rolls at top and bottom (K5)
4.10 Inside square loop, half rolls at top and bottom, inverted entry (K5)
4.11 Inside square loop on corner (K4)
4.12 Inside square loop on corner, inverted entry (K4)
4.13 Outside square loop on corner (K4)
4.14 Outside square loop on corner, inverted entry (K4)

Group 5
5.1 Inside triangular loop (K3)
5.2 Outside triangular loop (K3)
5.3 Outside triangular loop, inverted entry (K3)
5.4 Inside triangular loop, inverted entry (K3)
5.5 Inside triangular loop with half roll at top, exit inverted (K4)
5.6 Inside triangular loop with half roll at bottom, inverted entry (K4)
5.7 Inside triangular loop with full roll at top (K4)

Group 6
6.1 Inside six sided loop (K3)
6.2 Inside six sided loop, inverted entry (K3)
6.3 Outside six sided loop (K3)
6.4 Outside six sided loop, inverted entry (K3)
6.5 Inside eight sided loop (K3)
6.6 Inside eight sided loop, inverted entry (K3)
6.7 Outside eight sided loop (K3)
6.8 Outside eight sided loop, inverted entry (K3)

Group 7
7.1 Slow roll (K4)
7.2 Slow roll, inverted entry (K4)
7.3 Two point roll (K3)
7.4 Two point roll, inverted entry (K3)
7.5 Four point roll (K4)
7.6 Four point roll, inverted entry (K4)
7.7 Half eight point roll (K4)
7.8 Half eight point roll, inverted entry (K4)
7.9 Two 2/2 point rolls reversed (K4)
7.10 Two 2/2 point rolls reversed, inverted entry (K4)
7.11 Two 2/4 point rolls reversed (K4)
7.12 Two 2/4 point rolls reversed, inverted entry (K4)
7.13 Two 3/4 point rolls reversed (K4)
7.14 Two 3/4 point rolls reversed, inverted entry (K4)
7.15 Cobra roll with half rolls (K4)
7.16 Cobra roll with half rolls, inverted entry (K4)
7.17 Cobra roll with 2/4 point rolls (K4)

Group 8
8.1 Stall turn with 1/4 rolls up and down (K4)
8.2 Stall turn with 1/4 rolls up and down, inverted entry (K4)
8.3 Stall turn with 1/4 rolls up and down, inverted entry and exit (K4)
8.4 Stall turn with 1/4 rolls up and down, exit inverted (K4)

Group 9
9.1 Cuban eight (K5)
9.2 Cuban eight, inverted entry (K5)
9.3 Cuban eight from top (K5)
9.4 Cuban eight from top, inverted entry (K5)
9.5 Reverse cuban eight (K5)
9.6 Reverse cuban eight, inverted entry (K5)
9.7 Reverse cuban eight from top (K5)
9.8 Reverse cuban eight from top, inverted entry (K5)

Group 10
10.1 Horizontal eight (K4)
10.2 Horizontal eight, inverted entry (K4)
10.3 Horizontal eight with half rolls (K5)
10.4 Horizontal eight with half rolls, inverted entry (K5)
10.5 Square horizontal eight (K4)
10.6 Square horizontal eight, inverted entry (K4)

Group 11
11.1 Top hat with quarter rolls up and down (K4)
11.2 Top hat with quarter rolls up and down, inverted entry (K4)
11.3 Top hat with half rolls up and down (K4)
11.4 Top hat with half rolls up and down, inverted entry (K4)

Group 12
12.1 Knife edge (K3)
12.2 Knife edge, inverted entry(K3)
12.3 Knife edge, exit inverted (K3)
12.4 Knife edge, entry and exit inverted (K3)
12.5 Reverse knife edge flight (K3)

Group 13
13.1 Figure Z (K3)

13.2 Figure Z with half roll up (K4)
13.3 Figure Z with 2/4 point roll up (K4)

Group 14
14.1 Rolling circle with one roll outside (K5)
14.2 Rolling circle with two rolls outside (K5)
14.3 Rolling circle with three rolls outside (K5)
14.4 Rolling circle with four rolls outside (K5)
14.5 Rolling circle with one roll inside (K5)
14.6 Rolling circle with two rolls inside (K5)
14.7 Rolling circle with three rolls inside (K5)
14.8 Rolling circle with four rolls inside (K5)
14.9 Rolling circle with one roll outside, inverted entry (K5)
14.10 Rolling circle with two rolls outside, inverted entry (K5)
14.11 Rolling circle with three rolls outside, inverted entry (K5)
14.12 Rolling circle with four rolls outside, inverted entry (K5)
14.13 Rolling circle with one roll inside, inverted entry (K5)
14.14 Rolling circle with two rolls inside, inverted entry (K5)
14.15 Rolling circle with three rolls inside, inverted entry (K5)
14.16 Rolling circle with four rolls inside, inverted entry (K5)

Group 15
15.1 Torque roll (K4)
15.2 Torque roll with two points (K4)
15.3 Torque roll, entry and exit inverted (K4)
15.4 Torque roll with two points, entry and exit inverted (K4)

Turnaround manoeuvres

Group A
A1 Turn 180° (K)2
A2 Inverted flight turn 180°(K2)

Groupe B
B1 1/2 inside loop (K2)
B2 1/2 inside loop, inverted entry (K2)
B3 1/2 outside loop (K2)
B4 1/2 outside loop, inverted entry (K2)
B5 Immelmann turn (K2)
B6 Immelmann turn, inverted entry (K2)
B7 Split S (K2)
B8 Split S, inverted entry (K2)

Group C
C1 Top hat 1/4 roll (K4)
C2 Top hat 1/4 roll, inverted exit (K4)
C3 Top hat 1/4 roll, inverted entry and exit (K4)
C4 Top hat 1/4 roll, inverted entry, normal exit (K4)

Group D
D1 Humpty bump ++- (K3)
D2 Humpty bump --+ (K3)
D3 Humpty bump +-- (K3)
D4 Humpty bump -++ (K3)
D5 Humpty bump +++ half roll down (K4)
D6 Humpty bump +-+ half roll up (K4)
D7 Humpty bump +-+ half roll up and down (K5)

Group E
E1 45 degree up, half loop, 45 degree down with half roll (K4)
E2 45 degree up with half roll, half loop, 45 degree down (K4)
E3 45 degree up, half loop, 45 degree down with 2 points half roll (K4)

Group F
F1 Stall turn (K2)
F2 Stall turn with half roll (up) (K3)
F3 Stall turn with half roll (up), inverted entry (K3)
F4 Half roll, Stall turn (K3)

F5 Half roll, Stall turn, inverted entry (K3)
F6 Half roll, Stall turn, half roll (K3)
F7 Half roll, Stall turn, half roll, inverted entry (K3)

Group G
G1 Half cuban eight (K3)
G2 Half cuban eight, inverted entry (K3)
G3 Inverted Half cuban eight (K3)
G4 Inverted Half cuban eight, inverted entry (K3)
G5 Inverted Half cuban eight with 2 point half roll (K3)

Group H
H1 Half rolling circle with one roll (K4)
H2 Half rolling circle with one roll, inverted entry (K4)
H3 Half rolling circle with half roll (K4)
H4 Half rolling circle with half roll, inverted entry (K4)

Group I
I1 Half rectangle in Knife edge flight (K3)
I2 Half rectangle in Knife edge flight, inverted exit (K3)
I3 Half rectangle in Knife edge flight inverted entry and exit (K3)
I4 Half rectangle in Knife edge flight inverted entry , normal exit (K3)

Group J
J1 180° knife edge turn (K2)
J2 180° knife edge turn, inverted exit (K2)
J3 180° knife edge turn, inverted entry and exit (K2)
J4 180° knife edge turn, inverted entry and normal exit (K2)

Manoeuvre diagrams appear oveleaf.

CLASS F3P - INDOOR AEROBATIC POWER MODEL AIRCRAFT
SCHEDULE F3P