

Description of Manoeuvres for Indoor Aerobatic Power Model Aircraft

All manoeuvres are judged on flight path and will start and finish in straight and level upright or inverted flight. Centre manoeuvres will start and finish on the same heading, while turn-around manoeuvres will finish on a heading 180° to entry. When appropriate, entry and exit of centre manoeuvres will be at same altitude. Positioning adjustments in altitude are allowed in turn-around manoeuvres.

All manoeuvres which have more than one loop or part of loops will have the loops or part loops of the same diameter and in case of consecutive loops, in the same place. Similarly all manoeuvres which have more than one continuous roll will have the same roll rate. All manoeuvres which have more than one point roll will have the same roll rate, and points will be of equal duration. All consecutive rolls on a horizontal line will be at the same altitude and heading.

All manoeuvres with rolls, part of rolls or snap rolls, or combination of same, will have lines of equal length before and after the rolls or combinations except in Immelman or Split S families. Snap rolls that are not snap rolls (i.e. barrel rolls) will be scored zero. Spins that are spiral dives or have a snap roll entry will be scored zero.

Any violation of above will be reason for downgrading, in addition to the violations referred to in the judging notes listed in the manoeuvre descriptions and downgrades noted in the Judges Guide (F3A Annex 5B) and the official judging training video. Note that these lists are not all-inclusive.

Schedule F3AI-A

A01. 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 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:

- Until the end of the straight line after the first 90° turn, the model must be climbing all the way.
- Only two scores, a Zero (0) or a Ten (10), may be awarded for the take-off sequence.

A02. Reverse Cuban Eight (Centre manoeuvre)

Pull to a 45° upline perform half a roll, pull through a 3/4 inside loop into another 45° upline and perform a second half roll, pull through a 5/8 inside loop into level exit.

A03. 1/4 Roll, Half Knife-Edge Circle, 1/4 Roll (Turn-around manoeuvre)

Perform a quarter roll, fly a half horizontal circle in knife-edge flight and perform a second quarter roll. Exit level.

Judging Notes:

- The circle has a constant radius.
- The altitude must not vary during the entire manoeuvre.
- There must be no lines between the quarter rolls and the half circle.

A04. Loop with 1/2 Roll (Centre manoeuvre)

Pull and perform a loop with half a roll integrated on its top. Exit inverted.

A05. Stall-Turn, 1/2 Roll (Turn-around manoeuvre)

Push to a vertical upline, followed by a stall-turn. After the downline push into level inverted flight and perform half a roll. Exit level.

Judging Notes:

- Radius of stall-turn more than 1-1/2 wingspan: Score Zero (0)

A06. Triangular Loop with 1/2 Roll (Centre manoeuvre)

Pull to 45° upline, pull through a 3/8 inside loop into straight, level line, perform half a roll in its middle, push through a 3/8 outside loop into 45° downline and push to horizontal inverted flight. Exit inverted.

A07. Half Circle Inverted (Turn-around manoeuvre)

Perform half a circle in inverted flight. Exit inverted.

Judging Notes:

- The circle has a constant radius.
- The altitude must not vary during the entire manoeuvre.

A08. Rolling Circle with 1/1 Roll Integrated (Centre manoeuvre)

Perform a 360° circle with an integrated full roll. Exit inverted.

Judging Notes:

- The circle has constant radius.
- The altitude must not vary during the entire manoeuvre
- The roll rate must be constant.

A09. Top Hat with two 1/4 Rolls (Turn-around manoeuvre)

Pull to a vertical upline, perform a quarter roll and pull to horizontal inverted flight. Pull to a vertical downline, perform another quarter roll and pull to level. Exit level.

A10. 2/4-Point-Roll (Centre manoeuvre)

Perform two points of a four-point roll on a straight, level line. Exit inverted.

A.11 Push-Push-Pull Humpty-Bump (Turn-around manoeuvre)

Push to a vertical upline, push through a half outside loop into a vertical downline and pull to level. Exit level.

A12. Torque-Roll (Centre manoeuvre)

From level flight reduce flying speed until the models' longitudinal axis is in a vertically hovering attitude. Perform one roll in this position and then accelerate the model back into level flight. Exit level.

Judges Notes:

- The altitude and distance must not vary during the entire manoeuvre.

A13. 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, touch down the model gently on a straight line in parallel to the security line and let the model roll straight until stop.

Judges Notes:

- From crossing the centre line on the model must not climb anymore.
- Only two scores, a Zero (0) or a Ten (10), may be awarded for the take-off sequence.

Schedule F3AI-AM

AM01. Take-off Sequence

Place the model aircraft on the floor and take-off in parallel to the security line

AM02. 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 long as security is not violated and the conformity to the rules is met. It is allowed to perform different programs in conjunction with different music in each round. The performance is judged for the entire flight from its start to end and in accordance to the following three criteria:

Flying Style

- Precision of manoeuvres
- Utilisation of flight performance scope
- Variety of manoeuvres

Artistic Quality

- Synchronisation to music
- Continuity of Schedule
- Sequence of quiet and dynamic phases

Overall Impression

- Utilisation of manoeuvring area
- Positioning

Judges Notes:

Other than in class F3A although accompanied by its basic rules, AeroMusicals (AM) are mostly focusing on spectator- and media efficacy. This is why the performances should be extraordinary spectacular und 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 have to follow the judging guide and judging notes. Bias in favour or against particular persons, models, music pieces etc. must not influence the judging.

As for the criteria:

- **Flying Style**
The flying skills of the pilot count herein. Flight sections and manoeuvres should be precise in the sense of F3A. 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 utilize 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, Lomcevac, circles, etc. Frequent repeating of the same manoeuvre has to be downgraded respectively. Manoeuvres should be positioned in parallel or in rectangular to the security line. Poorly governed, say incidentally flown manoeuvres, will be downgraded. The same applies to phases less extraordinary attractively.

- **Artistic Quality**
The music (choreography) has to upgrade the presentation and to create the matching atmosphere. The flight performance should be synchronized with the music and must not be a "3D-sketch" with background music. On the other hand the music must not distract from the presentation. The selected music piece(s) should contain fast-slow, soft-loud, dramatic-happy sections. The manoeuvres should follow the music and end with it. Music pieces with little contrast, variability or tempi result in downgrades.
- **Overall impression**
A well made combination of flying style and music -entertainment- is desired. The performance should be orientated towards judges and spectators, although risky flying towards judges and spectators results in downgrades.

AM03. Landing Sequence

Touch down the model gently on a straight line in parallel to the security line and let the model roll straight until stop.