

Model Flying NZ Flying Rules
Section 10a: Radio Control Aerobatics Sportsman Schedule

1. SPORTSMAN

1.1 General (Note that the FAI guidelines also apply)

Sportsman is the entry-level class to precision R/C aerobatics. It is an extension of the Model Flying New Zealand wings program and gives R/C fliers an opportunity to improve their R/C flight skills and aerobatics competence. The schedule is designed using manoeuvres that demonstrate three fundamentals of aerobatic flight - lines, loops and rolls. The manoeuvres shall be executed as follows:

- 1.1.1** All manoeuvres are centred directly in front of the judge's line.
- 1.1.2** All manoeuvres begin and end with a clearly visible section of straight and level flight.
- 1.1.3** All manoeuvres must be clearly announced by the pilot or caller.
- 1.1.4** All manoeuvres must have a clear announcement of commencement and completion. Judges will only score announced manoeuvres between calls of 'Commence' and 'Complete'.
- 1.1.5** The schedule must be flown in sequence as described in section 1.3 (schedule of manoeuvres).

1.2 Competition Format

- 1.2.1** To enter, competitors must register. This enables a draw to be made to determine flying order. A pilot's briefing will be held prior to commencement of the contest, and this is a good time to ask any questions. Time permitting, a demonstration flight of the schedule will follow for the benefit of both contestants and judges.
- 1.2.2** The contest will consist of several 'rounds'. A line director will let you know when to start your motor. The contestant shall have a helper/caller to assist with the start, place the aircraft on the flight line, call the manoeuvres during the schedule, and retrieve the aircraft after the flight.
- 1.2.3** The Sportsman sequence is flown as a series of centre manoeuvres, one on each upwind and downwind pass. Provided there is neither a call of 'Commence', nor the aircraft flown past centre, the pilot may manoeuvre the aircraft to position it to his/her satisfaction prior to execution of the manoeuvre. However, all manoeuvres must be completed within the allocated flight time.

1.3 Sportsman Schedule

- 1. Take-Off Sequence (K=1):** The model must stand still on the ground with the motor running without assistance and shall then take off. The take-off run must be straight and the model shall lift gently from the ground and climb at a gradual angle. When sufficient altitude has been gained, the model must level off and then be turned 90 degrees away from the judges, pause, and then complete a 270 degree turn in the opposite direction, with the model finishing flying in the opposite direction to take-off. The manoeuvre finishes when the model passes through 'centre'. The take-off manoeuvre will be scored zero to ten.

Downgrades:

- *Model does not track straight and lift off smoothly.*
- *First turn not exactly 90 degrees*
- *Second turn not exactly 270 degrees.*
- *Climb angle not constant.*

- 2. Double Stall Turn (K=3):** The double stall turn commences with the model in straight and level flight. The model flies through the centre of the box then executes a quarter loop into a vertical climb and executes a stall turn through 180 degrees (in either direction), then flies vertically down, pulls through a half loop into a second vertical climb, executes a second stall turn (in either direction), then flies vertically down and then pulls through a final quarter loop to level flight.

Downgrades:

- *Model not vertical before and after stall turns.*
- *Stall turns not exactly 180 degrees.*
- *Bottom of half inside loop not level with entry.*
- *Changes in heading during half inside loop.*

- 3. Cuban Eight (K=2):** The model starts in straight and level flight, flies through centre, pulls up into an inside loop, continues until heading downwards at 45⁰, does a half roll followed by another inside loop. At 45⁰ downwards the model does another half roll and recovers at the same altitude and heading as the entry.

Downgrades:

- *Loops not round and the same size.*
- *Flight path not at 45⁰ at the start and finish of the rolls.*
- *Rolls not superimposed on centre.*
- *Changes in heading during loops and rolls.*

- 4. Three Inside Loops (K=2):** The model flies straight and level then pulls up on centre and completes three inside loops recovering at the same altitude and heading as the entry.

Downgrades:

- *Loops not same size and superimposed.*
- *Wings not level.*
- *Changes in heading during loops.*

- 5. Slow Roll (K=3):** The model starts in straight and level flight, then rolls slowly through one complete rotation, equally spaced about the centre marker. The model recovers on the same altitude and heading as the entry. The approximate time of the roll is to be three to five seconds.

Downgrades:

- *Changes in heading.*
- *Changes in altitude.*
- *Roll rate not constant.*
- *Model does not roll exactly 360 degrees.*

- 6. One Outside Loop (K=2):** The model flies straight and level then half rolls to inverted, then pushes up into a single outside loop on centre, recovering in level flight inverted. There is then another pause; the model half rolls to upright and the manoeuvre is completed.

Downgrades:

- *Loop not round.*
- *Wings not level.*
- *Changes in heading during loop or half rolls.*
- *Half rolls not exactly 180 degrees.*
- *Model pauses for more than one second before and after the loop.*

- 7. Three Horizontal Rolls (K=3):** The model starts in straight and level flight then rolls at a uniform rate through three complete rotations, finishing in level flight on the same heading and altitude as the entry. The model should pass through centre inverted during the second roll. The approximate time of the rolls to be three to five seconds.

Downgrades:

- *Changes in heading.*
- *Changes in altitude.*
- *Roll rate not constant.*

- 8. Three Turn Spin (K=2):** The model establishes a heading and with reduced power, the model is held in a slightly nose high attitude until it stalls and commences to spin. The model auto rotates through three complete turns, pauses in a nose down attitude, then recovers on the same heading but at a lower altitude than the entry.

Downgrades:

- *Entry not level.*
- *Snap roll at entry (scores zero).*
- *Does not make three turns. Less than 2½ or more than 3½ turns scores zero.*
- *Spiral dive more than ½ turn scores zero.*
- *Entry not on centre.*

Note: If initial entry to a spin is not smooth or the spin itself is jerky and uncertain, this is not a reason for downgrading, it is an indication that the spin is a true spin. A spiral dive is indicated by its smoothness and increasing airspeed. During a spin the airspeed does not increase appreciably.

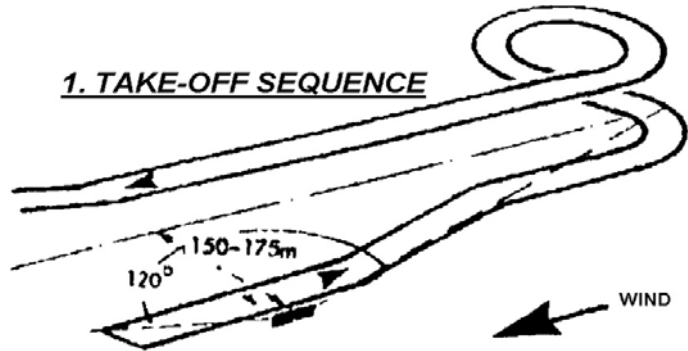
- 9. Landing (K=1):** The landing is judged from a height of approximately 5 meters. The model should be established on 'long finals', and continue a straight in approach with constant descent to the flare. The model should smoothly flare to touch the ground in the landing zone without bounce or changes in heading. The model should roll to a complete stop to end the landing manoeuvre.

Downgrades:

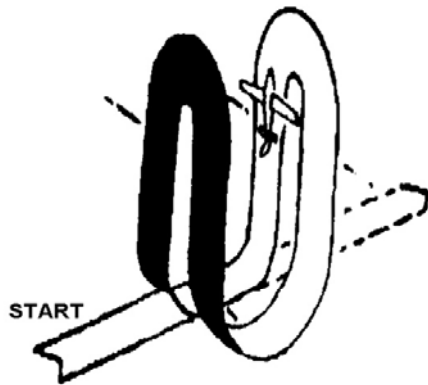
- *Descent not constant.*
- *Model does not flare and touch down smoothly.*
- *Landing not within the defined landing area.*
- *Changes in heading during the descent or roll out.*

**SPORTSMAN
PATTERN**

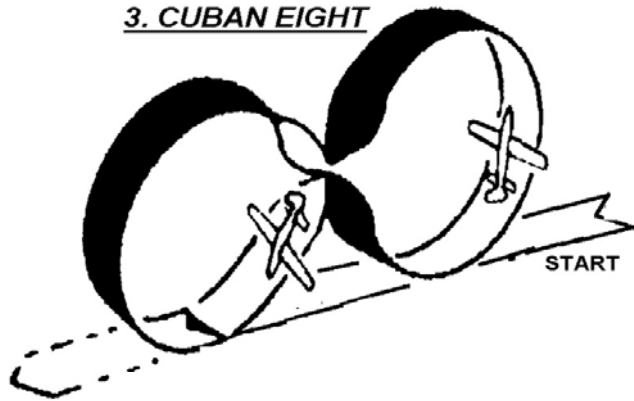
1. TAKE-OFF SEQUENCE



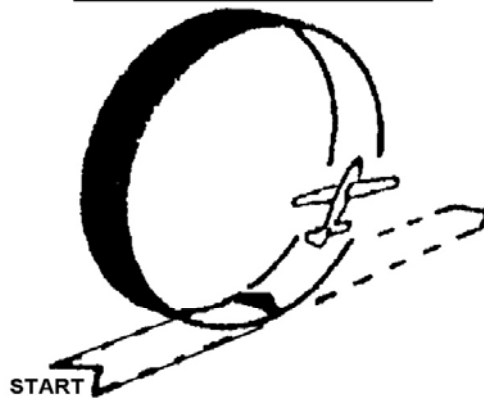
2. DOUBLE STALL TURN



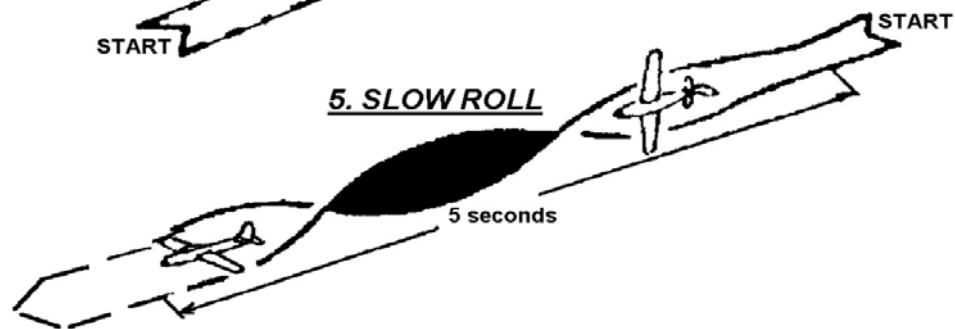
3. CUBAN EIGHT



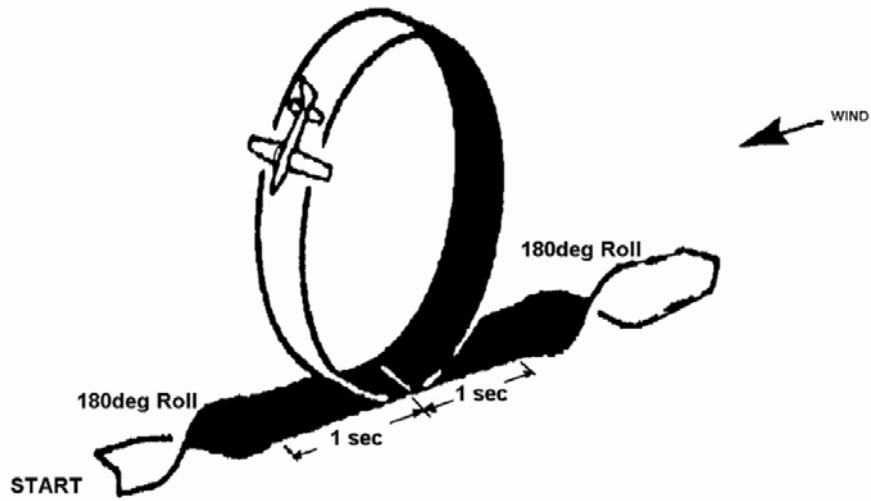
4. THREE INSIDE LOOPS



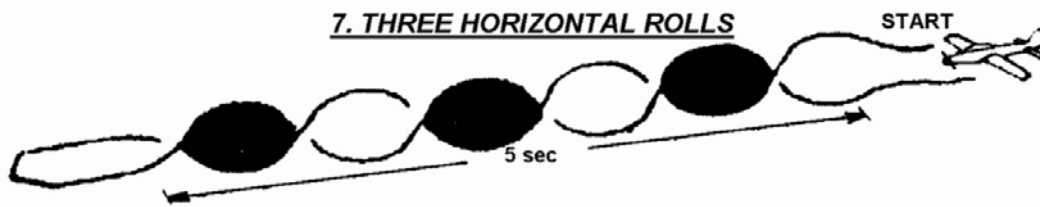
5. SLOW ROLL



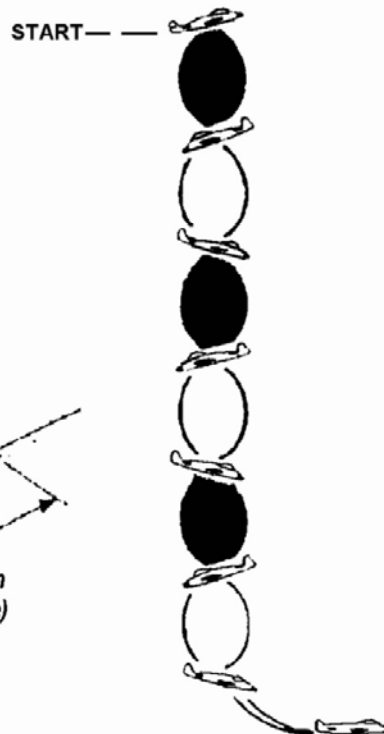
6. ONE OUTSIDE LOOP



7. THREE HORIZONTAL ROLLS



8. THREE TURN SPIN



9. LANDING

