

Open Class Manoeuvres - 2019

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Abbreviations

1. **S & L:** straight and level

Manoeuvres

1. **One Inside Loop.** The model flies S & L, performs one inside loop on the centreline and then flies S & L.

K5



2. **Immelman Turn.** The model flies S & L, performs a 1/2 loop on the centreline, immediately followed by a 1/2 roll, and then flies S & L.

K6



3. **Stall Turn.** The model flies S & L and just past the centre line, performs a 1/4 inside loop to a vertical attitude, continues to fly vertically



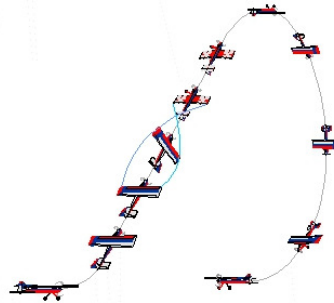
upwards for a short distance, yaws (into wind) through 180°, flies vertically downwards for a short distance, performs a ¼ inside loop, then flies S & L at the same altitude but on the opposite heading to the start of the manoeuvre.

Note: A score of zero should be given if the model falls more forward or backward than sideways.

K6

4. **Half Reverse Cuban Eight.** The model flies S & L with the manoeuvre starting before the centreline, performs 1/8th of a loop to a 45° upline and a ½ roll to inverted on centreline, briefly continuing on the 45° upline into 5/8th of a loop then flies S & L at the same altitude but opposite heading to the start.

K7



5. **Straight Inverted Flight.** The model flies S & L, performs a ½ roll, flies S & L inverted for about five seconds, performs a second ½ roll, and then flies S & L.

K7



6. **Two Rolls.** The model flies S & L, performs two rolls around its longitudinal axis and then flies S & L.

K8



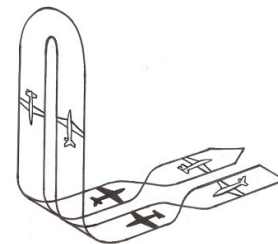
7. **Double Immelmann.** The model flies S & L and performs a ½ loop, immediately performs a ½ roll, flies S & L, performs a ½ outside loop, immediately performs a ½ roll then flies S & L at the same altitude and heading as the start of the manoeuvre.

K9



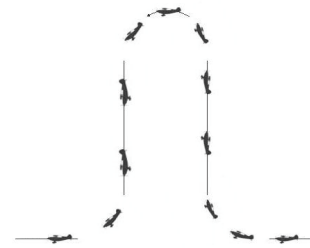
8. **Outside Stall Turn.** The model flies S & L then performs a ½ roll to inverted on the centreline. The model then pushes to vertical and performs a stall turn into wind. Push to inverted level attitude on the base line then performs a ½ roll back to wings level and upright on the centreline. Model exits flying S & L.

K9



- 9. Humpty Bump.** The model flies S & L then pulls to a vertical upward line. At the top, a $\frac{1}{2}$ outside loop is flown followed by a vertical downline. The model is pulled to horizontal on the base line. All radii and half outside loop must be equal.

K10

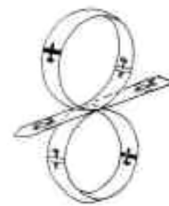


- 10. Reverse Cuban Eight.** The model flies S & L with the manoeuvre starting before the centreline, performs $\frac{1}{8}$ th of a loop to a 45° upline and a $\frac{1}{2}$ roll to inverted on centreline, briefly continuing on the 45° upline into $\frac{3}{4}$ of a loop to a 45° upline and $\frac{1}{2}$ roll to inverted on the centreline, briefly continuing on the 45° upline into $\frac{5}{8}$ th of a loop then flies S & L at the same altitude and heading as the start.

K10

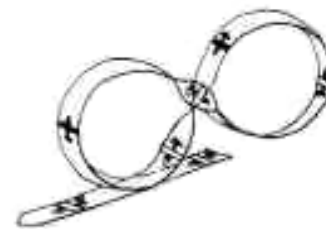
- 11. Vertical Eight.** The model flies S & L, performs one inside loop on the centreline, immediately performs one outside loop, then flies S & L at the same altitude and heading as the start of the manoeuvre.

K10



- 12. Cuban Eight.** The model flies S & L past the centre line, performs $\frac{5}{8}$ th of a loop to an inverted 45° downline, performs a $\frac{1}{2}$ roll on the centreline, briefly continuing on the 45° downline, performs $\frac{3}{4}$ of a loop to an inverted 45° downline, performs a $\frac{1}{2}$ roll on the centreline, briefly continuing on the 45° downline, performs $\frac{1}{8}$ th of a loop then flies S & L at the same altitude and heading as the start.

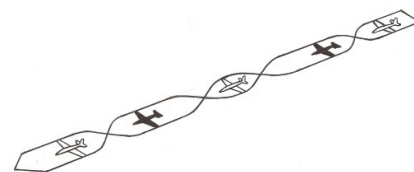
K11



- 13. Three Inside Loops.** The model flies S & L, performs three consecutive inside loops on the centreline and then flies S & L.

K11

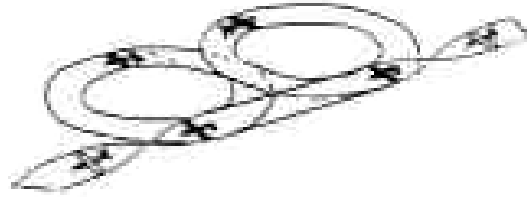
- 14. Alternating Roll.** The model flies S & L then performs a $\frac{1}{2}$ roll to inverted, hesitates then performs a full 360° roll in the opposite direction back to inverted, hesitates and then performs a $\frac{1}{2}$ roll in the



original direction back to wings level and upright and exits flying S & L. Half way through the 360° roll must be on the centre line.

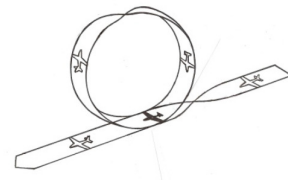
K12

- 15. Inverted Eight.** The model flies S & L across the wind, performs ½ roll to an inverted attitude, turns (into wind) through 90°, immediately turns in the opposite direction through 360°, immediately turns in the first direction through 270°, briefly flies straight inverted, performs ½ roll, then flies S & L at the same altitude and heading as the start of the manoeuvre.



K12

- 16. Rolling Loop.** The model flies S & L then performs a ½ roll to inverted on the centreline and immediately pushes ½ an outside loop. At the top the model performs a ½ roll to inverted and pulls the second ½ of the loop to exit wings level and upright. Model finishes by flying S & L.



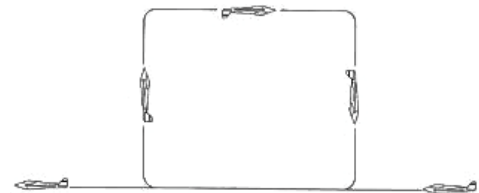
K12

- 17. Slow Roll.** The model flies S & L, performs one slow roll then flies S & L. The roll should be at a uniform rate and should take approximately five seconds. **Note:** A significantly faster roll should be downgraded proportionately.



K12

- 18. Square Loop.** This is a variation of the basic loop. The two vertical lines and the horizontal line on top should be of the same length. The exit line at the bottom has to be at least as long as the other three sides. The quarter loops that connect the four sides should have the same radius at each corner.



K12

- 19. Barrel Roll.** The model flies S & L then rotates at a constant roll rate around both the longitudinal and lateral axes, (i.e. loop and roll at the same time) causing it to follow a helical path. The model should enter and exit



the manoeuvre on the same heading, but should be flying at 90° to this heading when the model crosses the centre line at the highest point of the manoeuvre. The model exits the manoeuvre by flying S & L at the same altitude and heading as the entry.

K13

- 20. Four Point Roll.** The model flies S & L, performs a ¼ roll to a knife-edge attitude, hesitates briefly before repeating the ¼ rolls and hesitations back to a wings-level attitude, then flies S & L.



K13

- 21. Ching - Ching - Chong – Chong.** The model flies S & L then performs two points of a four point roll with hesitations at 90° and 180°, then rolls in the opposite direction to perform another two points of a four point roll with a hesitation at 90° to bring the model back to the upright position then flies S & L.

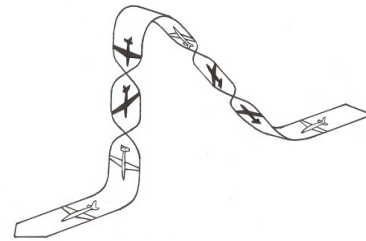
K14

- 22. Two Opposite Rolls.** The model flies S & L then performs one complete roll followed by a second complete roll in the opposite direction without hesitation between the two rolls. The centre of the manoeuvre is between the two rolls with the model in the upright position.

K14

- 23. Sharks Tooth.** The model flies S & L then pulls to a 45° upline. Half way to the top the model performs two points of a four-point roll. At the top of the 45° line, pull a tight radius (as on a square loop) to a vertical downline which must be on the centreline. Half way down the model must perform two points of a four-point roll and then is pulled to wings level and upright on the base line. Model finishes by flying S & L.

K15



- 24. Wing Waggle.** The model flies S & L, performs 1/8th roll to a 45° bank angle, then performs a ¼ roll in the opposite direction to a 45° bank angle, then perform a ¼ roll in the opposite direction to a 45° bank angle, then perform 1/8th roll in the opposite direction back to S & L.

K15