

## Open Class Manoeuvres - 2020

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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. **Split S.** The model flies S & L, performs one half roll ending on the centreline, immediately followed by one half loop, and then flies S & L.

**K5**



- 3. Stall Turn.** The model flies S & L and just past the centre line, performs a  $\frac{1}{4}$  inside loop to a vertical attitude, continues to fly vertically upwards for a short distance, yaws (into wind) through  $180^\circ$ , flies vertically downwards for a short distance, performs a  $\frac{1}{4}$  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. Immelman.** The model flies S & L, performs one half loop on the centreline, immediately followed by one half roll, and then flies S & L.



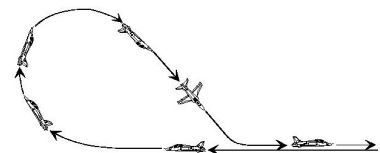
**K6**

- 5. Straight Inverted Flight.** The model flies S & L, performs a  $\frac{1}{2}$  roll, flies S & L inverted for about five seconds, performs a second  $\frac{1}{2}$  roll, and then flies S & L.



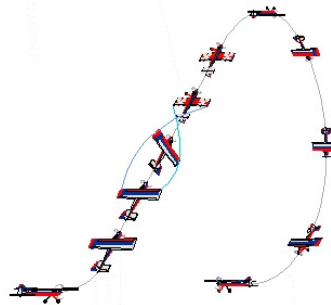
**K7**

- 6. Half Cuban Eight.** The model flies S & L, performs five-eighths of a loop (to an inverted  $45^\circ$  diving attitude), performs one half roll (the centre of the half roll being at the height of the centre of the loop), performs one eighth of a loop then flies S & L at the same altitude but opposite heading as the start.



**K7**

- 7. Half 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  $45^\circ$  up line and a  $\frac{1}{2}$  roll to inverted on centreline, briefly continuing on the  $45^\circ$  up line into  $\frac{5}{8}$ th of a loop then flies S & L at the same altitude but opposite heading to the start.



**K7**

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

**K8**



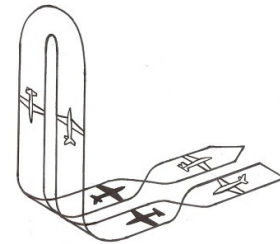
- 9. Double Immelmann** The model flies S & L and performs a  $\frac{1}{2}$  loop, immediately performs a  $\frac{1}{2}$  roll, flies S & L, performs a  $\frac{1}{2}$  outside loop, immediately performs a  $\frac{1}{2}$  roll then flies S & L at the same altitude and heading as the start of the manoeuvre.

**K9**



- 10. Outside Stall Turn** The model flies S & L, then performs a  $\frac{1}{2}$  roll to inverted on the centreline. The model then pushes to vertical and performs a stall turn. Push to inverted level attitude on the base line then performs a  $\frac{1}{2}$  roll back to wings level and upright on the centreline. Model exits flying S & L.

**K9**



- 11. Humpty Bump** 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**

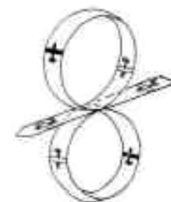


- 12. Reverse Cuban Eight** The model flies S & L, with the manoeuvre starting before the centreline, performs  $\frac{1}{8}$ <sup>th</sup> of a loop up the  $45^\circ$  line and  $\frac{1}{2}$  roll to inverted on centreline into  $\frac{3}{4}$  of a loop, up the  $45^\circ$  line and  $\frac{1}{2}$  roll to inverted on the centreline, performs  $\frac{5}{8}$ <sup>th</sup> of a loop then flies S & L at the same altitude and heading as the start.

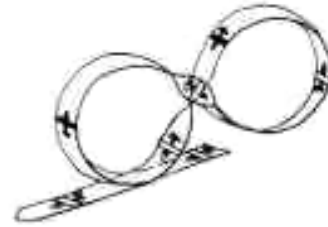
**K10**

- 13. 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**



- 14. Cuban Eight.** The model flies S & L, performs  $\frac{5}{8}$ <sup>th</sup> of a loop to an inverted  $45^\circ$  diving attitude, performs a  $\frac{1}{2}$  roll (the centre of the  $\frac{1}{2}$  roll being at the height of the centre of the loop), performs  $\frac{3}{4}$  of a loop to an inverted  $45^\circ$  diving attitude, with the centre of the loop at the same altitude as the first loop, performs a  $\frac{1}{2}$  roll (the centre of the  $\frac{1}{2}$  roll being at the height of the centre of the loop), performs  $\frac{1}{8}$ <sup>th</sup> of a loop then flies S & L at the same altitude and heading as the start.



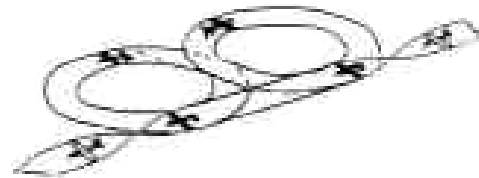
**K11**

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



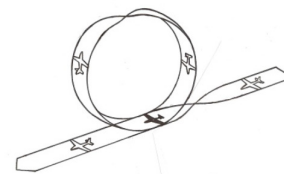
**K12**

- 16. Inverted Eight** The model flies S & L across the wind, performs  $\frac{1}{2}$  roll to an inverted attitude, turns (into wind) through  $90^\circ$ , immediately turns in the opposite direction through  $360^\circ$ , immediately turns in the first direction through  $270^\circ$ , performs  $\frac{1}{2}$  roll, then flies S & L at the same altitude and heading as the start of the manoeuvre.



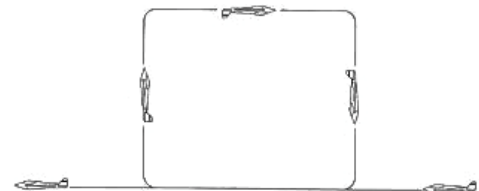
**K12**

- 17. Rolling Loop** The model flies S & L, then performs a  $\frac{1}{2}$  roll to inverted on the centreline and immediately pushes  $\frac{1}{2}$  an outside loop. At the top the model performs a  $\frac{1}{2}$  roll to inverted and pulls the second  $\frac{1}{2}$  of the loop to exit wings level and upright. Model finishes by flying S & L.



**K12**

- 18. Square Loop** This is a variation of the basic loop. The two vertical lines and the horizontal line on top have to 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 have to have the same radius at each corner.



**K12**

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

**K12**



**20. 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**



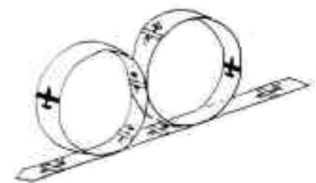
**21. Four Point Roll** The model flies S & L, performs a ¼ roll to a knife-edge attitude, hesitates briefly before repeating the ¼ rolls and hesitations back to a wings-level attitude, then flies S & L.

**K13**



**22. Horizontal Eight.** The model flies S & L, performs three-quarters of an inside loop (to a vertically downward attitude), performs one outside loop (to a vertically downward attitude), performs one quarter of an inside loop then flies S & L at the same altitude and heading as the start of the manoeuvre.

**K13**



**23. 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.

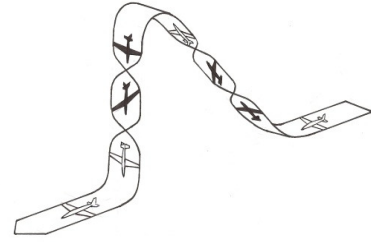
**K14**

**24. Two Opposite Rolls** 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. Centre of the manoeuvre is between the two rolls with the model in the upright position.

**K14**

**25. Sharks Tooth** The model flies S & L, then pulls to a  $45^\circ$  up line. Half way to the top the model performs two points of a four-point roll. At the top of the  $45^\circ$  line, pull a tight radius (as on a square loop) to a vertical down line 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**



**26. Wing Waggle.** The model flies S & L, performs  $1/8^{\text{th}}$  roll to a  $45^\circ$  bank angle, then performs a  $1/4$  roll in the opposite direction to a  $45^\circ$  bank angle, then perform a  $1/4$  roll in the opposite direction to a  $45^\circ$  bank angle, then perform  $1/8^{\text{th}}$  roll in the opposite direction back to S & L.

**K15**