



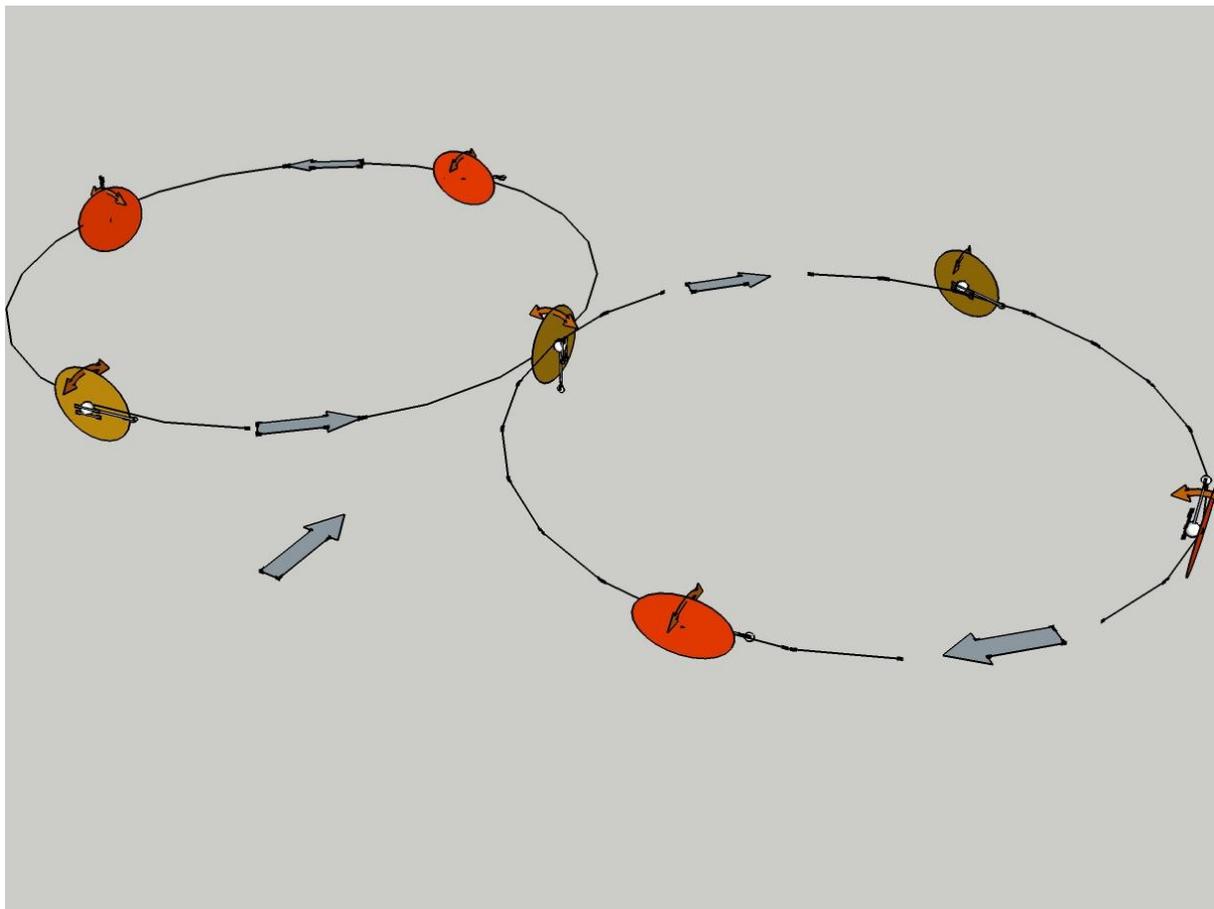
3D Masters – The World 3D Competition is pleased to announce new Set Manoeuvres for 2013 – Timewarp, Crown, Typhoon and Reversing Sidewinder.

These Manoeuvres will be built into the 2013 Competition Entry Form, available soon.

Timewarp: k=3

The manoeuvre begins from a side-on hover at the lowest height with which the pilot is comfortable. Perform a flat horizontal right-hand tic-toc clock circuit with a 12 step right-hand rotating tic-toc to complete one 360 degrees tic-toc pirouette. The second half- eight is a flat horizontal left-hand tic-toc clock circuit with a 12 step left-hand rotating tic-toc to complete a 360 degrees tic-toc pirouette. This manoeuvre may be visualised as performing two travelling Big-Bens while the model prescribes a figure 8 with the direction of the rudder input being reversed half-way through the manoeuvre after the first circuit. The mainshaft axis of the model should always point to the centre of the circuit, with the first circuit flown with the skids-in, the 2nd skids-out from centre.

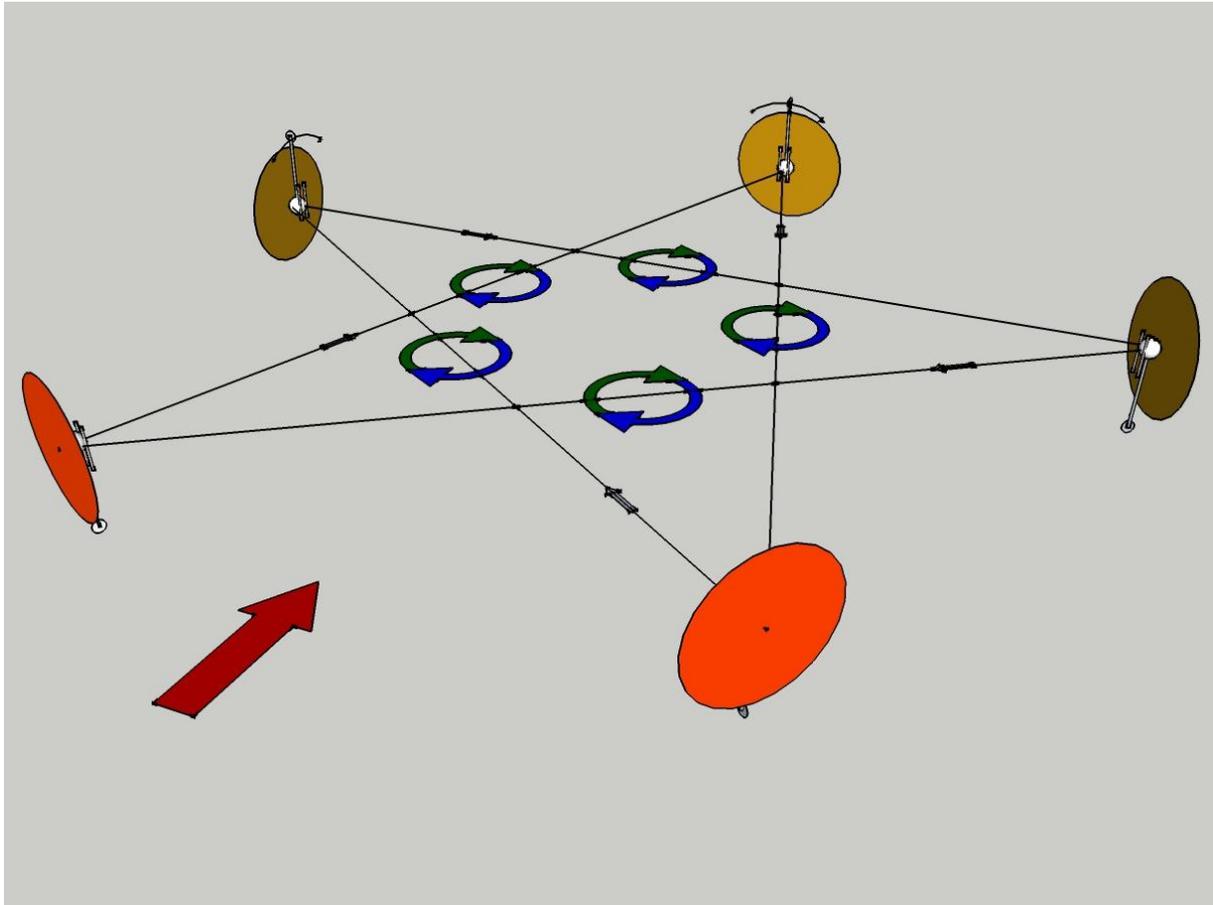
The manoeuvre should be constant height, speed and pirouette rate with the two circuits being equal in size, ending in a stationary hover at the starting point facing the same direction as the entry hover.



Crown: k=3

This should be flown as an aggressive manoeuvre with hard stops and fast roll transition in the centre of the star.

Create the shape of a 5 point star (a pentagram) as seen from above. Start from stationary hover. Into tail stand push away, 1/2 roll in centre of star, to tail stand stop at next point in star, 1/2 piro to nose down, push and roll to next point in star. Repeat to complete 2 star shapes. Finish is a stationary hover at the start position. This is a constant height aggressive manoeuvre, between 5m to 10m in diameter and flown as low to the ground as the pilot is comfortable.



Typhoon: k=2.5

Start from a side-on stationary hover. Tail stand into a single tail down rolling funnel with a minimum of 8 rolls, tail stand stop at the start position, 1/2 piro to nose-down, single nose down rolling funnel with a minimum of 8 rolls, tail stand stop at the start position, back to stationary hover. The shape of the manoeuvre should be a circle with no deviation from this during the rolls.

Reversing Sidewinder: k=2.5

A remote horizontal circle flown at constant height with the helicopter continuously performing pirouetting metronomes, reversing pirouette direction after a whole metronome. The axis of the pirouetting metronomes must always point towards the centre of the horizontal circle. The entry to the manoeuvre may be from a travelling or fixed pirouetting metronome.

Good Luck – the 3D Masters Team