# The RCHA Achievement Scheme

# The Next level

Before starting any days flying you must carry out pre-flight checks as per the RCHA safety guidelines.

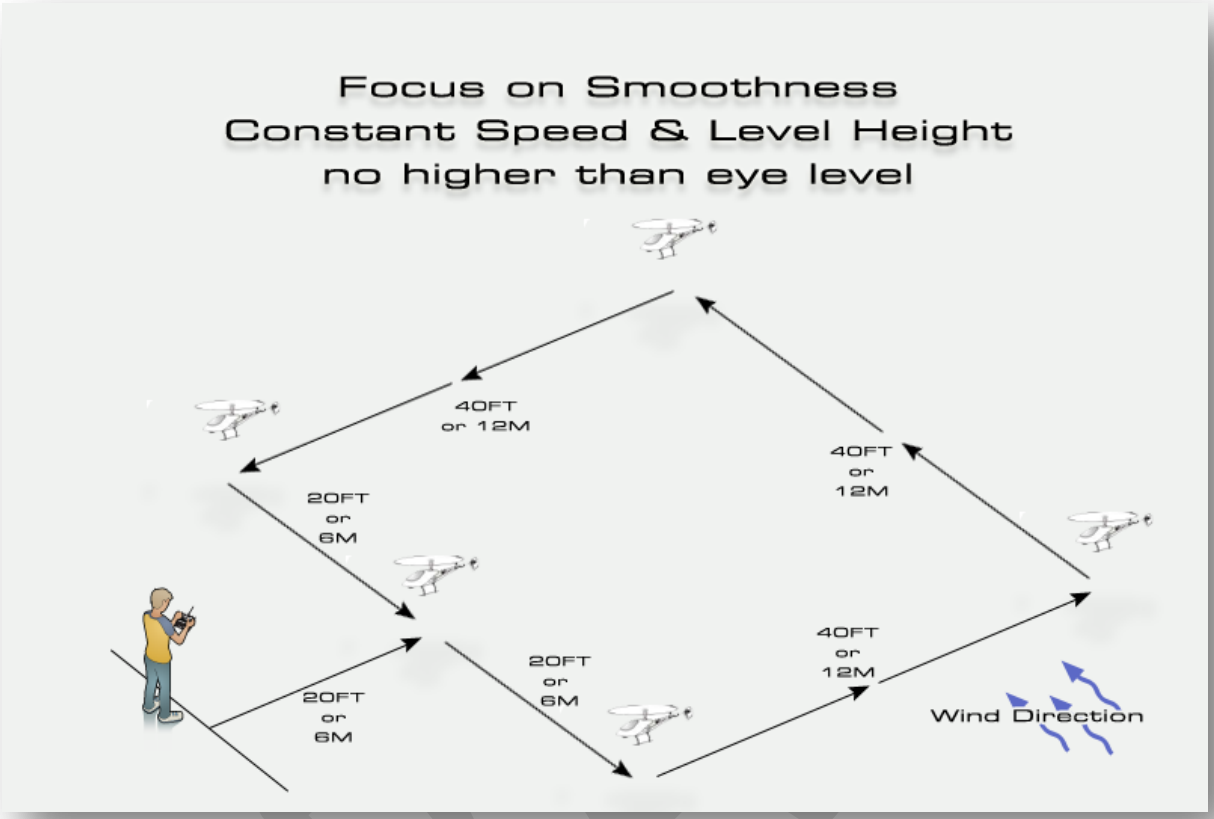
This level is made up of 10 elements. 8 as a minimum have to be completed with the first 4 being compulsory. The remaining 6 can be swapped to suit your style, but 4 out of the remaining 6 must be done and agreed with your examiner ahead of the test.

The objective of this level is to really test your control across a variety of orientations and with more emphasis on acrobatic flight, but also to have manoeuvres that work for both the scale aspects of model flying as well as those with an focus on sports/3d flight.

They are deliberately meant to be challenging for the more advanced flyer.

There is one higher level of achievement purely for 'Public' events of any nature being built.

## A. Reversed Flying Box




The helicopter can be lifted into the hover either tail in or nose it depending on what suits the pilot.

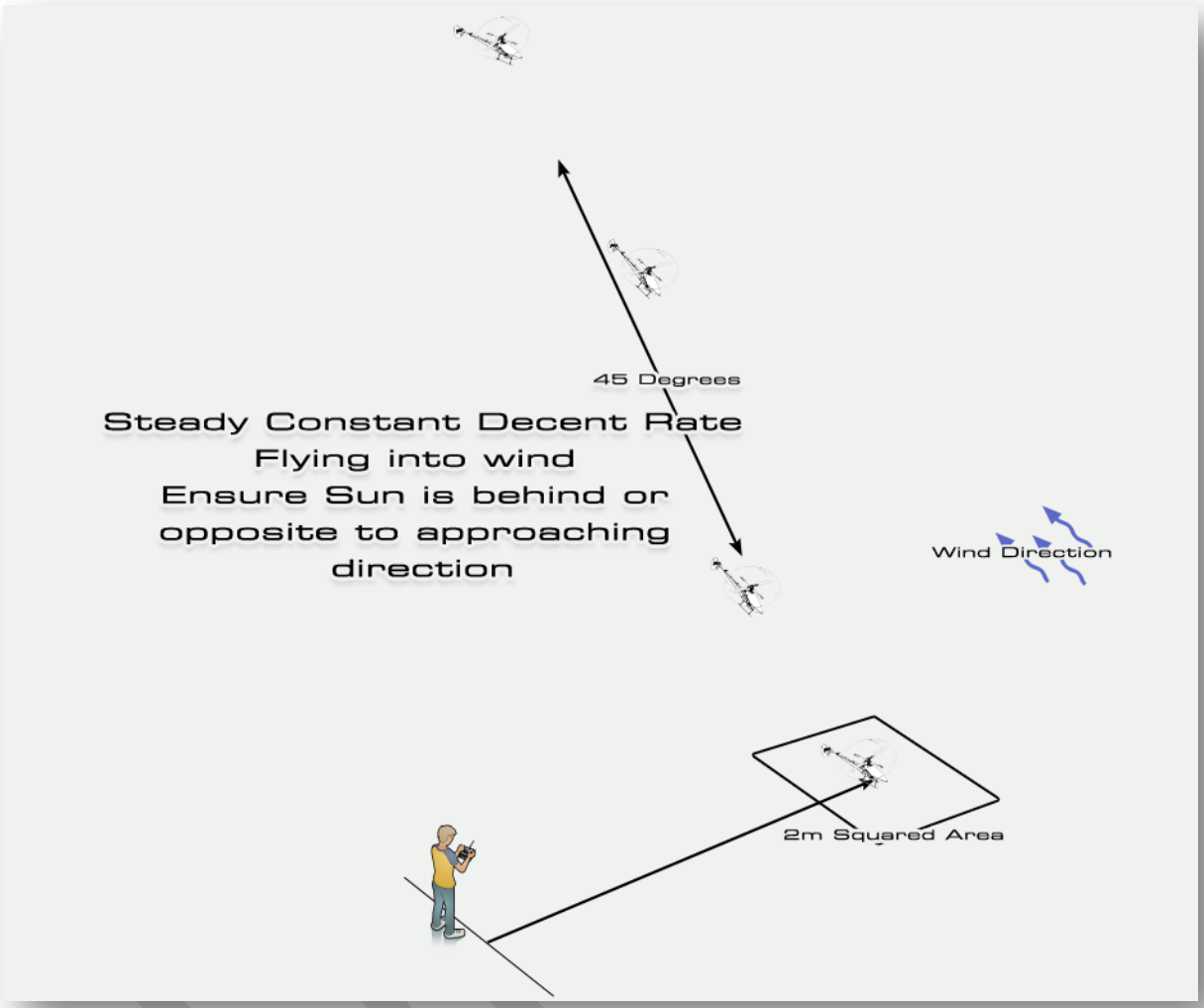
Once in your hover in front of you, the helicopter must be nose in. Using the cyclic gently tilt the helicopter either left or right and move the helicopter for aprox 20ft (6M) – keeping the speed slow and constant and the height again no higher than eye level, but no less than 3f.

The nose should remain at all times pointing straight facing towards the flight line locked into position.

**"The objective of the Reverse Flying box is to put your co-ordination level to test, using the cyclic to control the speed combined with the pitch and throttle controls ensuring a reasonably level flight. Control is the key, with smooth constant speed, no large upwards or downwards movements and controlled stops and hovers throughout the exercise."**

**Pointers: - This must be done in one set of moves with NO landings until completed the task.**

## B. The Autorotation

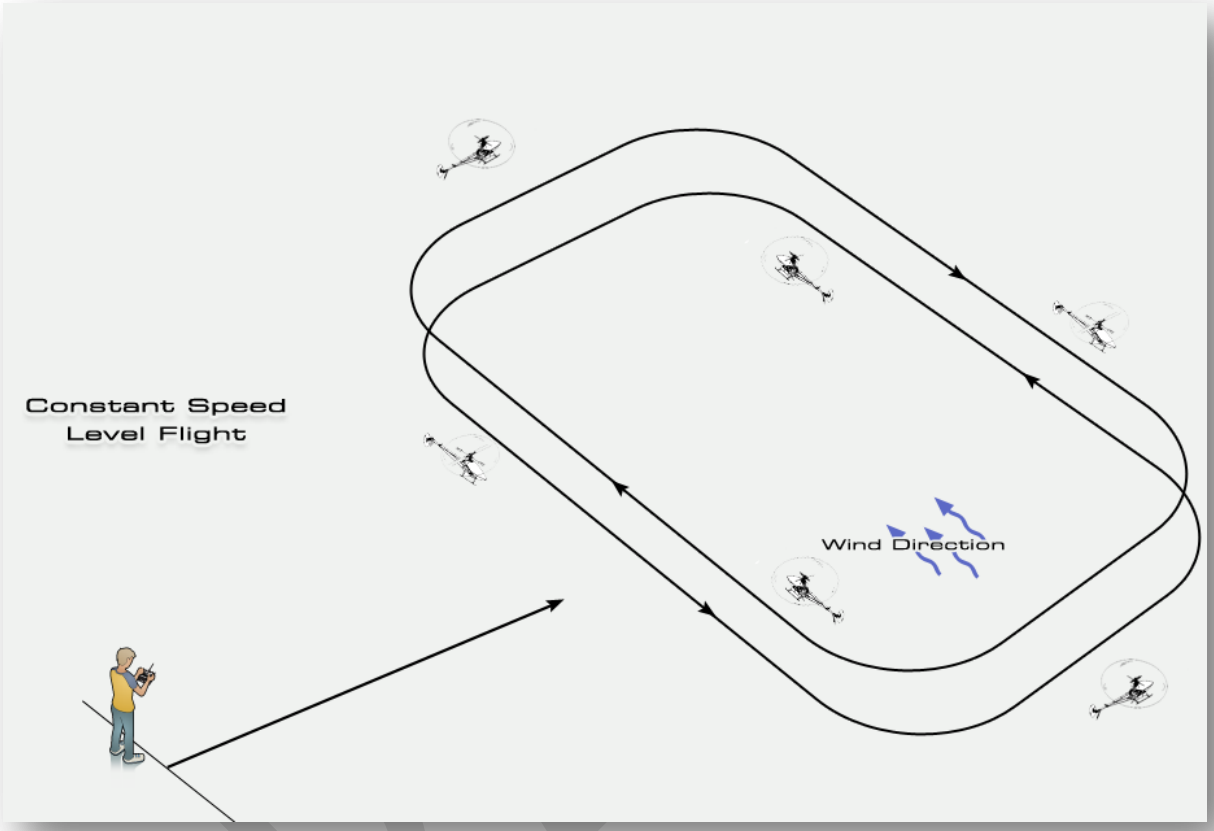



Spool up and fly to a suitable height. Whilst in forward motion, select throttle hold and control a constant decent rate with a 45 degrees angle of approach, ending with a flare and land within a 2m square box in front of the pilot.

***"The objective of the full auto is to demonstrate to the examiner your ability to safely control and land the helicopter during an autorotation aiming to land within a fixed area."***

***Pointers: - Ensure this is done into the wind and not facing directly into the sun.***

## C. The Circuits



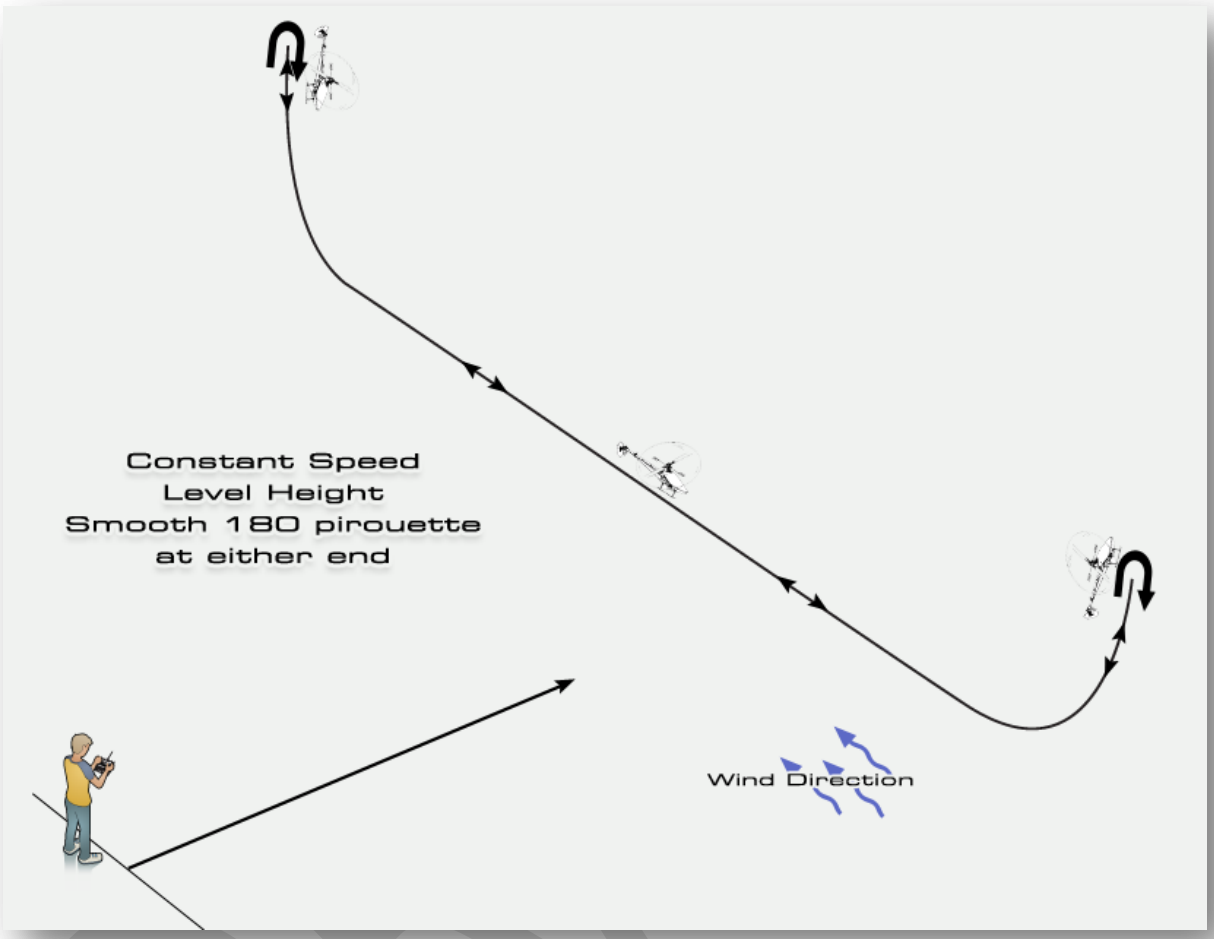

Spool up and hover in front of you. Turn left or right and start a circuit in one direction going around twice, then on the end of the second circuit gradually come to a halt and hover. Rotate 180 degree's and perform another two circuits in the opposite direction.

Again as you come to the end of your second circuit slow to a hover in front of you and land. Flying level and keeping a constant speed throughout the circuits.

***"The objective of the circuits is to control the pitch, forward speed and create a smooth flight within a large virtual box."***

***Pointers: - Ensure this is performed ideally into the wind and not facing directly into the sun.***

## D. 180 Degrees Stall Turns

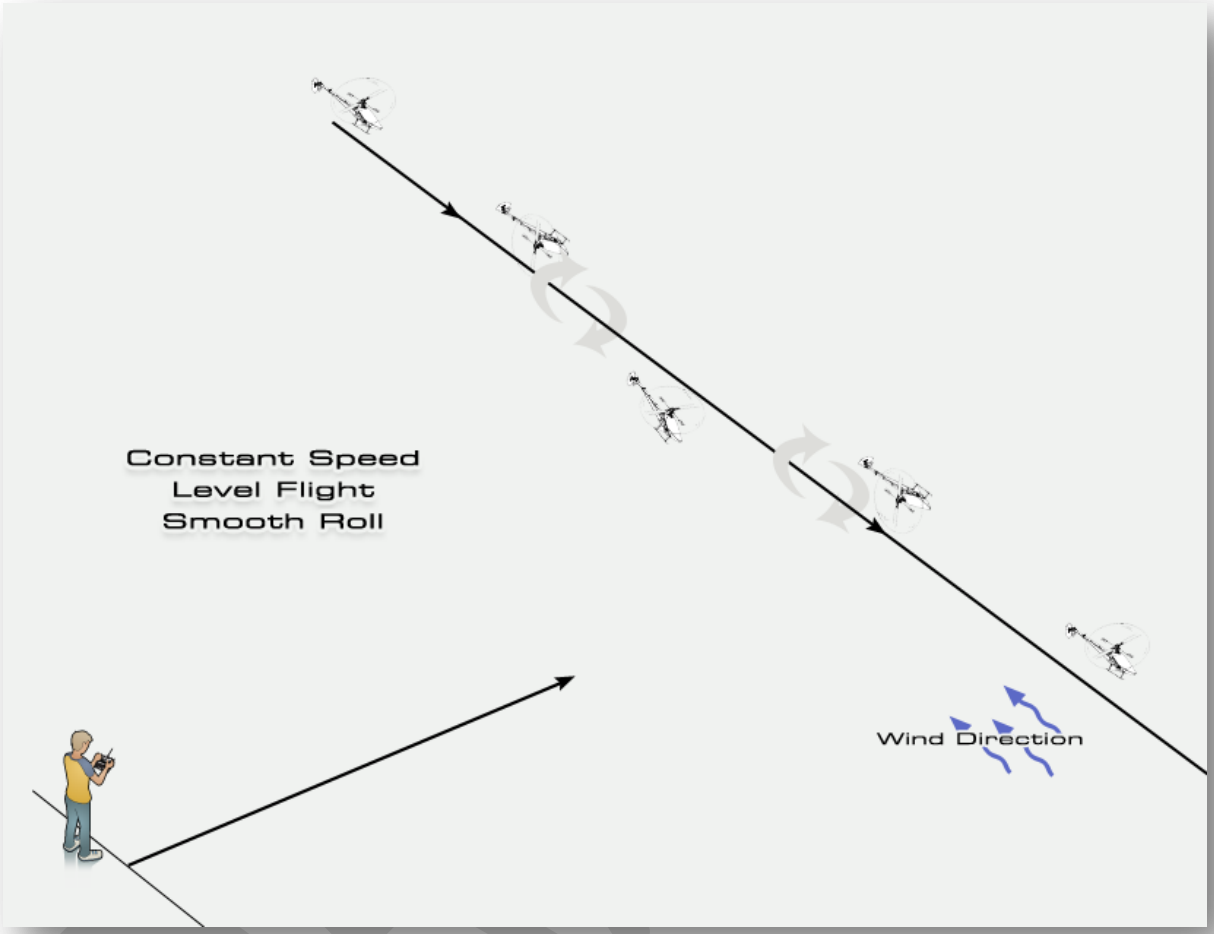



Spool up and fly to a suitable height, selecting to fly into the wind where possible and with the sun behind you. Perform 180 degrees stall turns in both directions.

***"The objective of the stall turn is to have a fixed base level in which to start the upward vertical climbs with sufficient forward speed to give a true 90 degree eventual angle. Just as you reach the stalling point to perform a smooth 180 degrees rotation in the tail, then descending back down to perform the same at the opposite end."***

***Pointers: - Ensure this is performed ideally into the wind and not facing directly into the sun.***

## E. The Roll

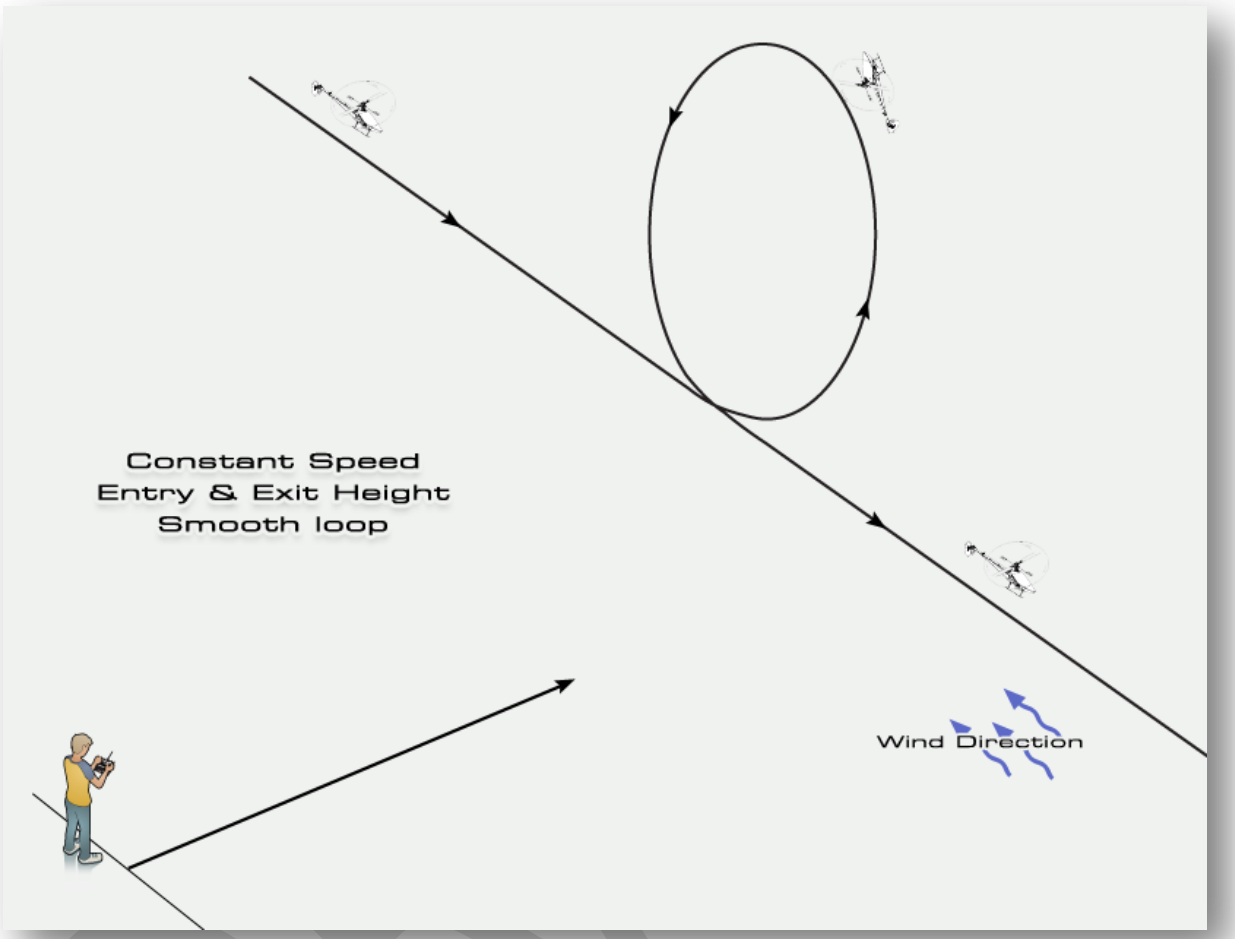



Spool up and fly to a suitable height, selecting to fly into the wind where possible and with the sun behind you. Flying level and keeping a constant speed perform an axial roll in either direction.

***"The objective of the roll is to control the pitch especially as you go through the roll so as to keep the helicopter in level flight and not turn it into a barrel roll".***

***Pointers: - Ensure this is performed ideally into the wind and not facing directly into the sun.***

## F. The Loop

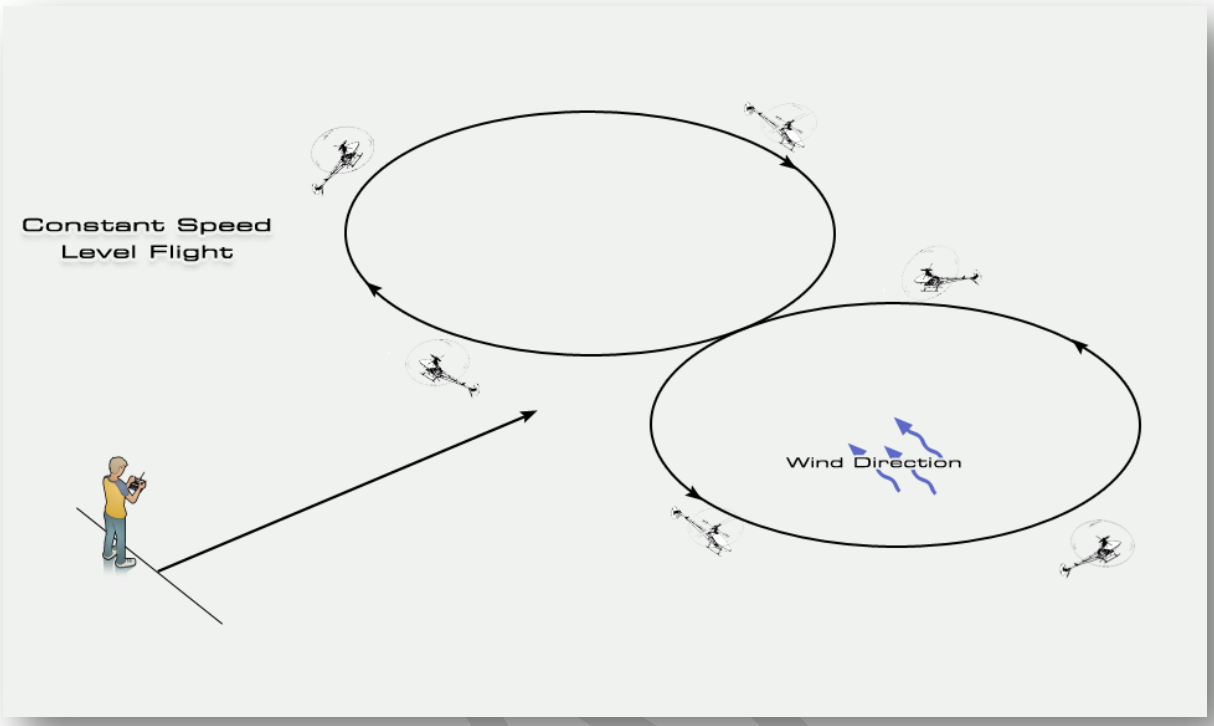



Spool up and fly to a suitable height, selecting to fly into the wind where possible and with the sun behind you. Perform one loop either left to right or vice versa

***"The objective of the loop is to have a fixed entry and exit height with a relatively constant smooth controlled speed throughout the manoeuvre"***

***Pointers: - Ensure this is performed ideally into the wind and not facing directly into the sun.***

## G. Figure of Eight



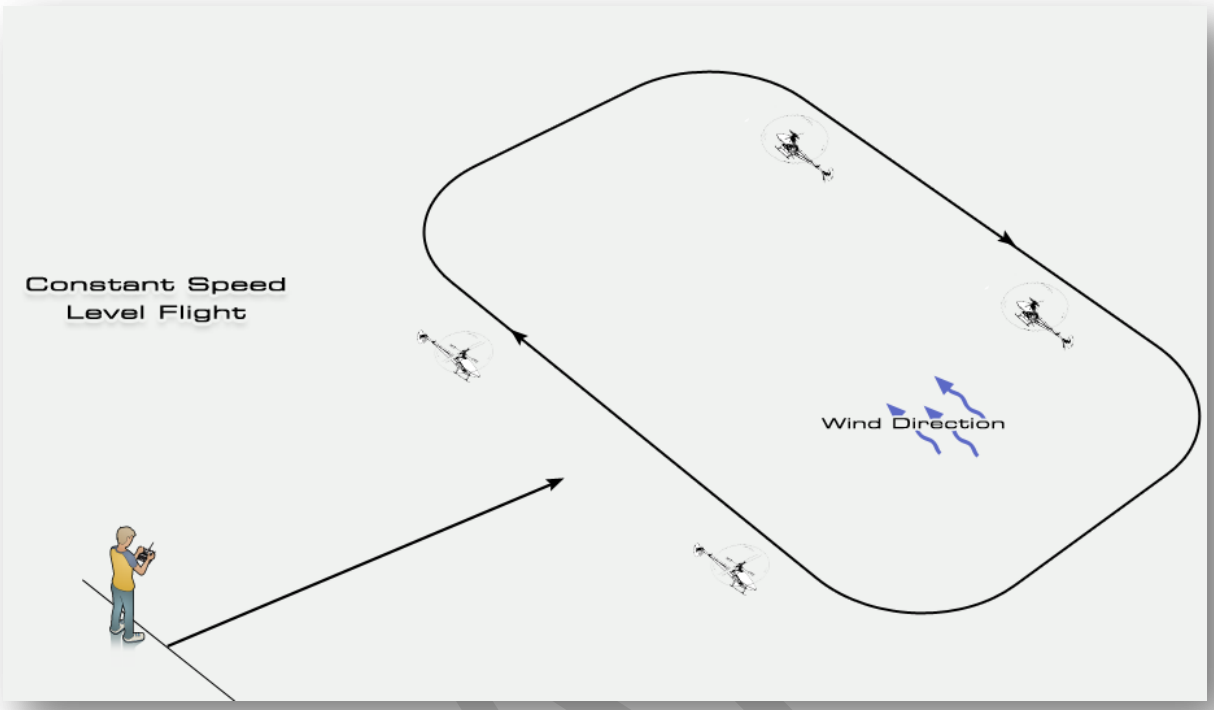

Spool up and hover in front of you then turn left or right and start your eight in one direction going around twice, then on the end of the second circuit gradually come to a halt and hover and land.

Flying level and keeping a constant speed throughout the eights.

***"The objective of the figure of eight is to control the pitch, forward speed and creating as symmetrical as possible to circles with no straights and a nice transition between one circle to the other."***

***Pointers: - Ensure this is performed ideally into the wind and not facing directly into the sun.***

## H. Backward Circuit

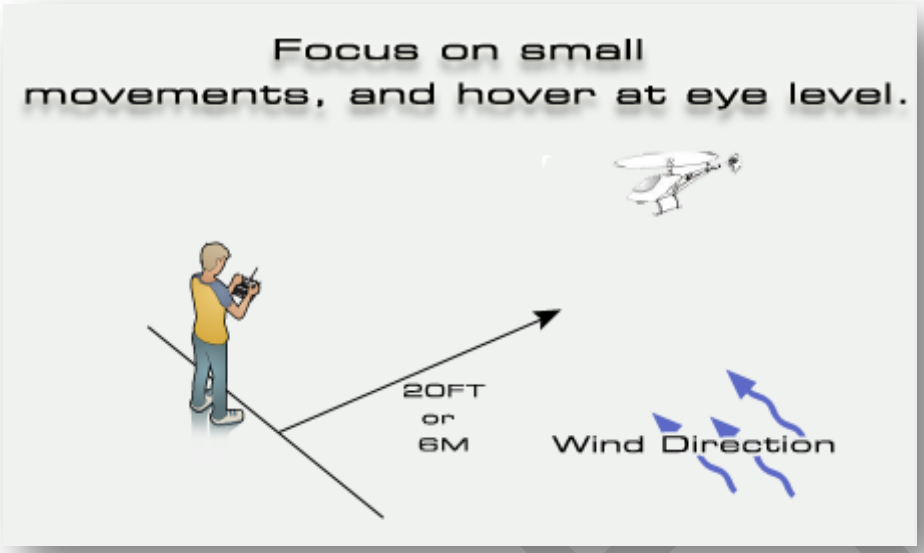



Spool up and hover in front of you then turn left or right and start a circuit, flying backwards in one direction going around twice, then on the end of the second circuit gradually come to a halt and hover in front of you and land. Flying level and keeping a constant speed throughout the circuits.

***"The objective of the circuits is to control the pitch, forward speed and create a smooth flight within a large virtual box, but obviously flying backwards"***

***Pointers: - Ensure this is performed ideally into the wind and not facing directly into the sun.***

## I. Nose in Hover

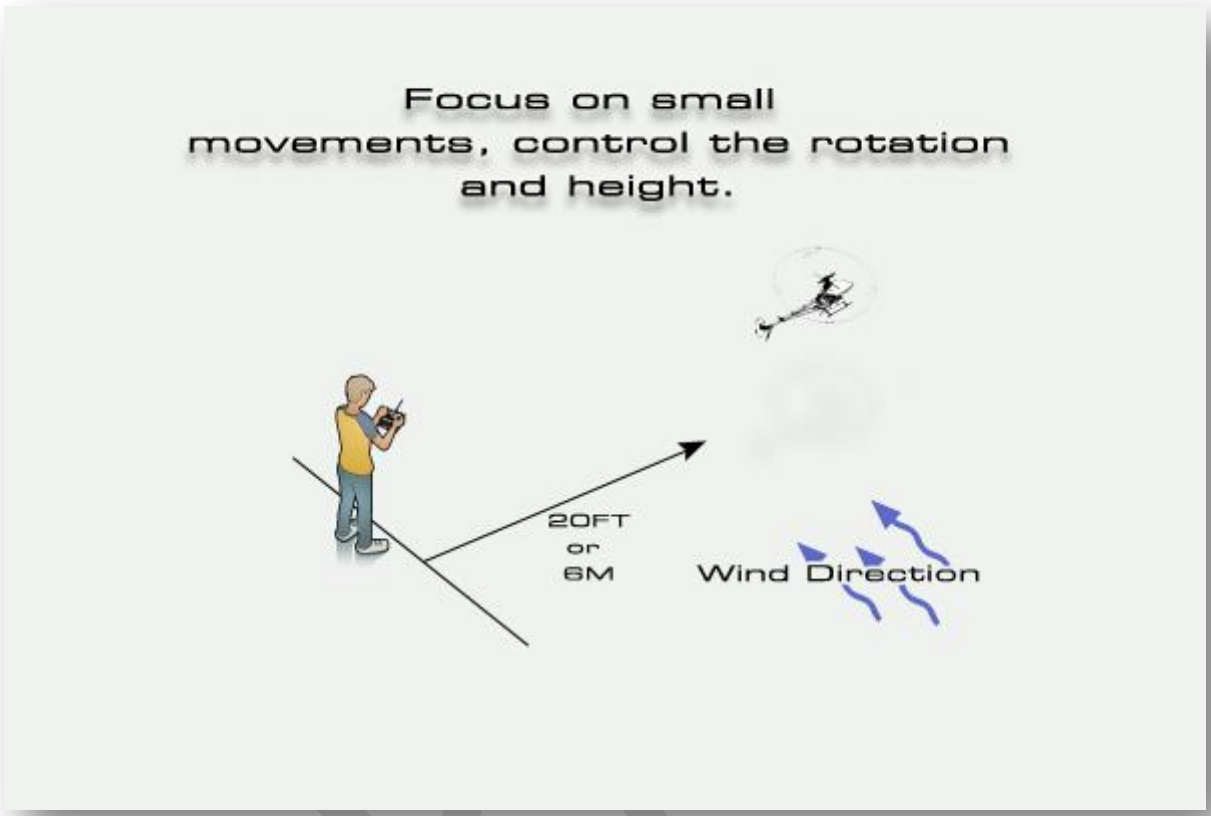



Spool up the rotors with the helicopter no less than 20ft in front of you, upon the helicopter becoming light on the skids take off tail-in then rotate 180 degrees and hover the helicopter no less than aprox 3ft off the ground and no higher than eye level.

***"The objective is to be able to hover the helicopter within fixed position giving some degree of latitude taking into account flying conditions."***

Once hovered in a fixed position for aprox 1min – either land nose in or rotate back around to tail in and bring the helicopter down to land.

## J. 360 Pirouette




Spool up the rotors with the helicopter no less than 20ft in front of you, upon the helicopter becoming light on the skids take off tail-in then slowly rotate 360 degrees and hover the helicopter no less than aprox 3ft off the ground and no higher than eye level.

***"The objective is to be able to hover the helicopter within fixed position giving some degree of latitude taking into account flying condition with a slow and smooth rotation around the full 360"***

Once completed one rotation bring the helicopter down to land.