

NVA Aerobatic Competition Rules – 10th June 2018.

Welcome to the Aerobatic Competition 2018. The Committee feel that entering and practicing for such our Aerobatics Competition will give you an opportunity to develop your flying skills. The Competition is deliberately set at a variable level, allowing inexperienced entrants but with scope for more advanced manoeuvres should you wish. For this reason, each manoeuvre has a 'k' factor associated with it, and the mark awarded (out of 10) is then multiplied by the 'k' factor.

Each competitor will fly 5 manoeuvres chosen from the attached list of 12, in the order given in his/her Entry. Obviously, the higher the 'k' factor you choose, the higher your potential score – but you may make things difficult for yourself.

Judging is always a problem for this type of competition, so we will be using Peer Judging. Each competitor is judged by the other competitors, with just one overall judge who is not competing to see fair play. The competition is open to any NVA Member flying a fixed-wing model. For the purposes of the competition, manoeuvres should take place centred on the windsock on Olney patch, with the pilot standing opposite. It is recommended, but not obligatory, that each pilot has a Caller who will call the name of the manoeuvre about to be flown, its beginning and its end.

We are expecting a strong response to this competition and numbers are limited. If you wish to enter, and we hope you will, please send the following by Email to Jeff Barringer at jeff@fly3dx.com

Your Name:

Mobile 'phone number:

First Manoeuvre

Second Manoeuvre

Third Manoeuvre

Fourth Manoeuvre

Fifth Manoeuvre

Good Luck, and let's see you practicing.

Description of Manoeuvres.

Manoeuvre	Description
1 Loop (k=1)	The model will fly straight and level into wind and upon crossing the patch boundary the Caller will call 'Loop Begin'. Upon reaching the centre-line the model will enter a powered loop, keeping wings level and with power management to ensure that the loop is round, flown at constant speed, and exits at the same height that the model entered. Upon crossing the upwind boundary, the Caller will call 'Loop End'.
2 Roll (k=1)	The model will fly straight and level downwind and upon crossing the patch boundary the Caller will call 'Roll Begin'. The model will enter a horizontal roll and be fully inverted at the centre-line and exiting at the same height that the model entered. Upon crossing the downwind patch boundary, the Caller will call 'Roll End'.
3 Lazy '8' (k=1)	For this manoeuvre the model should perform a Figure '8' if viewed from above. Upon reaching the field boundary the Caller will call 'Lazy 8 Begin' and at the centre-line the model should climb and turn to produce a wing-over, followed by a descent to the centre-line at the original height, then followed by a wing-over in the opposite direction to the first, followed again by a descent to the original height. The model should depart over the opposite boundary at the original height, wings straight and level, the Caller calling 'Lazy 8 end'
4 Bunt (k=1.5)	The Bunt is a negative Loop. The bunt may be flown either 'from the top' by pushing from altitude or 'from the bottom' by rolling inverted and pushing. In either case, the bunt should be centred, round, wings symmetrical and exit should be at the same height as entry. The Caller once again makes his calls at patch boundary.
5 Inverted Pass (k=1.5)	The Inverted Pass may be flown into- or down-wind. The pass should be at a consistent height and speed with wings level, and the Caller again makes his calls at patch boundary.
6 Immelmann Turn (k=1.5)	At the centre-line the model should commence an upwards half-loop to above the centre-line, hesitate momentarily at constant height and then roll erect to leave the field directly above the point of entry. The Caller makes his calls at the patch boundary.
7 Split 'S' (k=1.5)	The manoeuvre should begin at a height at which the pilot is comfortable. At the patch boundary the model should be rolled inverted and at the centre-line the model should commence a downwards half-loop back to the centre-line, and then leave the patch boundary at constant height directly below the point of entry. The Caller makes his calls at the patch boundary.
8 Double Roll k=1.5	Note that for this manoeuvre the Caller should make his calls before the patch boundary is overflown inbound and after the patch boundary outbound. The model will fly straight and level downwind and at a suitable point the Caller will call 'Roll Begin'. The model will enter a double horizontal roll, to be fully erect at the centre-line and exiting at the same height that the model entered. Upon completion of the manoeuvre, the Caller will call 'Roll End'.
9 3 turn Spin (k=2)	The manoeuvre should begin at a height at which the pilot is comfortable. At the patch boundary the Caller will call 'Spin Begin'. At the centre-line the model will enter a 3-turn spin, exited in the same direction as entry. The Caller will call 'Spin End' as the model crosses the patch boundary.
10 Double Stall Turn (k=2)	Note that for this manoeuvre the Caller should make his calls as the model passes the centre-line. The model will enter the patch wings level and as the model passes the centre-line, the Caller will call 'Double Stall Turn Begin'. After passing the patch boundary, the model will enter a vertical powered climb. At the point at which the model runs out of vertical speed it should be rudder-turned through 180 degrees to commence a vertical descent to pull out at the height and position at which the model previously crossed the centre-line. This is followed by another vertical climb in the opposite direction, rudder turn and vertical descent to pull out at the height and position at which the model previously crossed the centre-line, at which point the Caller calls 'Double Stall Turn end'. Note that the complete manoeuvre should be symmetrical and Stall Turns should be in a direction away from the flightline.
11 Cuban '8' k=2	In this manoeuvre, the model exhibits a figure '8' on its side. The model is flown across the patch and on passing the centre point the Caller calls 'Cuban 8 begin'. The model then proceeds beyond the boundary of the patch and enters a half-loop immediately followed by a 45 degree downwards descent. During the descent the model should roll through 180 degrees, the mid-point of the roll being directly over the patch centre point. At a point symmetrical with the first half-loop, the model enters another half-loop immediately followed by a 45 degree descent and half-roll. The model should enter straight and level flight directly above the centre-point, at which point the Caller calls 'Cuban 8 end'
12 Avalanche (k=2)	The Avalanche is a loop with a negative flick-roll at its apogee. The model enters the patch straight and level and at the patch boundary the Caller calls 'Avalanche begin'. At the patch centre-point the model enters an Upwards Loop and continues until approximately 10 o'clock position, whereupon the pilot initiates a negative flick-roll. The momentum and trajectory of the aircraft should bring it to a position to resume the loop at the 2 o'clock position, whereupon the loop is continued to exit straight and level with the Caller calling 'Avalanche end' upon crossing the patch boundary. Note that the positions 10 o'clock and 2 o'clock will have to be modified to suit the flick-roll characteristics of the aircraft, but the manoeuvre should be symmetrical.