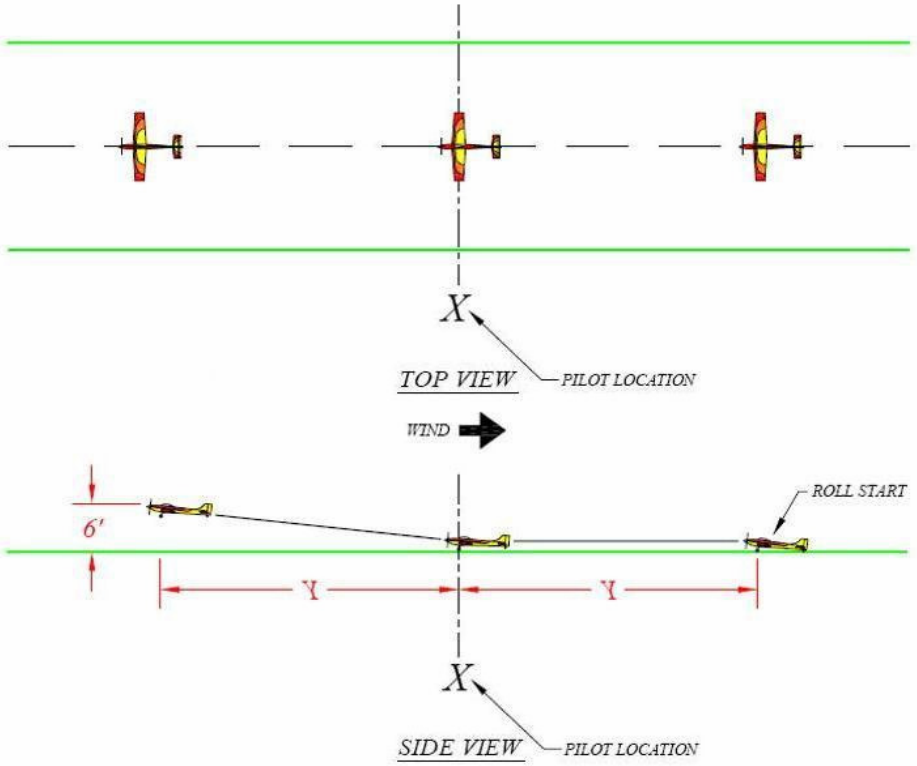
Senior Pattern Association 2009-10 Patterns

NOVICE	
1.TAKEOFF (U)	1
Downwind trim pass	
2. STRAIGHT FLIGHT OUT (U)	1
3. PROCEDURE TURN (U)	2
4. STRAIGHT FLIGHT BACK (D)	1
5. IMMELMAN TURN (U)	2
6. DOUBLE STALL TURN (U)	3
7. ONE HORIZONTAL ROLL (D)	2
8. ONE HALF CUBAN EIGHT (U)	2
9. THREE INSIDE LOOPS (U)	3
10. 180 DEGREE TURN (D)	3
11. LANDING PERFECTION (U)	2
TOTAL	22

SPORTSMAN	
1.TAKEOFF (U)	1
Downwind trim pass	
2. DOUBLE STALL TURN (U)	3
3. CUBAN EIGHT (D)	2
4. THREE INSIDE LOOPS (U)	3
5. THREE HORIZONTAL ROLLS (D)	3
6. ONE REVERSE OUTSIDE LOOP (U)	3
7. 180 DEGREE TURN	3
8. SLOW ROLL (D)	3
9. DOUBLE IMMELMAN (U)	3
10. FOUR POINT ROLL (D)	4
11. RUNNING EIGHT (D)	4
12. KNIFE EDGE (D)	3
13. THREE TURN SPIN (U)	3
TOTAL	35

EXPERT	
1.TAKEOFF (U)	1
Downwind trim pass	
2. FIGURE M WITH 1/2 ROLLS (U)	4
3. THREE HORIZONTAL ROLLS (D)	3
4. TOP HAT (U)	3
5. FOUR POINT ROLL (D)	4
6. RUNNING EIGHT (U)	4
7. EIGHT POINT ROLL (D)	4
8. THREE REVERSE OUTSIDE LOOPS	4
9. 180 DEGREE TURN	3
10. SLOW ROLL (D)	3
11. DOUBLE IMMELMAN (U)	3
12. CUBAN EIGHT (D)	3
12. THREE TURN SPI(U)	3
TOTAL	41

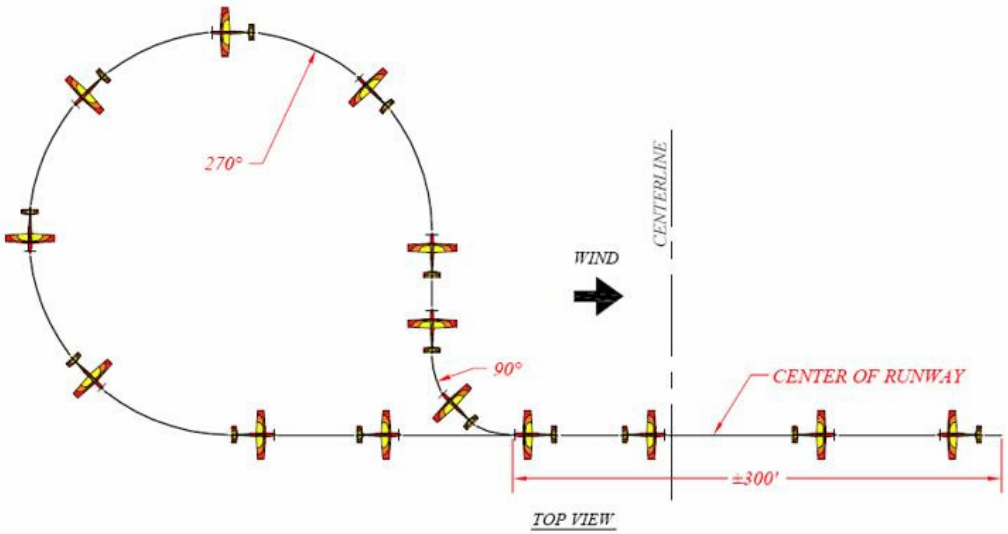
Senior Pattern Association 2007-08 Novice Class



1. TAKEOFF The model must start from a standstill. Model shall accelerate gradually and the takeoff run shall be in a straight line. Plane shall lift off gently and climb at a gradual angle, continuing in its straight flight path until at least six feet off the ground. Pilot shall call "Takeoff (or maneuver) complete" when model has gained at least six feet of altitude and is still climbing in a straight flight path.

Downgrades:

1. Pushing or assisting the model when released.
2. Change in heading during the takeoff run
3. "Jumping" from the ground
4. Retouching the ground after become airborne
5. Too steep a climb angle
6. Gallops in pitch, roll or yaw during climb
7. Change in heading during climb
8. Dropping a wingtip



2. STRAIGHT FLIGHT OUT The model must be brought exactly over the center of runway and/or landing circle and flown in an absolutely straight path into the wind for a distance of approximately 300 feet before starting the Procedure Turn (Distance does not have to be accurate, however, judges may specify start of turn it they wish).

Downgrades:

1. Does not fly over center of runway and/or landing circle
2. Plane deviates left or right
3. Does not hold constant altitude
4. Turns before permission is given by judge
5. Gallops in elevation

3. PROCEDURE TURN After the straight flight, the model must turn exactly 90 degrees to the left or right, whichever will take the plane away from the spectator line (direction to be specified by the Contest Director) then exactly 270 degrees to the right (or left) and cross over the point where the first turn commenced.

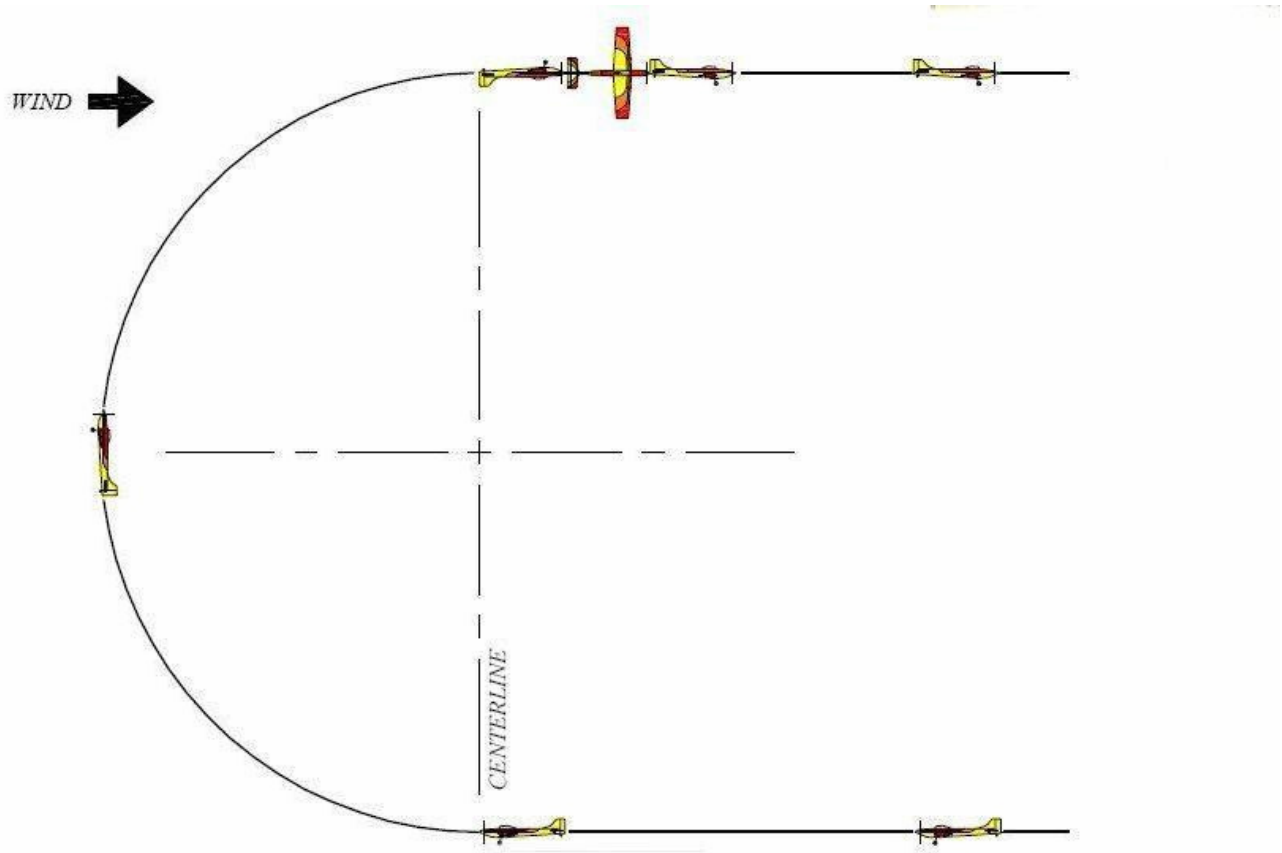
Downgrades:

1. Left turn not 90 degrees
2. Right turn not 270 degrees
3. Change in altitude during turn
4. Turns not smooth and circular
5. Does not head back over exact outgoing path

4. STRAIGHT FLIGHT BACK The model should fly back toward the circle along the same line as the outgoing path and pass exactly over the circle.

Downgrades:

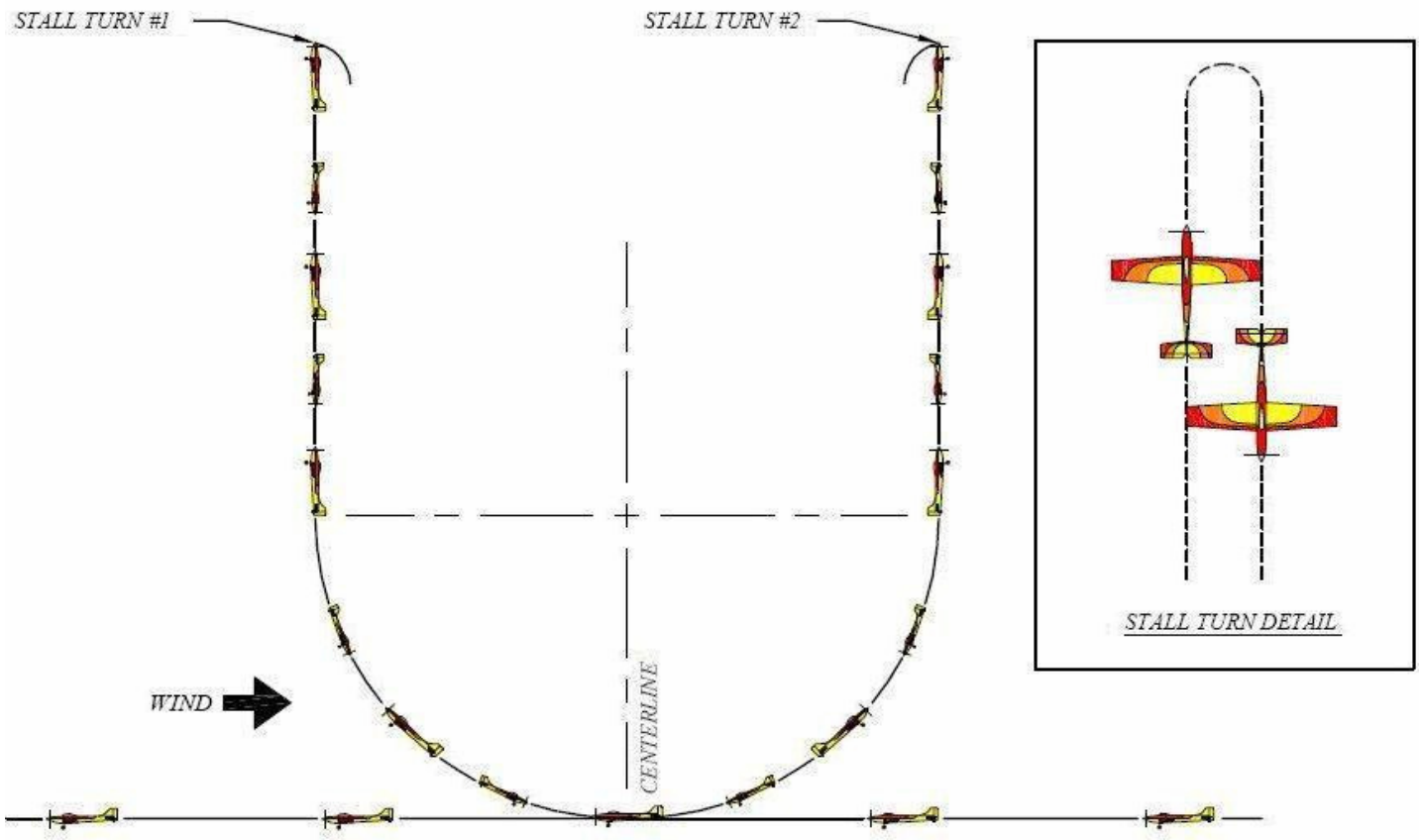
1. Turns or wiggles during straight flight
2. Change in altitude
3. Gallops in pitch, yaw or roll
4. Flight not along original path
5. Does not pass over circle



5. IMMELMAN TURN The model starts the Immelman flying straight and level, pulls up into half loop followed by a half roll and finishes flying straight and level exactly 180 degrees from the heading at entry.

Downgrades:

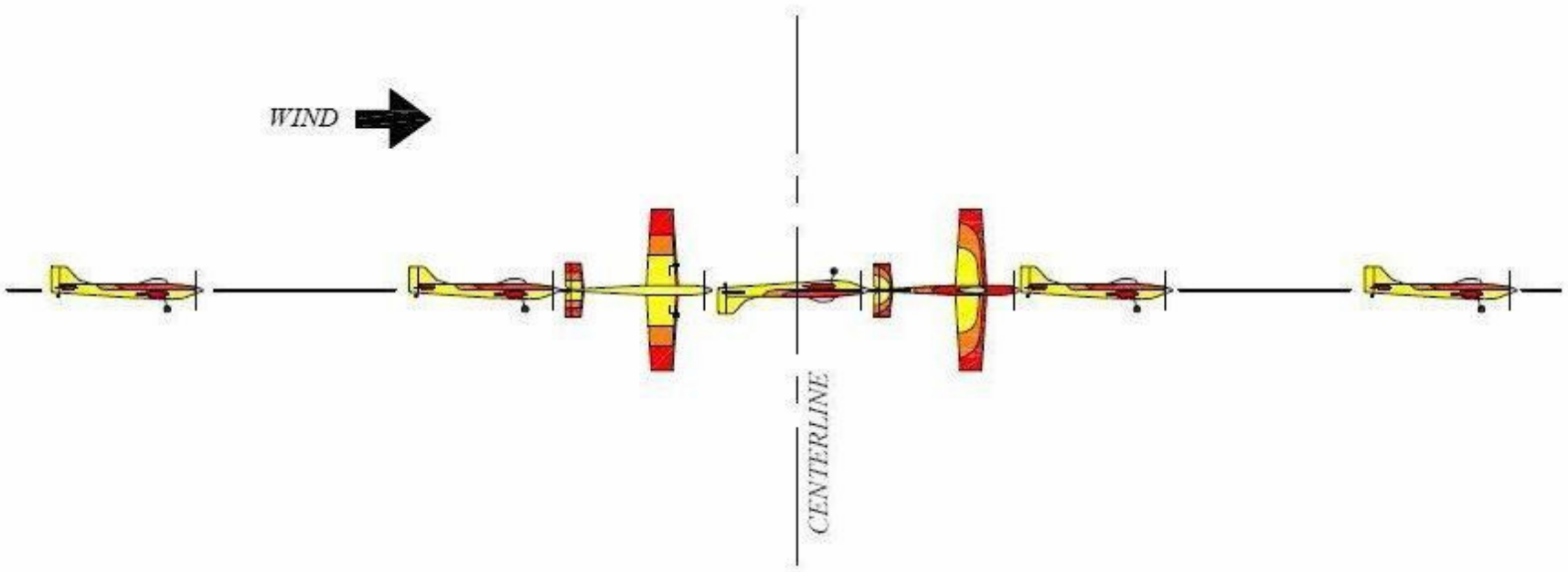
1. Model not level at start
2. Model deviates left or right during half loop
3. Half loop not completed exactly above point of commencement of half loop
4. Half roll does not commence immediately after half loop
5. Plane deviates from a straight line during roll
6. Model does not finish in level flight
7. Model heading does not finish exactly opposite the direction of entry
8. Half loop not round



6. DOUBLE STALL TURN Model pulls up into one-quarter (1/4) loop to a vertical track then performs a stall turn through 180 degrees. Model then performs one-half (1/2) loop to a vertical track and performs another stall turn then recovers with another one-quarter (1/4) loop to level flight. The length of the vertical segments is not a judging criteria.

Downgrades:

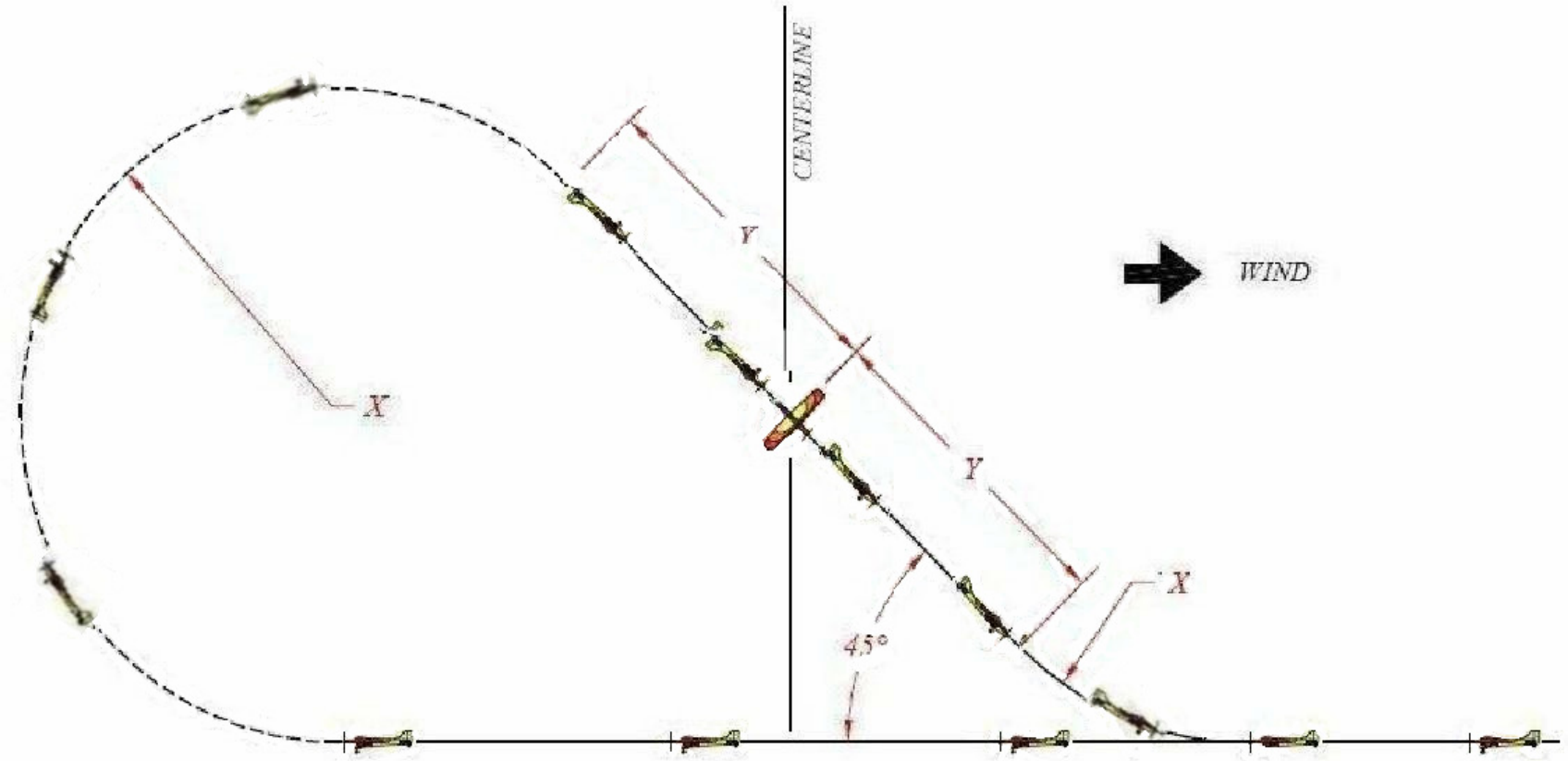
1. Model not flying straight and level at beginning and end of maneuver
2. Track of model does not become exactly verti cal at points of turn.
3. Loop segments not round with same size and radius
4. Bottom of half loop not at same altitude as en try and finish
5. Model turns left or right during pull ups
6. Does not yaw tightly through 180 degrees
7. Return track more than one-half (1/2) wingspan from entry path
8. Return paths not parallel to entry path
9. Maneuver not finished at same altitude as entry
10. Vertical segments not equal



7. ONE HORIZONTAL ROLL Model rolls at a uniform rate through one (1) complete revolution in either direction. Center is inverted portion of maneuver.

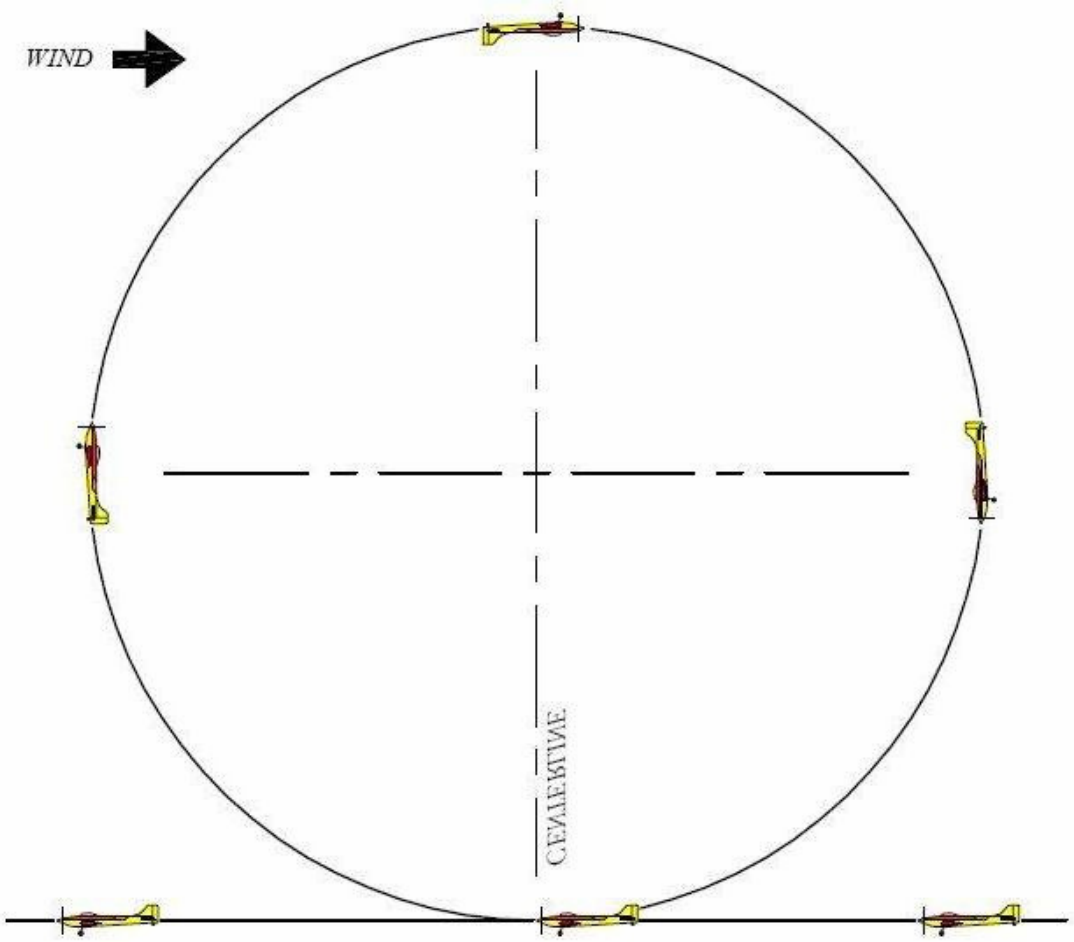
Downgrades:

1. Changes in heading during roll
2. Changes in altitude during roll
3. Roll rate not constant
4. Model does not perform exactly one roll



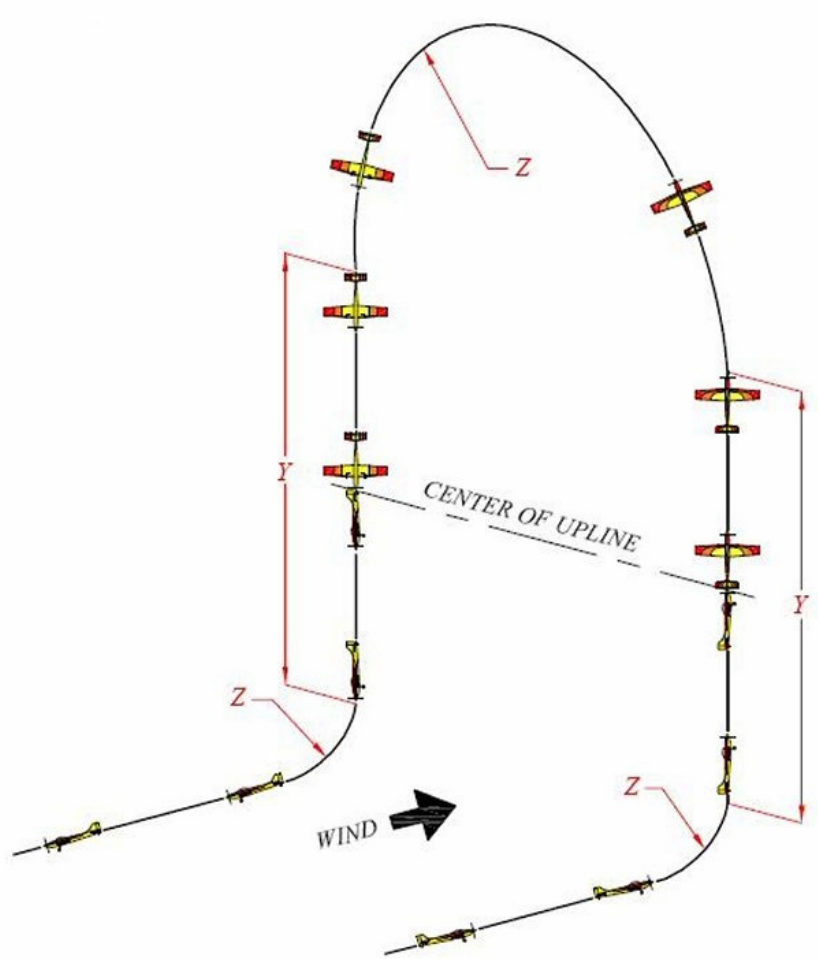
8.HALF CUBAN EIGHT Model flies past center and executes five-eighths (5/8) inside loop to 45 degrees down, hesitates, does one-half (1/2) roll, hesitates, then performs one-eighth (1/8) inside loop back to level flight in opposite direction as entry.
Downgrades:

1. Loop segments not round with the same size and radius
2. Model not at 45 degrees before and after half roll
3. Changes in heading in loop segments or after half roll
4. Half roll not centered in 45 degree line
5. No hesitations before or after half roll



9. THREE INSIDE LOOPS The model starts the maneuver flying straight and level, then pulls up into a smooth, round loop, followed by a second loop, and a third loop in exactly the same path with a straight and level recovery finish.
Downgrades:

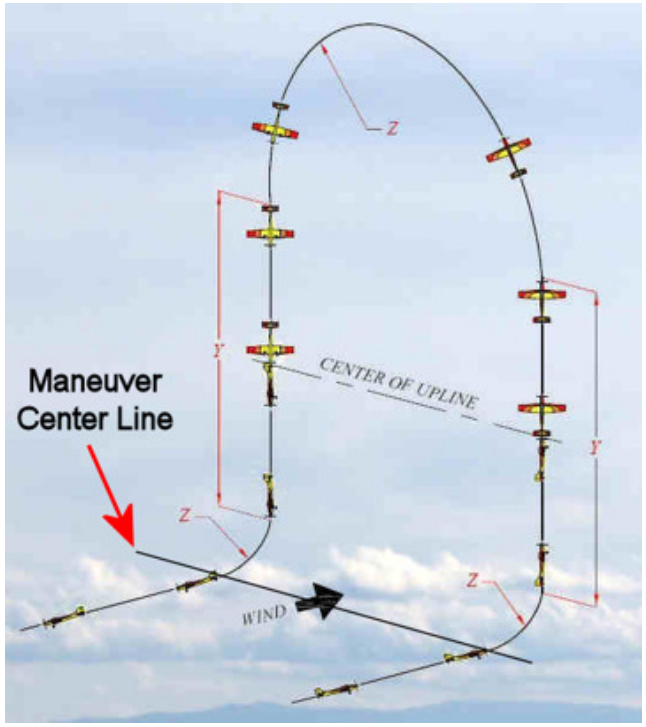
1. Loops not round and smooth
2. Loops not superimposed
3. Wings not level during loops
4. Changes in heading during loops
5. Exit not same heading and altitude as entry



10. 180 DEGREE TURN The plane starts in straight and level flight, pulls up into a vertical climb, rolls 90 degrees, performs half of an outside loop, rolls 90 degrees in the opposite direction to the first quarter roll and pulls out at the same altitude but with a 180 degree heading change.

Downgrades:

1. Entry not straight and level
2. Pull up is not to exact vertical climb
3. Roll is more or less than 90 degrees
4. Path of roll is not straight vertical line
5. Half outside loop deviates left or right
6. Half hoop is not smooth and round
7. Second 90 degree roll path is not straight vertical line
8. Pull out to level flight is sudden or jerky
9. Pull out is not to same altitude and 180 degrees opposite heading to entry
10. Plane fails to perform straight and level flight at end of maneuver



10-A. **March 23, 2009**

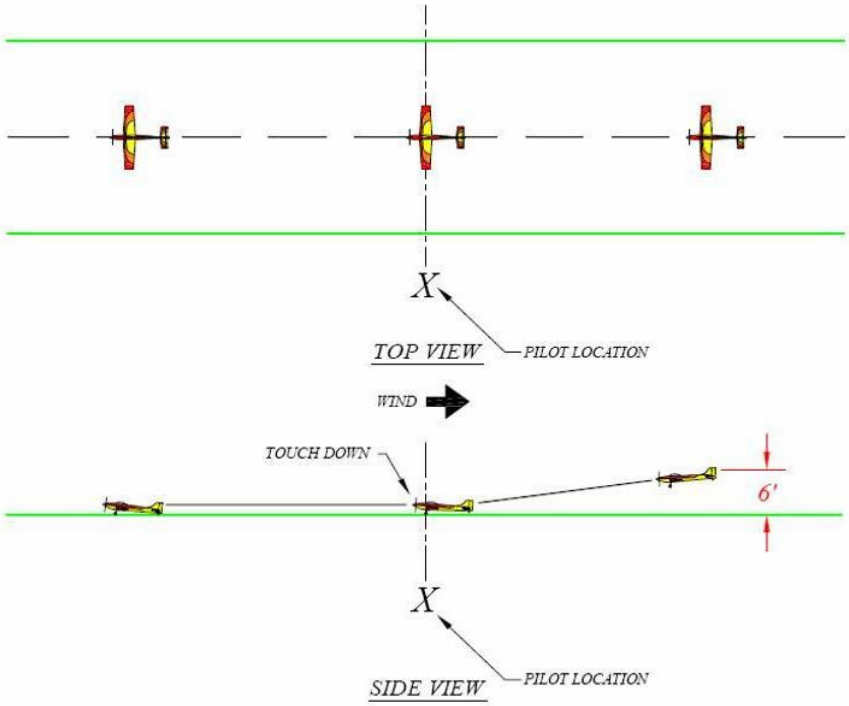
The original picture was not quite correct. The bottom radii shown are not the same size as the one across the top. The radius of the three areas marked (Z) should be the same. For example, if you pull up sharply, the 1/2 outside loop and the exit radius should be the same.

Down grades for the radius:

You have three radii to fly, the entry, the 1/2 outside loop and the exit. Depending on the severity of the difference between the three. The down grades should be from 1/2 point to 2 points per incident.

If the first one is a smooth 1/4 loop taking 100 feet, the 1/2 outside loop takes 200 feet and is smooth, these two would be pretty much identical so no down grade here. If the exit 1/4 loop is squared off, and only takes say, 40 feet, the down grade would be 2 points, it were such that it took 75 feet then the down grade would be 1/2 point. This is a judgment call as you view the maneuver. Please note **on the vertical 1/4 roll** in the two areas marked (Y), there is **NO vertical straight line**. The roll starts as soon as the plane is vertical and the 1/2 outside loop starts as soon as the 1/4 roll is complete. Likewise the down line 1/4 roll starts as soon as the plane is vertical

The center of the maneuver is located where the model starts the first ¼ loop. See the picture.



11.LANDING PERFECTION When the contestant has his plane lined up and on heading for the final approach, and not less than six (6) feet off the ground, he must announce the start of the Landing maneuver. From this point on, the Landing will be judged. Downgrades:

1. Approach during landing too steep
2. Gallops in pitch, yaw or roll during approach
3. Model impacts or thuds onto ground due to lack of flare
4. Model bounces on landing
5. Model turns left or right while rolling to a stop. Turns unnecessarily to avoid running off the runway may be excused if wind direction and spot location are adverse.
6. All landings judged only for 50 feet after touch down