

## BRODAK SENIOR STUNT CHALLENGE

The Aeromodeling hobby attracts and appeals to enthusiasts at any age, often starting very young and continuing over many decades. It offers challenges at each stage with many adjusting their interests according to their age and physical acumen. The purpose of this gathering is to recognize and celebrate those who continue to participate well into their golden years and/or dealing with physical limitations.

EVENT: an Aerobatics Event catering to flyers:

- Aged 75 & over – ***entrants WILL be carded!***
- Flyers of any age with physical limitation(s) that precludes standing and flying vertical or overhead maneuvers
- Flyers will be allowed to use a pivoting chair or wheel chair if they choose. These flyers will be asked to allow a precautionary assistant or backup pilot to be present in the center of the circle.

The Flight Pattern will be a variation of the "Schedule 60" aerobatic sequence:

- No vertical or overhead maneuvers
- Normal Level Flight & Maneuver bottoms at 4-6 feet elevation.
- Maneuvers top height to be between at 60° elevation
- No restriction on airplane or power system.
- No BoM, no Appearance Points.

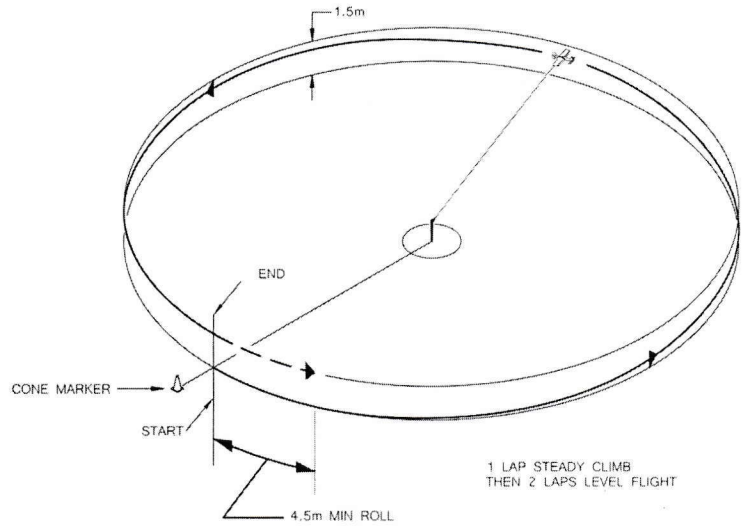
Maneuver Sequence

1. Take-off & Level Flight
2. Top Hat
3. Inside round loops (3, recover to Inverted Flight)
4. Inverted Flight (2 Laps)
5. Outside Round Loops (3) starting from inverted flight and recovering Upright
6. Inside Square Loops (2)
7. Outside Square Loops (2)
8. Inside Triangle Loops (2)
9. Outside Triangle Loops, point DOWN (2)
10. Horizontal Round Eights (2)
11. Horizontal Square Eights (2)
12. Bow Tie (2)
13. Landing
14. Spot Landing Bonus

**TAKEOFF & LEVEL FLIGHT:** A correct takeoff consists of the model rolling smoothly along the ground for a distance of not less than 4.5 meters (14.8 feet), but not greater than one quarter of a lap. The model then rises smoothly into the air with a gradual climb and a smooth level-off to normal flight level over the point at which the model commenced its ground roll. The model continues on for two (2) smooth laps of normal level flight to point of original level-off.

Maximum 40 points. Minimum 10 points.

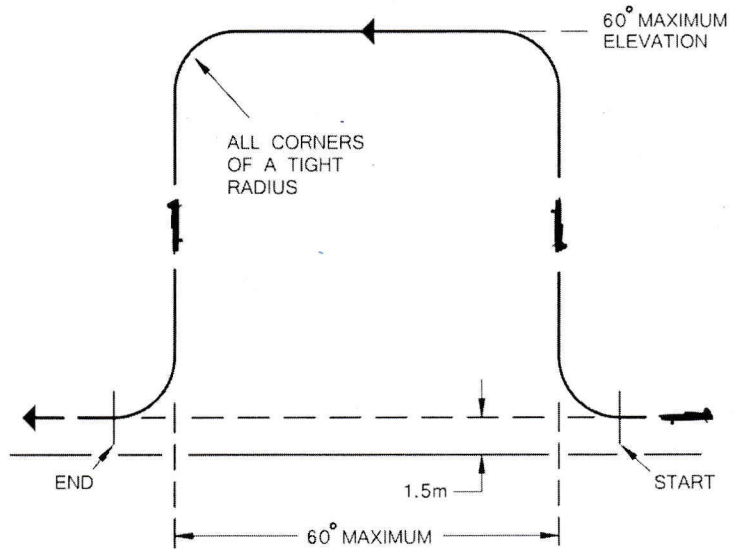
**Errors:** The model bounces or becomes airborne too soon, or too late. Takeoff, climb or level-off is not gradual and is not smooth. Level-off occurs too soon, or too late. Level-off and normal flight level are not within a height of 1.2—1.8 meters (3.9—5.9 feet).



**TOP HAT:** Starting from level flight model executes a tight radius (inside) turn to vertical flight followed by a tight radius (outside) turn to horizontal flight at 60° maximum elevation. After flying a horizontal distance equal to the vertical climb distance, model executes a tight radius (outside) turn into a vertical dive, followed by a tight radius (inside) turn to normal level flight.

Maximum 40 points. Minimum 10 points.

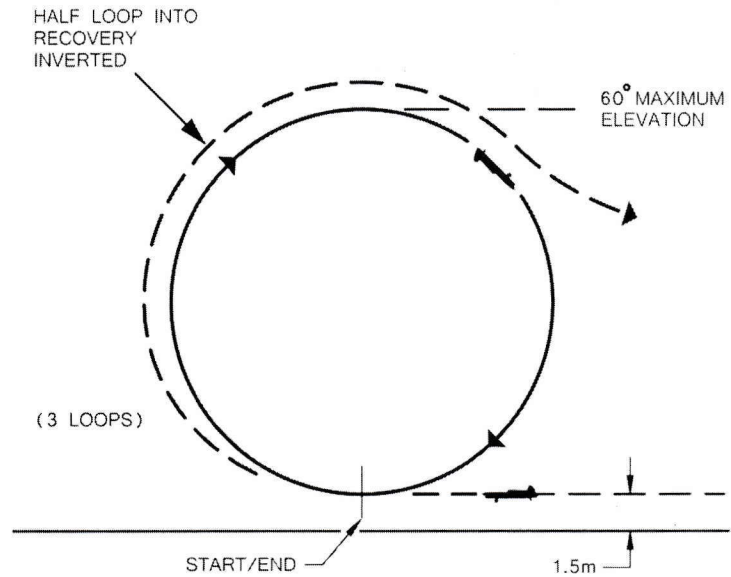
**Errors:** model enters or exits maneuver at other than normal level flight. Altitude at exit is different than altitude at entry. Climb or dive are not vertical. Horizontal flight at top of maneuver is above the 60 degrees elevation, and/or is not at constant altitude relative to level flight. Maneuver vertical dimensions do not match maneuver horizontal dimensions (i.e., the Top Hat shape must be "square") Tight turns at the corners are not of the same radius.



**INSIDE ROUND LOOPS:** (Three (3) Required). Correct loops are judged when the model starts from normal flight level and makes a series of three (3) smooth, round loops, all in the same place with the bottoms of the loops at normal flight level and the tops of the loops with the line(s) at 60 degrees elevation. The model then continues for another half loop, recovering inverted and descending to normal flight level, flying two (2) laps before being judged for inverted flight.

Maximum 40 points. Minimum 10 points.

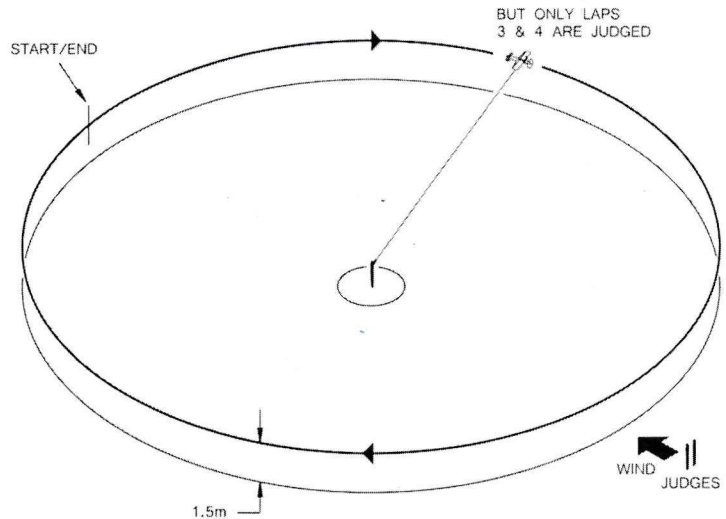
Errors: Loops are rough and irregular (i.e., egg-shaped, hexagonal, etc.). Bottoms of loops are not at 1.2–1.8 meters (3.9–5.9 feet) height. Tops of loops exceed the 60 degrees elevation point. Each loop is not as prescribed.



**INVERTED FLIGHT:** (Two (2) Laps). Correct inverted flight is judged when the model makes two (2) smooth, stable laps at normal flight level.

Maximum 40 points. Minimum 10 points.

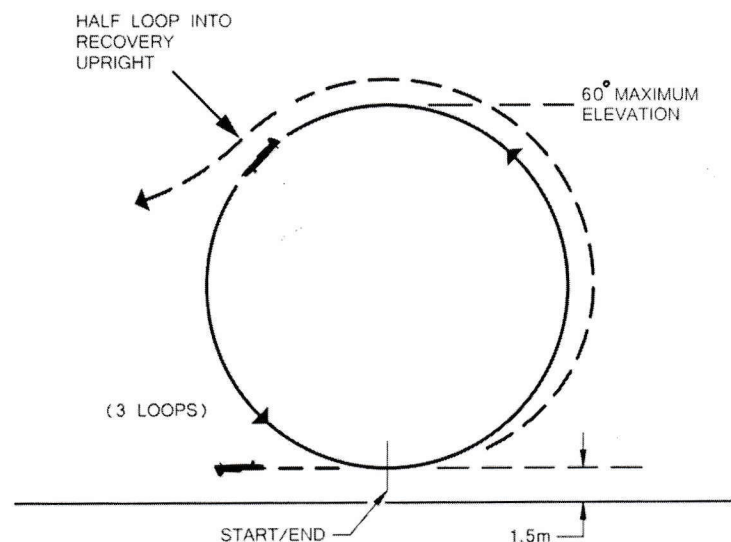
Errors: Height is not 1.2–1.8 meters (3.9–5.9 feet). Height varies more than 0.6 meter (2 feet).



**OUTSIDE ROUND LOOPS:** (Three (3) required). Correct loops are judged when the model starts from inverted position at normal flight level and makes a series of three (3) smooth, round loops, all in the same place, with the bottoms of the loops at normal flight level and the tops of the loops with the line(s) at 60 degrees elevation. The model then continues for another half loop, recovering at normal flight level.

Maximum 40 points. Minimum 10 points.

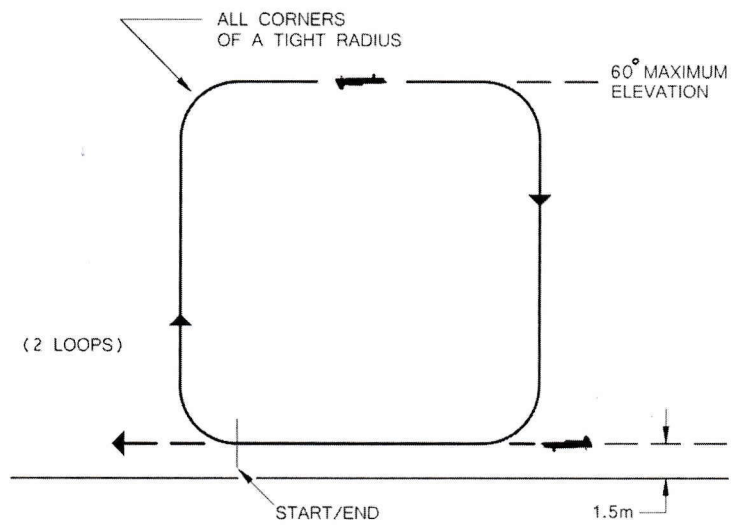
Errors: Loops are rough and irregular (i.e., egg-shaped, hexagonal, etc.) Bottoms are not at 1.2–1.8 meter (3.9–5.9 feet) height. Tops of loops exceed the 60 degrees elevation point. Each loop is not as prescribed.



**INSIDE SQUARE LOOPS:** Per (Two (2) required). Consecutive inside square loops are judged correct when the model starts from normal flight level and flies a square course consisting of two (2) loops, each with four (4) inside turns which shall be of a tight radius and four (4) straight segments with bottom segments at normal flight level and top segments as inverted level flight at 60 degrees elevation. The two (2) bottom corners are equal and so are the two (2) top corners. The maneuver begins and ends with the model in level flight at the point of start of the first turn.

Maximum 40 points. Minimum 10 points.

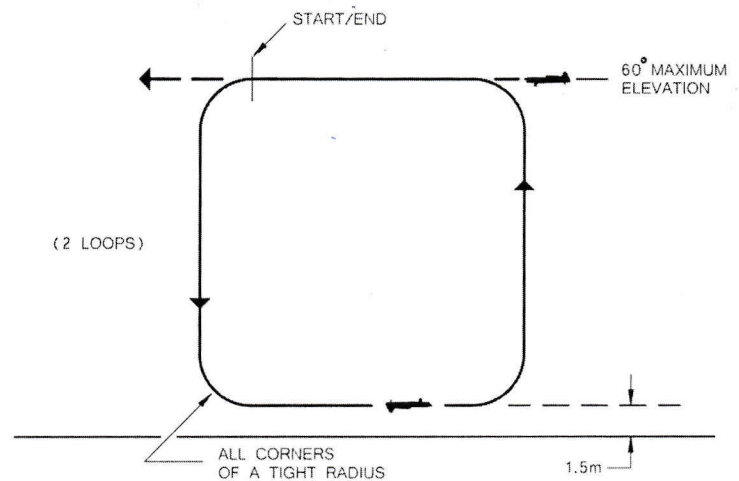
Errors: Model wobbles on turns. Lower height is not between 1.2—1.8 meters (3.9—5.9 feet). Upper height exceeds the 60 degrees elevation point. Turns are not precise and/or are not of a tight radius. Sides of loops are not equal. Each loop is not as prescribed.



**OUTSIDE SQUARE LOOPS:** Per (Two (2) required). Consecutive outside square loops are judged correct when the model starts from level flight at 45 degrees elevation and flies a square course (starting with a vertical dive) consisting of two (2) loops, each with four (4) outside turns of a tight radius and (4) straight segments with bottom segments inverted at normal flight level and top segments as level flight at 60 degrees elevation. The two (2) bottom corners are equal and so are the two (2) top corners. The maneuver begins and ends with the model in level flight at the point of start of the first turn. The model recovers into normal level flight.

Maximum 40 points. Minimum 10 points.

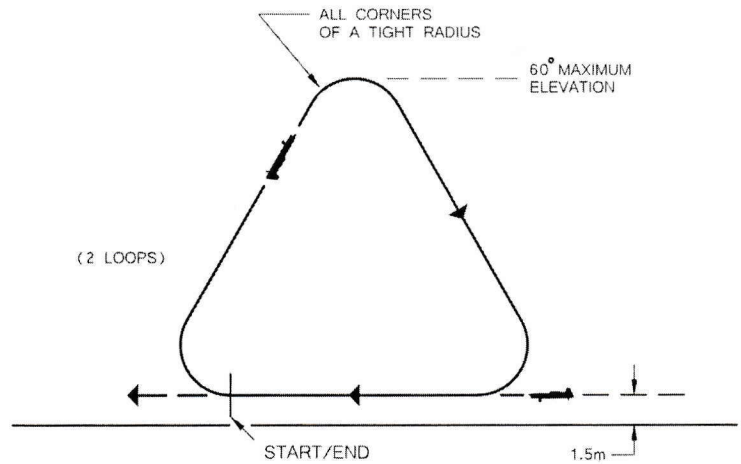
Errors: Model wobbles on turns. Lower height is not within 1.2—1.8 meters (3.9—5.9 feet). Upper height exceeds the 60 degrees elevation point. Turns are not precise and/or are not of a tight radius. Sides of loops are not equal. Each loop is not as prescribed.



**INSIDE TRIANGLE LOOPS:** Per (Two (2) required). Correct triangular loops are judged when the model starts from normal level flight and flies a triangular course, starting at the base turn. The three (3) sides of equal length and the three (3) corner angles are of equal size. The top corner cannot exceed 60 degree elevation. The second triangular loop must be flown in the same flight path as the first one. All corners must be smooth, precise and shall be of a tight radius.

Maximum 40 points. Minimum 10 points.

Errors: Model starts at a height other than between 1.2—1.8 meters (3.9— 5.9 feet). Turns are rough and wobbly and/or are not of a tight radius. Peak of second turns exceeds the 60 degrees elevation point. Sides are wobbly and not equal in length. Each loop is not as prescribed.

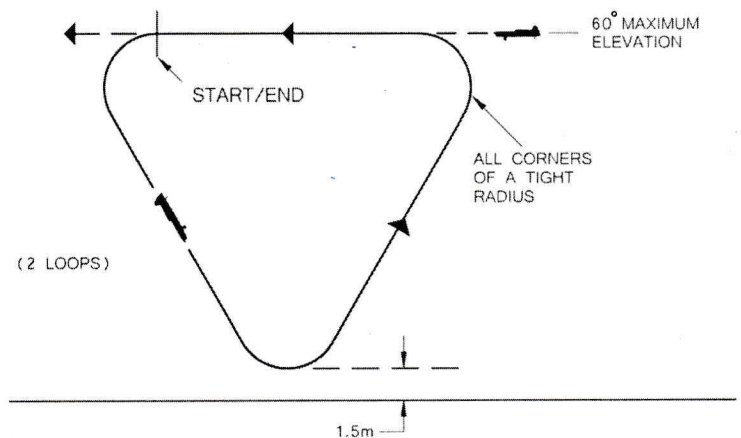


**OUTSIDE TRIANGLE LOOPS:** (Two (2) required). Correct triangular loops are judged when the model starts from maximum 60° elevation, and flies a triangular course, diving to point of the triangle on the bottom at Normal Level Flight altitude.

The three (3) sides of equal length and the three (3) corner angles are of equal size. The top side cannot exceed 60 degree elevation. The second triangular loop must be flown in the same flight path as the first one. All corners must be smooth, precise and shall be of a tight radius. The model recovers into normal level flight.

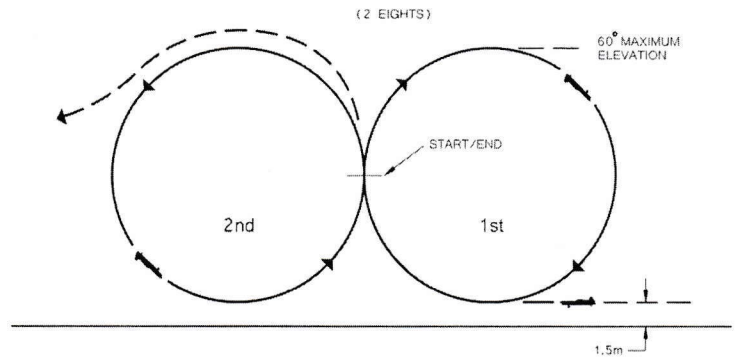
Maximum 40 points. Minimum 10 points.

Errors: Top of maneuver exceeds the 60 degrees elevation point. Bottom point of maneuver at other than between 1.2—1.8 meters (3.9— 5.9 feet). Turns are rough and wobbly and/or are not of a tight radius. Sides are wobbly and not equal in length. Each loop is not as prescribed.



**HORIZONTAL ROUND EIGHTS:** Per (Two (2) required). Horizontal eights are to be entered and completed

at the intersection point of the circles and exit at the same point. The inside loop must be flown first. Correct eights are judged when the model makes two (2) eights, each consisting of two (2) round circles or loops of the same size, tangent to each other, and in a horizontal line. The model must enter the eight from normal flight level and be vertical at the intersection point of tangency of the circles. The eights must be symmetrical. At the top of each circle the model cannot exceed the 60 degrees elevation point; the bottoms of circles must be at normal flight level.

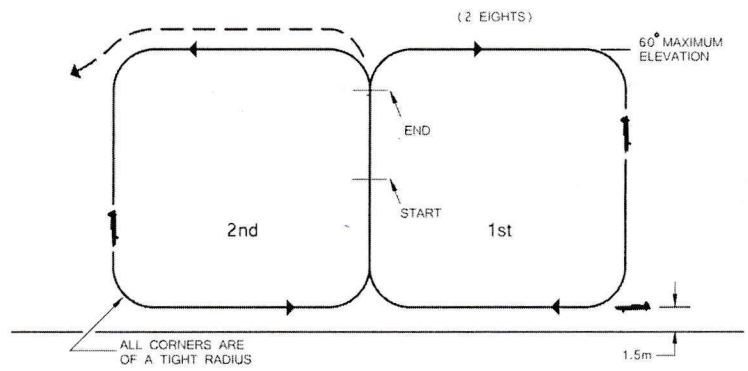


Maximum 40 points. Minimum 10 points.

Errors: Model is not vertical at entry. Model at top of circles exceeds the 60 degrees elevation point. Bottoms of circles are not within 1.2—1.8 meters (3.9—5.9 feet) height. Loops are not round or equal in size. Point of intersection varies. Each eight is not as prescribed.

**HORIZONTAL SQUARE EIGHT:** (Two (2) required). The eight is to be entered in the direction of the

climbing sides of the loops, and after completion of two (2) eights the exit is made in the same direction. The inside loop must be flown first. Correct eights are judged when the model starts a vertical climb and makes a modified inside square loop followed by a modified outside square loop ending with a vertical climb at the same point. The loops are modified so their climbing sides are vertical, and the loops are tangent to each other along these sides, and the turns starting and ending the climbs are 90 degrees. The top sides are slightly shorter than the remaining sides which are of equal length. The maneuver is repeated to form two (2) eights. Tops of loops cannot exceed 60 degrees elevation, bottom of loops must be at normal flight level, and all turns must be smooth, precise, and shall be of a tight radius.

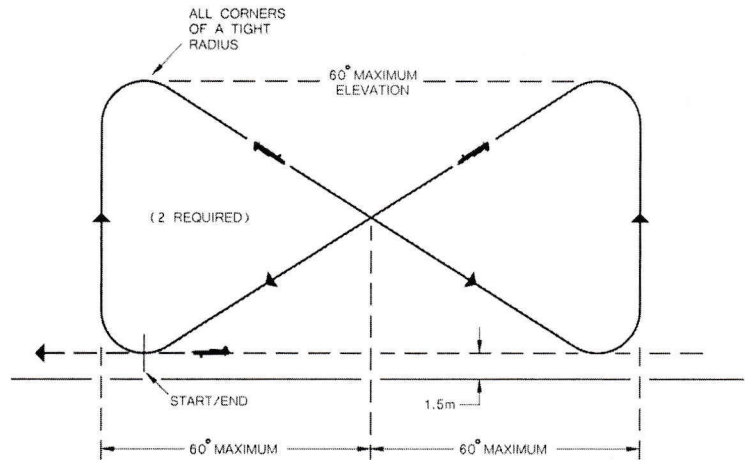


Maximum 40 points. Minimum 10 points.

Errors: Corners shall be of a tight radius. Sides are not straight. Vertical sides and bottom sides are not equal in length. Loops are not equal in size. Top and bottom sides are not horizontal. Turns starting and ending the climbs are not 90 degrees. Tops of loops exceed the 60 degrees elevation. Bottom of loops are not within 1.2—1.8 meters (3.9—5.9 feet) in height. The position of the climbing side varies. Each eight is not as prescribed.

**BOW TIE:** (Two (2) required). Starting from normal level flight Pilot executes a tight radius (inside) turn to vertical flight followed by a tight radius (inside) 120° turn from 45°-60° elevation to descending inverted flight. At level flight altitude the pilot executes a 120° tight radius (outside) turn from

level flight altitude to vertical climb, followed by a tight radius (outside) 120° turn from maximum 60 degree elevation to descending upright flight to the point of the originating vertical turn, completing the first maneuver pass. model then duplicates the maneuver flying a second pass through the same maneuver points. Upon completion of the second pass through the maneuver the model recovers to normal level flight.



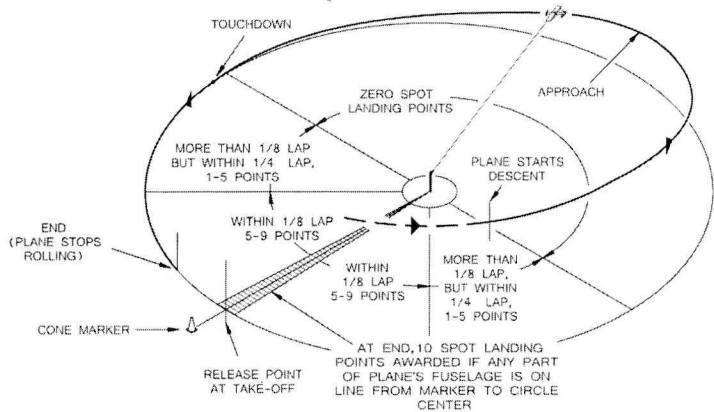
Maximum 40 points. Minimum 10 points.

Errors: Deviations from target elevations at the four (eight including second maneuver) turning points. Vertical climbs not truly vertical or straight. Descending flight paths not straight. Tight turns at the corners are not tight and/or not of the same radius.

**LANDING:** A correct landing is judged when the model descends smoothly to land with no bounce or unusual roughness, and without any part of the model other than the landing gear having touched the ground. Main wheel(s) or three-point landings are permissible. The maneuver ends when the model rolls to a stop. If the model is still moving when the 8-minute time limit elapses, the landing is considered incomplete, is scored as a zero, and pattern points are not awarded.

Maximum 40 points. Minimum 0 points.

Errors: An error is committed whenever the model bounces or when any part of the model other than the landing gear touches the ground. A crash, or a flip over, a belly or upside-down landing receives no marks. An error occurs each time the model deviates from a smooth descent. Any unusual circumstances, outside the pilot's control, which may have caused one of the above-mentioned errors, will be taken into consideration by the judges. Note: It is permissible to extend (by whipping) the descent, to achieve the minimum two (2) laps between maneuvers, to maintain eligibility for pattern points.



**SPOT LANDING BONUS:** A maximum 10-point bonus is earned if when the judge views the airplane across the center of the circle, any portion of the fuselage crosses the marker placed at the release point. Deviation of +/- 1/8 Lap constitutes a max bonus score of 5 points. Deviation of +/- 1/4 lap or more from the marker earns zero bonus points.

## Score Sheet – Brodak Senior Stunt Challenge

Pilot: \_\_\_\_\_ AMA # \_\_\_\_\_

Flight # \_\_ Circle # \_\_\_\_\_ Judge: \_\_\_\_\_

NO.	MANEUVER	POINTS	SCORE
	Appearance	0-20	0
1	Takeoff and Level Flight	10 - 40	
2	Top Hat	10 - 40	
3	Inside Loops (3)	10 - 40	
4	Inverted Flight (2 laps)	10 - 40	
5	Outside Loops (3)	10 - 40	
6	Inside Square Loops (2)	10 - 40	
7	Outside Square Loops (2)	10 - 40	
8	Triangular Loops (2)	10 - 40	
9	Outside Triangular Loops (2)	10 - 40	
10	Horizontal Eights (2)	10 - 40	
11	Horizontal Square Eights (2)	10 - 40	
12	Bow Tie (2)	10 - 40	
13	Landing	0 - 40	
14	Spot Landing Bonus	0-5-10	
Y/N	Flight Pattern	0 or 25	
<b>TOTAL SCORE</b>			