JUDGING REFERENCE

Pilots are responsible for presenting the proper geometry of each figure such that the judges can properly evaluate the performance of the maneuver.

AUTOMATIC ZEROES:

- Omitted, Added, or Wrong Figures (except as noted Rule 6.3c)
- Wrong Direction of Flight - Aresti dictates direction of flight.
- Accumulation of more than 90° in errors in Pitch/Roll/Yaw Axes
- Figure done completely outside the Box or Behind the Deadline.
- Hammerhead - Flyover, backwards slide, or flopping out.
- Snap Roll - No Stall - Nose does not depart line/no autorotation
- Spins - No visible stall, or snap / barrel-roll entry.
- Missed points in point rolls
- Hesitations during continuous (slow) rolls.
- Tailslide - no visible slide or slide goes wrong way.

Deviation in TRACK of CG (any axis) of Aircraft - **0.5 point/5°**

All Figures Begin AND End in Level Flight - **0.5 point/5°**

No Distinct Visible Between Figures - **1 Point EACH Figure**

Roll Placement On Internal Lines (Families 1, 5, 6, 7, & 8)

- Rolls on Internal Lines **MUST** be Centered
- Visual Roll Centering Variation - **1 point Deduction**
- 2:1 Roll Centering Error -**2 Point Deduction**
- > 2:1 Roll Centering Error - **3 Point Deduction**
- No Line at all - Before **AND** After Roll - **2 Point Deduction**
- No line either before **OR** after rolls **- 4 point Deduction**
- Rolls on Loops - **0.5 point per 5° off center of Loop Apex**
- Rolls on Loop flown on a flat line at Apex - **2 point minimum deduction**

Partial Loop Radius Criteria (Families 1, 3, 5, 6, 7, & 8)

- **EQUAL Radius REQUIRED - DEDUCTION = Judge's Criteria**
- **UNEQUAL Radius ALLOWED - NO DEDUCTION** - as follows:
- Vertical Upline and Downlines, shark's Tooth / Figure "N" (and all Family 1 variations), Humpty-Bumps - Top can be different - Entry/Exit **MUST** be the same

ENTRY / EXIT ALTITUDE REQUIRED TO BE THE SAME - 0.5 point/5°

- Horizontal Lines - includes lines with rolls (not snaps) - Family 1
- Procedure and Rolling Turns - Family 2
- All Round, Square, Diamond, Octagon Loops - Family 7
- All Horizontal (Cuban) 8's and Vertical 8's - Family 7

NON-JUDGED CRITERIA - NO *DIRECT* EFFECT ON SCORES

- Roll Rate - Absolute rate not judged. Changes in rate downgraded
- Size of Figure not graded - Proper Geometry MUST be demonstrated
- Distance From Judges not graded - MUST stay in Box
- Flight Speed not graded - This may effect other judgeable criteria

FAMILY 1 – Lines & Angles

- Incorrect Angle on 45° & 90° Lines - **0.5 point / 5°**

FAMILY 2 – Aerobatic Turns & Rolling Turns

- Turn Bank Angle less than 60° in Aerobatic Turns - **0.5 point/ 5°**
- Change in Turn Rate, Roll Rate, Bank Angle - **1 Point/ *occurrence***
- Stoppage of Rolls in Rolling Turn - **1 Point *per occurrence***
- Altitude Variation in Rolling Turn - **0.5 point per 5°**
- Uneven Integration - **0.5 point per 5°**
- Reversing Roll Direction - **0.5 point per 5°**
- Finish on correct axis - **0.5 point per 5°**

FAMILY 3 – Combinations of Lines

- Incorrect Angles & Track - **0.5 point / 5°**
- Unequal radius of partial loops - **Judge's Criteria**

FAMILY 5 – Hammerhead (Stall) Turns

- Flopping Out of Hammerhead/Flyover/Slide - **ZERO**
- Greater than 1/2-Span Rotation - **1 Point *per 1/2-Span Error***
- Loss of Track at Top (sneaking entry) - **0.5 point per 5°**
- Rotation about longitudinal or lateral axis (torquing) - **0.5 point / 5°**
- Pendulum in any axis - **0.5 point per 5°**

FAMILY 7 – Loops & Eights

- Loop Not Round - **Judge's Criteria**
- Corkscrew (Lateral displacement) - **0.5 point / 5°**
- Loop Not Closed (entry/exit altitude different) - **0.5 point / 5°**
- ANY line between 1/2 loop and Roll element - **2 Points MINIMUM**
- Over/Under Shoot in Hesitation Loops - **0.5 point / 5°**

FAMILY 8 – Combinations of Lines, Angles & Loops

- Variation in roll/pitch/yaw TRACK - **0.5 point / 5°**

FAMILY 9 – Aileron Rolls, Snap Rolls & Spins

Spins - Aircraft MUST Initiate *Autorotation after a Stalled Entry*

- Constant Altitude at Spin Entry - **0.5 point / 5°**
- No Wing Drop in Direction of Spin as Nose Falls - **0.5 point / 5°**
- Over/Under Rotation of Spin - **0.5 point / 5°**
- "Aileroning" finish after autorotation stops - **0.5 point / 5°**
- 90° Vertical Downline after spin - **0.5 point / 5°**

Aileron Rolls - "Slow" and Hesitation

- Change in Roll Rate - **1 Point *per occurrence***
- Under/Over Rotation of Roll = **0.5 point/5° Error**
- Barreling of Aileron Rolls - **0.5 point / 5°**
- NO PAUSE in Point Rolls = Missed Point = **ZERO**
- Under/Over Rotation of Points in Hesitation Roll = **0.5 point/5°**

Snap Rolls - Nose MUST depart line of flight & Autorotate

- Aircraft MUST Stall and establish autorotation – **FAILURE = ZERO**
- Under/Over Rotation of Roll = **0.5 point/5° Error**
- "Aileroning" entry **OR** finish after autorotation stops - **0.5 point / 5°**
- Lateral/Vertical displacement of line due to the snap **NOT** owngraded

Aerobatic control score

- Ability to maintain control and awareness of the aerobatic airspace
- Placing figures in the airspace in a manner that allow the figures to be optimally judged
- Tight footprint