



## JUDGING REFERENCE 2005-2006

Pilot's 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
- Wrong Direction of Flight - Aresti dictates direction of flight.
- Accumulation of more than 90° in errors in Track of 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 of flight/no autorotation
- Spins - No visible stall, or snap / barrel-roll entry.
- Missed points in point rolls - less than the required number of hesitations
- Hesitations during continuous (slow) rolls.
- Tailslide - no visible slide or slide goes wrong way.

Deviation in TRACK of CG (roll, pitch, yaw) of Aircraft - 1 Point/10° Error

All Figures Begin AND End in Level Horizontal Flight - 1 Point/10° Error

Omitting a Distinct Visible Line Between Figures - 1 Point from 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 - **1 point per 10° 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 - 1 Point/10°

- Horizontal Lines - includes level 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 - **1 Point / 10°**

### FAMILY 2 – Aerobatic Turns & Rolling Turns

- Turn Bank Angle less than 60° in Aerobatic Turns - **1 Point per 10°**
- Change in Turn Rate, Roll Rate, Bank Angle - **1 Point per occurrence**
- Stoppage of Rolls in Rolling Turn - **1 Point per occurrence**
- Altitude Variation in Rolling Turn - **1 point per 10°**
- Uneven Integration - **1 point per 10°**
- Reversing Roll Direction - **1 point per 10°**
- Finish on correct axis - **1 point per 10°**

### FAMILY 3 – Combinations of Lines

- Incorrect Angles & Track - **1 Point / 10°**
- 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) - **1 Point per 10°**
- Rotation about longitudinal or lateral axis (torquing) - **1 Point / 10°**
- Pendulum in any axis - **1 point per 10°**

### FAMILY 6 – Tailslides Only legal in Unlimited Unknown Sequences

- See Official IMAC Flying and Judging Guide for downgrades.

### FAMILY 7 – Loops & Eights

- Loop Not Round - **Judge's Criteria**
- Corkscrew (Loop not finished on same plane as started) - **1 Point / 10°**
- Loop Not Closed (entry/exit altitude different) - **1 Point / 10°**
- ANY line between 1/2 loop and Roll element - **2 Points MINIMUM**
- Over/Under Shoot in Hesitation Loops - **1 Point / 10°**

### FAMILY 8 – Combinations of Lines, Angles & Loops

- Variation in roll/pitch/yaw TRACK - **1 Point / 10°**

### FAMILY 9 – Aileron Rolls, Snap Rolls & Spins

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

- Constant Altitude at Spin Entry - **1 Point / 10°**
- No Wing Drop in Direction of Spin as Nose Falls - **1 Point / 10°**
- Over/Under Rotation of Spin - **1 Point / 10°**
- "Aileroning" finish after autorotation stops - **1 Point / 10°**
- 90° Vertical Downline after spin - **1 Point / 10°**

#### Aileron Rolls - "Slow" and Hesitation

- Change in Roll Rate - **1 Point per occurrence**
- Under/Over Rotation of Roll = **1 Point/10° Error**
- Barreling of Aileron Rolls - **1 Point / 10°**
- NO PAUSE in Point Rolls = Missed Point = **ZERO**
- Under/Over Rotation of Points in Hesitation Roll = **1 Point/10° Error**

#### Snap Rolls - Nose MUST depart line of flight & Autorotation Visible

- Aircraft **MUST** Stall and establish autorotation – **FAILURE = ZERO**
- Under/Over Rotation of Roll = **1 Point/10° Error**
- "Aileroning" entry **OR** finish after autorotation stops - **1 Point / 10°**
- Lateral/Vertical displacement of line due to the snap **NOT** downgraded