



# Judge's Quick Reference

## General Reminders

### Guiding Principles:

- Start each figure with a grade of 10.0.
- Deduct for every error you see, no matter how small. The standard is perfection.
- Deduct for errors but not for corrections.
- Stay objective.

### If rules do not specify a deduction value:

- Apply a deduction proportional to the error magnitude.

### For any individual error in angle:

- |                      |  |
|----------------------|--|
| Less than 90 degrees | Deduct 0.5 points for every 2.5 degrees of error<br>(0.5 points from perceptible up to 2.5 degrees, 1 point above 2.5 degrees but less than 5 degrees, etc.) |
| 90 degrees or over   | HZ the figure  |

### HZs are also given for:

- Wrong figure, added figure, omitted figure
- Wrong direction on X Axis
- Wrong exit direction on the Y Axis (only when the figure entry direction is also on the Y Axis)
- Family-Specific Criteria

### Line References

Line	Aircraft Reference	World Reference
Horizontal	Flight Path	True Horizon
Vertical	Zero-lift axis	90 Degrees from Horizontal
45 Degrees	Zero-lift axis	+/- 45 Degrees from Vertical

### Rolls

- |                          |                       |
|--------------------------|-----------------------|
| Varying the rate of roll | 1 point per variation |
|--------------------------|-----------------------|

### Variations in Line Length

- |                                  |          |
|----------------------------------|----------|
| Any visible variation < 2:1      | 1 point  |
| Variation from 2:1 but < 3:1     | 2 points |
| Variation of 3:1 or more         | 3 points |
| No line before OR no line after  | 4 points |
| No line before AND no line after | 2 points |

### Looping Lines

- Deduct for each change in radius. The exact amount of deduction is at the judge's discretion

### Looping Lines with Connected Rolls

- Deduct if the pause between the roll and Looping Line is not short.

### Looping Lines with Integrated Rolls

- |                                    |                             |
|------------------------------------|-----------------------------|
| Flying the roll on a straight line | At least 2 points           |
| Roll not centered                  | 1 point for every 5 degrees |

### Figures with Matching Radii Requirements:

- Combination of Lines (3), Segmented Loops (7.4.3 to 7.4.6), Reversing Whole Loops (7.4.7 to 7.4.14), Horizontal Ss (7.5), Vertical Ss (7.6), Figures 8s (7.8), Reversing P Loops (8.6.9 to 8.6.16), Reversing 1/4 Loops (8.10).

- There is no standardized downgrade for mismatched radii.

### Family 0 – Wingovers

- Deduct for any change in the rate of roll or turn.
- Deduct for any complete stoppage of the rate of roll or turn.



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## Family-Specific Criteria

### Family 2 – Turns

Bank angle less than 60 degrees	1 point for every 5 degrees
Bank angle change	1 point for every 5 degrees
Path of turn not a constant radius	No deduction, wind correction is not a criterion
Roll and heading change blended	1 point for every 5 degrees
Rate of turn change	Deduct for each variation
Altitude change	1 point for every 5 degrees or 100 feet

### Family 2 - Rolling Turns

Too few or too many rolls	HZ
Snap roll during figure	HZ
Roll in wrong direction	HZ
Roll rate variation	Deduct for each variation
Stoppage of roll	Deduct for each variation
Rate of turn change	Deduct for each variation
Altitude change	1 point for every 5 degrees or 100 feet

### Family 3 – Combinations of Lines

Lines not equal in length	1 to 3 points, see Variations in Line Length
Radii not equal	Deduct according to the magnitude of the error

### Family 5 – Hammerheads

Pivot more than ½ wingspan	1 point for each half wingspan
Pivot rate change	No deduction

### Family 6 – Tailslides

Slide in wrong direction	HZ
Slide less than one-half fuselage length	HZ

### Sub-Family 7.4.3 to 7.4.6 – Square, Diamond, and Octagon Loops

Lines not equal	1 to 3 points, see Variations in Line Length
Radii not equal	Deduct according to the magnitude of the error

Square and Octagon Loops Only:

- Final line is short At least 1 point
- Final line is missing 4 point deduction to the loop, 1 point on the subsequent figure.

### Sub-Family 7.8.1 to 7.8.16 – Horizontal 8s and Horizontal Super 8s – Power Only

Loops not equal in radius	Deduct according to the magnitude of the error
Start and Finish not at correct altitude	Deduct if the entry and exit line do not match. <u>Exception:</u> The initial or final 45 lines may be longer when they have any single roll greater than 360 degrees, or two unlinked rolls.

### Sub-Family 7.4.7 to 7.4.14, 8.6.9 to 8.6.16, and 8.10 – Reversing Loops and Reversing Whole Loops

Looping Segments not equal in radius	Deduct according to the magnitude of the error
line between Looping Segments	Deduct according to the magnitude of the error

### Gliders

Figure Entry/Exit Lines, Turns, Rolling Turns, and Single Horizontal Lines	May be any reasonable constant angle: level, ascending or descending Reasonable means figure is identifiable with required angle changes visible
45 Degree Lines	Only Advanced and Unlimited gliders fly actual 45 degree lines Other glider competitors must fly 30 degree lines in place of 45 degrees
Snap Rolls	Need not be centered on their lines
Tailslide	Slide must only be visible