

F3A Aerobatics Judging Guide

The principles of judging and their weighting are: geometrical accuracy (60%), smoothness/gracefulness (20%), positioning (10%), & size relative to other manoeuvres in flight (10%).

Judging is based on the trajectory of the aircraft's centre of gravity rather than its attitude. Manoeuvres must be wind corrected except where the aircraft is in a stalled condition (Spins, Stalls and Snaps). Criteria of judging: type of defect, severity of defect, number of times defect occurs, positioning of manoeuvre and size relative to other manoeuvres in flight.

Basic rule is to deduct 1 point for 15 degrees variation from defined manoeuvre geometry, but 0.5 points only for half of this. Lines should be judged more harshly than deviations in yaw or roll.

Defect	Downgrade
Lack of Gracefulness/Smoothness	1 - 3
Sizing different relative to other manoeuvres in flight	1 - 2
Positioning - <i>Appropriate distance out should be based on visibility of aircraft</i>	
Manoeuvre not centred (per 15 degrees)	0.5 - 4
More than 175m out (visibility is the criterion), >200m = 2-3 pts	1 - 3
Outside 60 degree markers, further out is worse (based on % out of box)	1 - 10
Lines	
Length of lines not graded	No deduction
Manoeuvre doesn't start and end with a horizontal line	1 per manoeuvre
Mis-relationship between lines	0.5 or more
Rolls not centred on lines (except Split S and Immelmann)	0.5 - 2
No line before/after roll (except Split S and Immelmann)	3
Loops	
Radius (compare each radius that was just flown to the last radius flown) (e.g., All loops or part loops within a manoeuvre must have the same radius)	0.5 - 3 per change
Segmentation	0.5 or more
Departure from vertical plane	0.5 or more
Turn-arounds are for positioning, entry/exit altitude can be different heights	No deduction
Rolls	
Variation in roll rate	0.5 or more
Slowing down / speeding up at end of roll	1 per 15 degrees
Start or stop not crisp (each)	0.5 or more
Not centred on lines (except Split S and Immelmann)	0.5 - 2
No line before/after roll (except Split S and Immelmann)	3

Change in pause length within point rolls	0.5 or more per event
Missed or extra point in point roll(s)	1 per 15 degrees
Roll or part-roll in wrong direction	Zero scored

Roll/Loop Combinations

For Immelmann & Split S, roll not immediately before/after loop or part loop	0.5 - 2
For Immelmann, roll starts before loop or part loop completed	1 per 15 degrees
On Cuban 8's or half Cubans, rolls must be centred on lines	0.5 - 3
Humpty Bumps must have consistent radii in all part loops	0.5 - 3
Integrated rolls or part rolls not smooth and continuous and correctly integrated	1 per 15 degrees

Snap Rolls - *Use same basic judging criteria as axial rolls above. If it's not an axial or barrel roll, it's a snap roll*

Attitude (positive or negative) at pilot's discretion	No deduction
Stall/break from line of flight not observed and barrel rolls	Severe (5+)
Axial roll disguised as a snap	Severe (5+)
Aircraft un-stalls during snap	1 per 15 degrees

Spins - *Nose up attitude, nose drops as aircraft stalls. Simultaneously, wing drops in direction of spin*

Gain in altitude prior to spin	1 per 15 degrees
Severe yawing/weathercocking when near stalled	1 per 15 degrees
Drift when stalled or near stalled (not outside aerobatic zone)	No deduction
No stall, snap rolled, or spiral-dived into spin	Zero scored
Slides into spin	1 per 15 degrees
Forcing spin in opposite direction on initial rotation	Severe (5+)
Forcing spin from high angle of attack with down or up elevator	4 - 5
Conditions (e.g., no wind) may mean aircraft does not completely stop	No deduction
Rotation errors judged in same manner as rolls	1 per 15 degrees
Reversal of rotation not immediate (e.g., becomes un-stalled)	Severe (5+)
Roll rate in reversal significant (slight difference ok)	1
Unloading spin (e.g., finishing spin with ailerons)	1 per 15 degrees
Specific attitude of aircraft during spin not judged as long as it remains stalled	No deduction
No visible vertical line following rotation(s)	1

Stall Turns

Pivot up to ½ wingspan	1
Pivot up to 1 wingspan	2 - 3

Pivot >1½ wingspans	4 - 5
Pivot >2 wingspans or flops over	Zero scored
Torques off	1 per 15 degrees
Pendulum movement after pivot	1
Skid before reaching stall turn (early rudder)	1
Drift when stalled or near stalled (not outside aerobatic zone)	No deduction
Part loops on entry/exit not constant and equal radius	0.5 - 3

Rolling Circles - *Mainly about maintaining consistent circular flight path, altitude, roll rate and roll integration*

150m distance requirement not applied. Deduct where >350m	1 - 3
Deviations in geometry	1 per 15 degrees
Either performed towards or away from judges	No deduction
Roll or part roll in wrong direction	Zero scored

Apply same rules as per rolls

Note: This judging reference is not intended to replace the FAI Sporting Code - Annex 5B - Manoeuvre Execution Guide.

When judging, please judge others as you would expect others to judge you. Judge honestly, fairly and consistently.

The APA Committee.