

F3A Judging quick reference Guide 2022

These notes summarise the Manoeuvre Execution Guide (Sporting Code 2022 edition).
For a full description refer to the Sporting Code 2022, section 4 annex 5b

Execution of Manoeuvres

All manoeuvres should be executed with:

Size matching to the size of the manoeuvring zone

Constant Flying Speed;

Correct positioning within the manoeuvring zone;

Geometrical Accuracy;

Each manoeuvre must be downgraded according to:

1. The type of defect.

2. The severity of the defect.

3. The number of times any one defect occurs, as well as the total number of defects.

Every manoeuvre starts with the mark of 10 points and will be downgraded for each defect during the execution of the manoeuvre in one or multiple or 0.5 point steps, depending on the severity of the defect.

Judging is based on the trajectory of its centre of gravity rather than attitude of the aircraft.

Basic rule is 1 point must be subtracted for each approximate 15 degrees deviation, but 0.5 points only for half of this. In general, lines must be judged more critically than deviations in yaw or roll.

Applicable downgrades are outlined below:

NOTE: Any manoeuvre not completed, or flown out of sequence with the stated schedule = Zero scored

Size of manoeuvre

Sizing different relative to other manoeuvres in flight = .5 - 2

Constant Speed

“The model aircraft shall maintain a constant flight speed throughout the various manoeuvre components; for example, in climbing and descending sections. For significant differences up to one point is subtracted.” note that this pertains *within* the manoeuvre, not across the schedule deduction = up to 1 point

Positioning

Manoeuvres must be performed such that they can be seen clearly by the judges.

If beyond the control of the competitor (ie low cloud) "Not Observed" (N.O.)

if within the control of the competitor (ie. too far away) downgrade accordingly

Beyond safety line = zero

Manoeuvre not centred (per 15 degrees) = .5 - 4

More than 175m out = .5 - 1.5

More than 200m out = 2 - 3

Outside 60 degree markers, further out is worse (based on % out of box) = .5 - 10

Eg 30% off the manoeuvre outside the box = 3.

If the above is further out than 150m the downgrade should be increased.

NOTE : entry and exit line count as a part of the manoeuvre.

Geometrical Accuracy

Lines

Length of lines only graded No deduction

Mis-relationship between lines within a manoeuvre

eg square loop .5 – or more

Manoeuvre doesn't start and end with a horizontal line 1 per manoeuvre

ie no line at the end of a manoeuvre -1 for that manoeuvre and -1 for the next manoeuvre.

Loops

"The first radius of a manoeuvre does not define the radii for the remaining radii of a manoeuvre but it is a starting point. As the manoeuvre progresses, the judge will compare each radius that was just flown to the last radius flown and if there is a difference, then a downgrade will be given based on the severity of the difference." = .5 - 3 per change

Segmentation = .5 or more per event

Departure from vertical plane = .5 to 3

Rolls

Variation in roll rate = .5 or more

Slowing down / speeding up at end of roll = 1 per 15 degrees

Start or stop not crisp (each) = 1

Not centred on lines = .5 - 2

No line before/after roll = 3

Change in pause length within manoeuvre = .5 or more per event

Missed or extra point in point roll(s) = 1 per 15 degrees

For rolls or part rolls in opposite directions there must be no line = 3

Roll or part roll in wrong direction = Zero scored

Where there are continuous rolls and part-rolls within one manoeuvre, the roll-rate for the part rolls does not necessarily have to be the same as the roll-rate for the continuous rolls.

Barrel Roll

Barrel rolls are judged in the same way as axial rolls as far as the constant flight path throughout the roll, the start and stop of the rotation, and the roll direction is concerned

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 but model still auto rotates = 1

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

Horizontal 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

Roll/Loop Combinations

For Immelmann & Split S, roll not immediate before/after
loop or part loop 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 = .5 - 3
Humpty Bumps must have consistent radii in all part loops = .5 - 3
Integrated rolls or part rolls not smooth and continuous and
correctly integrated = 1 per 15 degrees

Stall Turns

The model aircraft comes to a stop in forward movement and then must pivot around its centre of gravity (CG) in the yaw axis for the manoeuvre to receive a high score

Pivot up to $\frac{1}{2}$ wingspan = 1
Pivot up to 1 wingspan = 2 - 3
Pivot > $\frac{1}{2}$ wingspans = 4 - 5
Pivot > 2 wingspans, flops forwards or backwards = 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 = 1

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 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 (ie. no wind) may mean aircraft doesn't completely stop = No deduction
Rotation errors judged in same manner as rolls = 1 per 15 degrees
Reversal of rotation not immediate (eg: becomes un-stalled) = Severe (5+)
Roll rate in reversal significant (slight difference ok) = 1
Unloading spin = 1 per 15 degrees
Specific attitude of aircraft during spin not judged as long as
remains stalled = No deduction
No visible vertical line following rotation(s) = 1

Note: This judging reference is not intended to replace the FAI Sporting Code 2022 - Annex 5B - Manoeuvre Execution Guide.