

Australian Rules Classic Stunt

1 Definition

Classic Stunt is an event formulated to display control line aerobatic aircraft designed during the classic era.

2 Eligibility

Aircraft to be designed prior to 1970.

Proof of age and design required (plan, magazine article).
(Plan needs to be a published plan not a self drawn.)

Max noise reading, taken at a distance of 3 m from model, to be 96 dB.

Outlines of wings, tail, fuselage, fin, rudder, cowl, control surfaces to be as plan. Spans, chords, lengths and widths to be as plan (a 2% error is acceptable).

Variations will be allowed to the positions of needle valve, venturi, exhaust, cylinder head orifices, tank pipes, cowl joins, hatch joins and lead-outs (adjustable lead-outs and tip weight boxes are allowed).

Plastic canopies will need to conform closely to plan.

There will be no limitations on hinges, fuel tubing, materials, paint, motors, (see 3.) construction methods, and coverings.

A.R.F. Models will be acceptable if they conform to the plan presented.

3 Specifications

Max flying weight	5.0 kg
Max wing area	1.5 m ²
Max motor capacity	10.0 cc
Max line length	21.5 m
Min line length	12.0 m

4 Static judging

Fidelity to plan can be judged purely by eye, the judge comparing plan to model.

If there appears to be a discrepancy then a measurement may be used to determine if there has been a modification.

Any model deemed to be modified will be downgraded 100 points on each official flight.

5 Line tests

Line length to be measured from axis of handle grip to the centre line of the fuselage. Where more than one propeller is employed, then the axis of symmetry of all propellers is taken.

A static load test will be applied to the assembled control handle, lines and aircraft equal to 15 times the weight of the model, up to a maximum pull of 20 kg.

6 Flight procedure

Contestants will have 2 minutes to enter the circle after being called.

From the moment of entering the circle, the contestant will have 3 minutes preparation time, after which flight time will commence. If the contestant is ready prior to the end of the 3 minutes preparation time, he/she will hand signal the timekeeper to start flight time.

Flight time will be 7 minutes maximum.

7 Flight attempts

Two attempts are allowed for each official flight.

An attempt occurs when:

1. The contestant signals to the judges that an attempt is to be taken.
2. The model does not become airborne within 3 minutes of the starting signal.
3. The competitor does not enter the circle within 2 minutes of being called.

After the first attempt, the contestant will indicate whether the 2nd attempt will be taken immediately (a further 3 minute preparation time allowed) or that he/she will leave the flight circle.

If the contestant leaves the circle, then the 2nd attempt will be taken immediately after the next three official flights. (If there are no more official flights, then the 2nd attempt is to be taken no more than 30 minutes after the 1st attempt.)

An attempt becomes an official flight when the aircraft becomes airborne.

8 Number of flights

To be at the discretion of the C.D. with a maximum of three.

9 Classification

When 3 rounds are flown, the mean of the best 2 scores will be used.

If only 2 rounds are flown, then the highest single score will prevail.

10 Cancellation of a flight

An official flight will be cancelled if jettisoning occurs.

11 Number of helpers

Each competitor is entitled to 2 helpers.

12 Execution of manoeuvres

The manoeuvres must be executed in the order listed.

A minimum of 2 laps is to be flown between manoeuvres except Take-off and Level flight.

A manoeuvre may be attempted only once in an official flight.

Any manoeuvres completed outside the 7 minutes flight time will not be scored.

A manoeuvre flown out of sequence will not be scored.

An omitted manoeuvre is not scored, but succeeding manoeuvres will be considered to be in sequence.

13 Scoring

During an official flight, each manoeuvre will be awarded points between 0 and 10 by each judge. The points are to be multiplied by a coefficient factor, which varies with the difficulty of the manoeuvre. The flight score will be the addition of the resultant of all manoeuvre points.

14 Judges

Number of judges to be at the discretion of the C.D.

Three judges would be ideal.

All judges scores to count.

15 Timekeeping

Timekeeping can be performed by the judges or a specially appointed timekeeper.

16 Schedule of manoeuvres

16.1 Starting K=2

Take off within one minute of Contestant's start signal receives full points.

16.2 Take-off K=2

A correct take-off consists of the aircraft rolling smoothly along the ground for a distance of not less than 4.5 metres but not greater than $\frac{1}{4}$ lap and then rises smoothly into the air with a gradual climb to normal level flight (at 2m.) at a point 1 lap from the start of the ground roll.

16.3 Level flight K=3

Correct level flight is when the aircraft flies 2 smooth, stable laps at a height of 2 metres in an upright position.

16.4 Inverted flight K=4

Correct inverted flight is when the aircraft, flying in upright level flight at a height of 2m. rises to 45° line angle and performs a half outside loop (BUNT) , pulling out inverted smoothly at 2 metres height. The aircraft then flies 2 smooth, stable laps in an inverted position at 2 metres height.

16.5 Recovery from inverted K=4

A correct recovery is when the aircraft, flying inverted at a height of 2 metres, rises smoothly to 45° line angle and performs a half inside loop, smoothly regaining upright level flight at 2 metres height.

16.6 Double wingover K=8

A correct double wingover is when the aircraft, flying in upright level flight at 2 metres height, performs a vertical climb, continuing over the top, bisecting the flight circle, and

then makes a vertical descent, pulling out inverted at 2 metres height and continuing in inverted flight at 2 metres height for approximately half a lap. The aircraft then performs another vertical climb, superimposed on the first climb, continues over the top (as before) then makes a vertical descent, pulling out into upright level flight at 2 metres height.

16.7 Three inside loops K=3

Correct inside loops are performed when the aircraft, flying in upright level flight at 2 metres height, enters into the loops smoothly, continuing until 3 round loops are completed, exiting into upright level flight at 2 metres height. The height of the loops is to be at a 45° line angle. Loops are to be superimposed.

16.8 Three outside loops K=3

Correct outside loops are performed when the aircraft, flying in upright flight at 45° line angle, enters the loop with a bunt and continues smoothly until 3 round loops are completed, and then exits at 45° line angle in upright flight. Height at the bottom of the loops is to be at 2 metres. Loops are to be superimposed.

16.9 Two triangular inside loops K=8

Correct loops are performed when the aircraft, flying in upright level flight at a height of 2 metres, makes an inside turn of 120° at 1.5 m. radius, proceeding straight in an upward and backward direction, then makes another 120° inside turn at 1.5 m. radius (the top at 45° line angle) proceeding straight in a downward and backward direction, then making a 120° inside turn at 1.5 m. radius, returning to upright level flight at a height of 2 metres. The aircraft then flies a second loop in the same flight path as the first. After the 2nd loop, the aircraft resumes upright level flight at 2 metres height.

16.10 Three horizontal eights K=5

Correct eights are flown when the aircraft, flying in upright level flight at a height of 2 metres, performs $\frac{3}{4}$ of a round inside loop, arriving at the intersection point, then changes direction to perform a round outside loop, returning to the point of intersection, then changing direction again to perform $\frac{1}{4}$ of a round inside loop, thus completing one figure eight. The model continues on the same flight path for a further 2 eights, exiting into upright level flight at 2 metres height.

- Top of eights to be at 45° line angle.
- Height at the bottom of the eights to be 2 metres.
- Aircraft to be vertical at intersection of eights.
- Loops of eights to be round and of the same size.

16.11 Three vertical eights K=8

Correct vertical eights are flown when the aircraft, flying in upright level flight at a height of 2 metres, performs a $\frac{1}{2}$ round inside loop, arriving at the intersection point, then changes direction, performing a round outside loop, returning to the intersection point, then changing direction to perform a $\frac{1}{2}$ round inside loop, thus completing one figure eight. The aircraft then continues on the same flight path for a further 2 eights, exiting into upright level flight at a height of 2 metres.

- Aircraft to be horizontal and at 45° line angle at the point of intersection.

- Top of eights to be at 90° line angle.
- Axis of the 2 loops to be vertical.
- Both loops to be round and of the same size.
- Height at the bottom of the eights to be 2 metres.

16.12 Three overhead eights **K=8**

Correct overhead eights are performed when the aircraft performs a vertical climb to the intersection point directly overhead of the flight circle centre, then performs a round inside loop, returning to the intersection point, changing direction and performing a round outside loop and returning to the intersection point, thus completing the first eight. The aircraft continues on the same flight path for a further 2 eights, exiting from the intersection point in a vertical dive.

- Both loops to be round and of the same size.
- Bottom of loops to be at 45° line angle.
- Aircraft to be tangential to loops at intersection point.

16.13 Four leaf clover **K=10**

A correct clover is performed when the aircraft, flying in upright flight at 45° line angle, performs a round inside loop, arriving back at 45° line angle, then flies horizontally at 45° line angle a distance equal to the diameter of a loop, then performs $\frac{3}{4}$ of a round outside loop, continues climbing vertically a distance equal to the diameter of a loop, performs another $\frac{3}{4}$ of a round outside loop, exiting inverted at 45° line angle and continuing horizontally in inverted flight at 45° line angle for a distance equal to the diameter of a loop. The aircraft then performs $\frac{3}{4}$ of a round inside loop, exiting the loop and climbing vertically, then exiting the manoeuvre over the flight circle centre and recovering into upright level flight.

- All loops to be round.
- Loops are to be tangential to each other.
- Tangent lines between the left and right loops to be vertical.
- Bottom of the manoeuvre to be at a height of 2 metres.

16.14 Landing **K=6**

A correct landing is when the aircraft descends smoothly from upright level flight at a height of 2 metres and touches down without bounce, and rolls to a stop without nosing over.