



## The Two Oceans Slope Soarers Aerobatic Event 2010

This aerobatic competition will be taking place at Red Hill, Cape Town on the Saturday 30th January to Sunday 31st January 2010, and hosted by Two Oceans Slope Soarers.

The event is not intended as a fly-in, but as a pure slope aerobatic competition. Entrants will be limited to 20 pilots for the event, due to time restraints for the two days.

Competition entry fee is R150-00 payable via Internet to TOSS bank account upon email confirmation of your entry, see online entry form at [www.toss.co.za](http://www.toss.co.za). Please indicate your frequencies on the entry form.

T-shirt and badge for event are included in the entry fee.

Toilets, tent and basic amenities will be provided.

Boerewors rolls and drinks will be on sale at the event, so bring some cash.

### COMPETITION INFORMATION

#### Friday 29th January 2010

19:00-????

**Dinner at Dixie's at 19:00 hrs. Open menu-cash purchase**  
Meet and greet and pilots briefing

#### Saturday 30th January 2010

07:00-09:00

##### **Practice session**

Peg board control in place

09:00-10:00

##### **Pilots Briefing**

Hand in TX, flying to commence on the schedule provided

10:00-13:00

##### **First rounds to be completed**

Two pilots at a time, as per flying slots allocated on the day

13:00-14:00

##### **Lunch break**

Open flying session

14:00-17:00

##### **Second rounds to be completed**

Two pilots at a time, as per flying slots allocated on the day

17:00-18:00

##### **Open flying session till the close of play**

Peg board control in place

19:00-?????

**Dinner at Dixie's. Open menu-cash purchase**

#### Sunday 31st January 2010

07:00-09:00

##### **Practice session**

Peg board control in place

09:00-10:00

##### **Pilots Briefing**

Hand in TX, flying to commence on the schedule provided

10:00-13:00

##### **Third rounds to be completed**

Single pilot at a time, as per flying slots allocated on the day

Half pipe routine

13:00-14:00

##### **Prize Giving**

Open flying session and completion of the event

14:00-?????

##### **Open flying session till the close of play**

Peg board control in place

Above all this competition is for enjoyment and pleasure, and we rely on all participants to show character, a competitive spirit and comradely manner, in the face of victory or defeat. Please enjoy the event!

## COMPETITION INFORMATION continued.....

### **TX CONTROL: Free Flight times**

Peg board control to be in place for the morning practice sessions and afternoon free flight sessions. Please ensure that you have a peg on the board when flying, and remove when flight is completed, to allow others on the same frequency some flying time.

### **TX CONTROL: During competition times**

Please hand in your TX at 10:00 to the TX pound area. TX will be released 10 minutes ahead of your scheduled flight slot. We will ensure there are no conflicting or close frequencies between competition flying slots. Complete your flight and hand back TX to the TX pound area for the duration of the competition times.

### **ON THE SLOPE: Specifically to free flight times**

Call your frequency.

Call your launches.

Call your high speed runs and from which direction.

Call your landing before proceeding to the landing area.

Call when you are clear of the landing area.

Only a single pilot and glider to be in the landing area at any given time.

Best approach and landing area will be indicated via a cordoned off area.

### **COMPETITION FORMAT:**

Saturday schedule is provided as the standard approach repeated in the morning and afternoon sessions.

Should conditions allow it Sunday schedule will be the half pipe manoeuvres

Pilots whose slot is approaching to collect TX from pound.

Make your way to the front of the slope, as this will take some time.

Two pilots to launch and have 2 minutes to gain altitude required for manoeuvre.

Each manoeuvre to be run individually and in sequence.

Each pilot is allowed a caller to call your name and the manoeuvre prior to starting your run if you so wish.

Call start at the scoring part of entry to the manoeuvre.

Call complete when you are satisfied you have completed the manoeuvre.

Exit the competition area and second pilot to perform the same manoeuvre, and so on.

### **Judging:**

Scores are final and no deliberation will be entered into.

Judge's Guide: Compliments of SAMAA PDF on slope aerobatics

In awarding scores judges should bear the following in mind:

- a. A perfectly performed manoeuvre deserves 10 points.
- b. An unrecognisable manoeuvre, or one that is missing an essential part (e.g. only one loop performed for two loops), deserves zero. A manoeuvre that is recognizable as the manoeuvre being attempted deserves a score.
- c. The qualities to look for in assessing a manoeuvre can be summarized as:
  - i. Shape of manoeuvre - eg. roundness of loops.
  - ii. Superimposition - eg. second loop superimposed on first — not necessarily same size.
  - iii. Symmetry - eg. two (side-by-side) loops (in cuban-8 or horizontal-8) or one loop above another (vertical-8) of equal size.
  - iv. Positioning - eg. center of manoeuvre on judges center line.
  - v. Smoothness heading - eg. manoeuvre performed perpendicular to centre line.
- d. Scores should not be assessed by simply counting defects and subtracting the number from 10 as this will frequently end up as a negative number, especially for complex manoeuvres, and this is not the intention.
- e. In general, it is up to the competitor to compensate for the conditions, and judges must not take the conditions into account, but certain specific cases should be considered, should the pilot fail to complete the manoeuvre due to circumstances beyond the pilots control.
- f. In the case of consecutive loops, it is possible to partially compensate for drift by continuously banking the model into wind, but when the wind speed increases this becomes less and less effective, so that it has become an acceptable common practice to make the loops smaller as the model comes closer to the judges, so that if they are correctly positioned, they will appear to be the same size and superimposed.

**Please note that this document is intended as a basis for the competition, but based on weather conditions, the event organisers may be required to depart from the schedule and timelines indicated.**

# Schedule of Manoeuvres for the TOSS Aerobatic Event Saturday 30th January and Sunday 31st January 2010



## Saturday Routine

Two rounds of four mandatory manoeuvres and six optional manoeuvres from the optional manoeuvres list. Pilots to submit their final selection of optional manoeuvres at sign in on Saturday morning. This selection will be final and fixed for both rounds.

### Mandatory Manoeuvres:

a	<a href="#">Two Rolls</a>	K=8	b	<a href="#">Two Inside Loops</a>	K=8
c	<a href="#">Double Immelman</a>	K=9	d	<a href="#">Cuban Eight</a>	K=10

### Optional Manoeuvres:

1	<a href="#">One Roll</a>	K=5	2	<a href="#">One Inside Loop</a>	K=5
3	<a href="#">Split S</a>	K=5	4	<a href="#">Immelman</a>	K=6
5	<a href="#">Stall Turn</a>	K=6	6	<a href="#">Straight Inverted</a>	K=7
7	<a href="#">Three Turn Spin</a>	K=8	8	<a href="#">Three Inside Loops</a>	K=10
9	<a href="#">Vertical Eight</a>	K=10	10	<a href="#">Slow Roll</a>	K=11
11	<a href="#">Reverse Cuban Eight</a>	K=11	12	<a href="#">Three Outside Loops</a>	K=12
13	<a href="#">Inverted Eight</a>	K=12	14	<a href="#">Figure M</a>	K=12
15	<a href="#">Square Loop</a>	K=12	16	<a href="#">Horizontal Eight</a>	K=12
17	<a href="#">Three Rolls</a>	K=13	18	<a href="#">Four - point Roll</a>	K=14
19	<a href="#">Rolling Eight</a>	K=15	20	<a href="#">Four – point Rolling Circle</a>	K=18

## Sunday Routine

[Half Pipe Pattern](#)

# Aerobatics Manoeuvres

a. **Two Rolls** The model flies s & l, rotates 720° around its longitudinal axis and then flies s & l.

**K8**

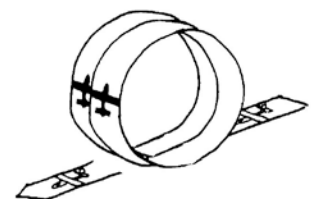
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b. **Two Inside Loops** The model flies s & l, performs two consecutive inside loops and then flies s & l.

**K8**

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c. **Double Immelman** The model flies s & l and performs one half loop, immediately performs one half roll, flies s & l for about one second, performs one half outside loop, immediately performs one half roll then flies s & l at the same altitude and heading as the start of the manoeuvre.

K9

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d. **Cuban Eight** The model flies s & l, performs five-eighths of a loop (to an inverted 45° diving attitude), performs one half roll (the centre of the half roll being at the height of the centre of the loop), performs three quarters of a loop (to an inverted 45° diving attitude, with the centre of the loop at the same altitude as the first loop), performs one half roll (the centre of the half roll being at the height of the centre of the loop), performs one eighth of a loop then flies s & l at the same altitude and heading as the start.

K10

1. **One Roll** The model flies s & l, rotates smoothly around its longitudinal axis and then flies s & l.

K5

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2. **One Inside Loop** The model flies s & l, performs one inside loop and then flies s & l.

K5

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3. **Split S** The model flies s & l, performs one half roll, immediately followed by one half loop, and then flies s & l.

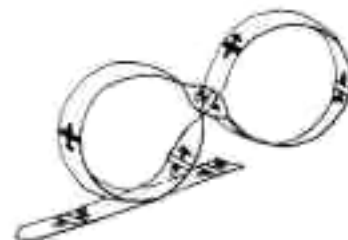
K5

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4. **Immelman Turn** The model flies s & l, performs one half loop, immediately followed by one half roll, and then flies s & l.

K6

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5. **Stall Turn** The model flies s & l at 90 degrees to the centre line and just past the centre line, performs one-quarter of an inside loop (to a vertical attitude, and at a position about 45 degrees from the centre line from the viewpoint of the judges), continues to fly vertically upwards for a short distance, yaws (into wind) through 180 degrees, flies vertically downwards for a short distance, performs one-quarter of an inside loop, then flies s & l at the same altitude but on the opposite heading to the start of the manoeuvre.  
**Note:** A score of zero should be given if the model falls more forward or backward than sideways.



K6

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6. **Straight Inverted Flight** The model flies s & l, performs one half roll, flies s & l inverted for about five seconds, performs a second half roll, and then flies s & l.

K7

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7. **Three Turn Spin** The model flies s & l into wind, slows down until it stalls and, in a fully stalled condition, falls into a spin. At the end of three revolutions the model recovers from the spin, flies vertically downwards to regain flying speed, performs one-quarter of a loop, and then flies s & l in the same direction as the start of the manoeuvre.

K8

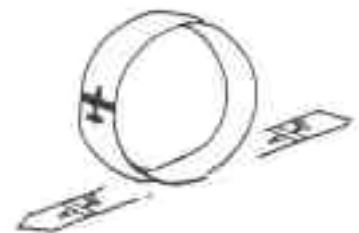
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8. **Three Inside Loops** The model flies s & l, performs three consecutive inside loops and then flies s & l.

K10

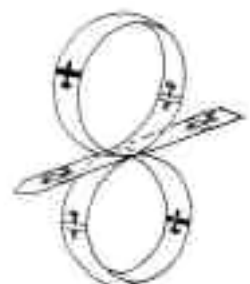
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9. **Vertical Eight** The model flies s & l, performs one inside loop, immediately performs one outside loop, then flies s & l at the same altitude and heading as the start of the manoeuvre.

K10

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**10. Slow Roll** The model flies s & l, performs one roll then flies s & l. The roll shall be at a uniform rate and shall take approximately five seconds. **Note:** A significantly faster roll should be downgraded proportionately, e.g. a roll executed in approximately 3 seconds should be downgraded 50%, and a roll executed in 1 second scored zero.



K11

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**11. Reverse Cuban Eight** The model flies s & l with the manoeuvre starting before the centreline, performs one-eighths of a loop up the 45° line and half roll to inverted on centreline into three quarters of a loop, up the 45° line and half roll to inverted on centreline, performs five eighths of a loop then flies s & l at the same altitude and heading as the start.

K11

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**12. Three Outside Loops** The model flies s & l, performs three consecutive outside loops (downward) and then flies s & l.

K12



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**13. Inverted Eight** The model flies s & l across wind, performs one half roll to an inverted attitude, turns (into wind) through 90°, immediately turns in the opposite direction through 360°, immediately turns in the first direction through 270°, performs one half roll, then flies s & l at the same altitude and heading as the start of the manoeuvre.

K12

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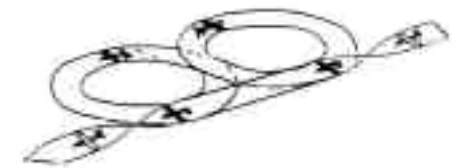
**14. Figure M** The model flies s & l, performs one quarter of an inside loop, continues to fly vertically upwards for a short distance, yaws (into wind) through 180°, flies vertically downwards for a short distance, performs one half of an outside loop, continues to fly vertically upward for a short time, yaws (into wind) through 180°, flies vertically downward for a short distance, performs one quarter of an inside loop, then flies s & l at the same altitude and heading as the start of the manoeuvre. **Note:** A score of zero should be awarded if, in either stall turn, the model falls more forward or backward than sideways.

K12

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**15. Square Loop** This is a variation of the basic loop. The two vertical lines and the horizontal line on top have to be of the same length. The exit line at the bottom has to be at least as long as the other three sides. The quarter loops that connect the four sides have to have the same radius at each corner.

K12

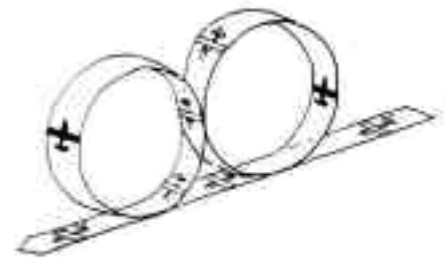


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**16. Horizontal Eight** The model flies s & l, performs three-quarters of an inside loop (to a vertically downward attitude), performs one outside loop (to a vertically downward attitude), performs one quarter of an inside loop then flies s & l at the same altitude and heading as the start of the manoeuvre.

K12

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**17. Three Rolls** The model flies s & l, performs three consecutive rolls, and then flies s & l.

K12

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**18. Four Point Roll** The model flies s & l, rolls through 90° to a knife-edge attitude, hesitates briefly before repeating the quarter-rolls and hesitations back to a wings-level attitude, then flies s & l.

K14

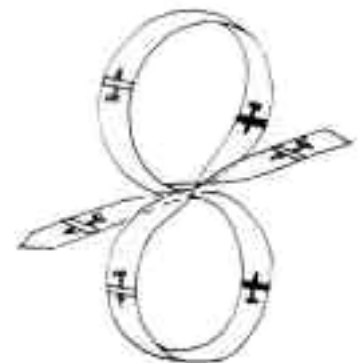
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**19. Rolling Eight** The model flies s & l, performs one half roll, performs one outside loop (upward), performs one half roll, performs one outside loop (downward), then flies s & l. The half roll is performed simultaneously with the last portion of the first loop and the first portion of the second loop.

K15

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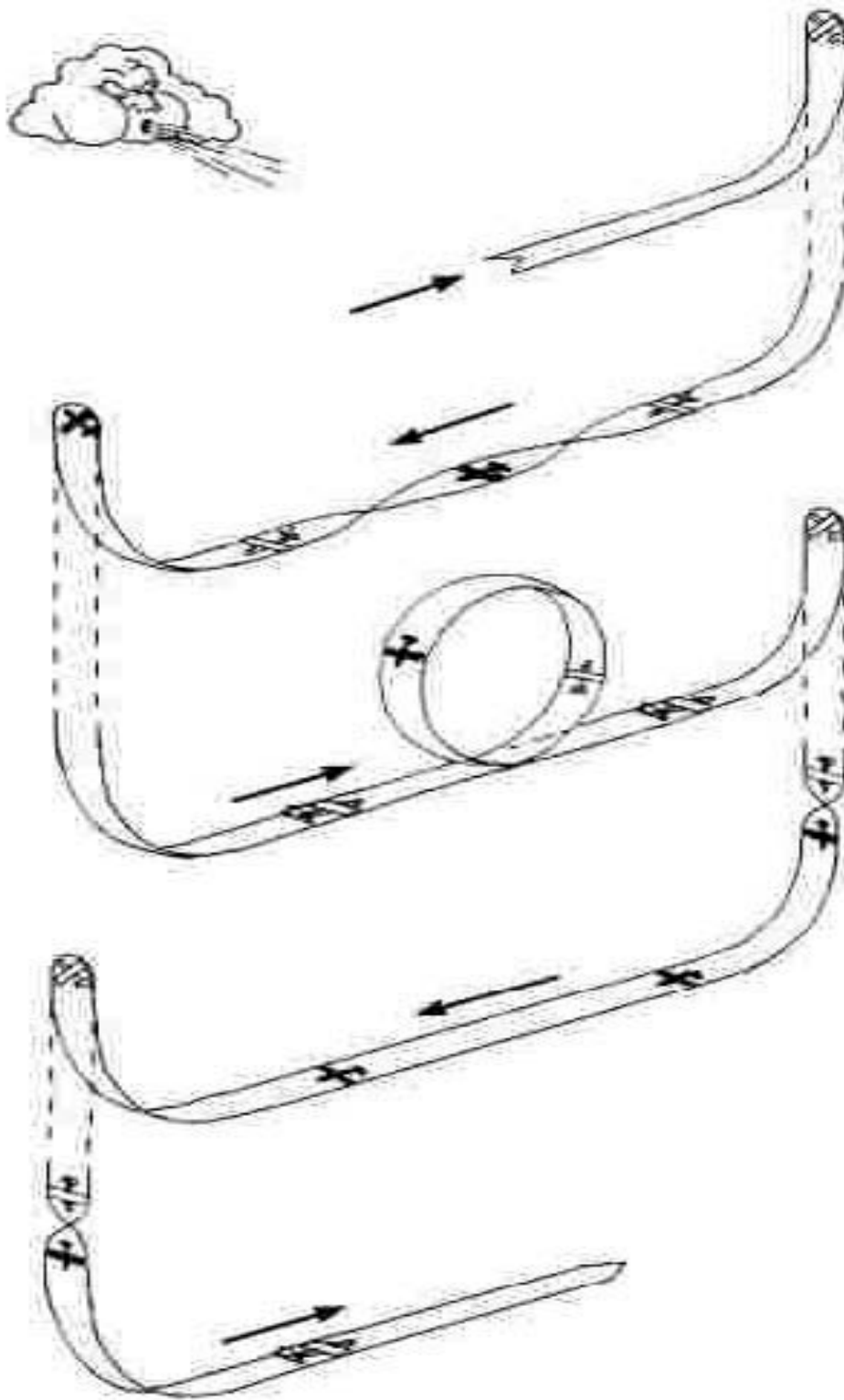
**20. Four – point Rolling Circle** The model flies s & l across wind, turns (into wind) through 90° and performs one quarter roll to a knife edge attitude, turns through 90° and performs one quarter roll to an inverted attitude, turns through 90° and performs one quarter roll to a knife edge attitude, turns through 90° and performs one quarter roll to an upright attitude and then flies s & l at the same altitude and heading as the start of the manoeuvre.

K18

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## The Half-Pipe Pattern



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