

NORDIC AEROBATIC CHAMPIONSHIPS 2024



Judge and Pilot Notes

Welcome!



This set of aerobatic notes is –

- For **Judges** –
To understand the classic Aresti judging process
- For **Pilots** –
To understand what the Judges are really looking for

There are TWO key groups of people at every aerobic event

Pilots – they do all the hard work

Judges – they are there to spot the errors

And of course a few officials ...

Every aerobic competition has both of these groups

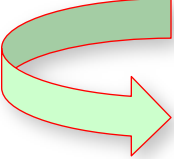
For **Pilots** it really helps to know what the **Judges** are looking for to get the best marks from them ...

For **Judges** a clear understanding of the principles of Aresti aerobic judging is essential, and not difficult

Judges and Judging



The key skills are:



**THE ABILITY TO DEDUCT MARKS
ACCURATELY AND QUICKLY WHILE
WATCHING A SEQUENCE**



GOOD KNOWLEDGE OF THE RULES



KEEN EYESIGHT



TEAMWORK

Training to be a Judge

1

LEARN THE RULES:

Download and print a full copy of the IAC or the CIVA Power or Glider Section-6 Regulations, read the Judging Rules and understand how to apply them

2

PRACTICE “CALLING” for other Judges:

Being able to Call is by far the best preparation

3

Get used to being a TEAM MEMBER:

Judging is always a co-operative venture

4

Go and Scribe, then Call ... then Judge

Learn the Rules

Download a copy of the IAC Rules from:

<https://www.iac.org/download-contest-rules>

The key parts to read are:

Pages i and ii:

Judge's Quick Reference

Sections 22-23-24:

Known, Free and Unknown Programs

These pages provide the basis for all aerobatic competition figure assessments in the US and affiliated IAC chapters.

When **CIVA Rules** apply you'll need a copy of **CIVA Section 6 Part 1** (power) or **Part 2** (glider) regulations. The underlying principles are very similar, most international rules are based on them.

For CIVA go to the **CIVA News website** > The Document Store at:

www.civanews.com/the-civa-document-store/



The process of Judging

The Judging Team

Before every sequence starts -

- ✍ Check through the diagram carefully*
- ✍ Mark opposite rolls, equal radii etc.*
- ✍ The Judge has **NO PAPERWORK**
The Caller and Scribe handle this*



Caller → Judge → Scribe

The Caller:

- Describes each element “Just-In-Time”*
- Checks what actually happens is correct*
- Tells the judge if there are major errors*

The Judge:

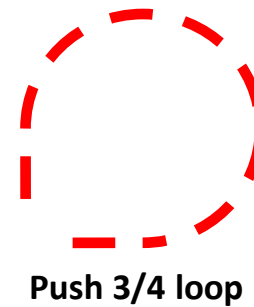
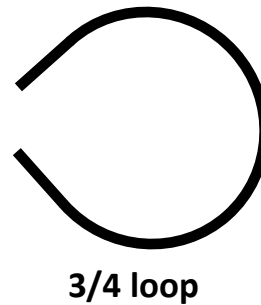
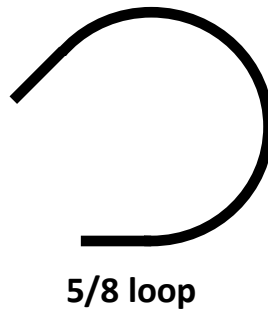
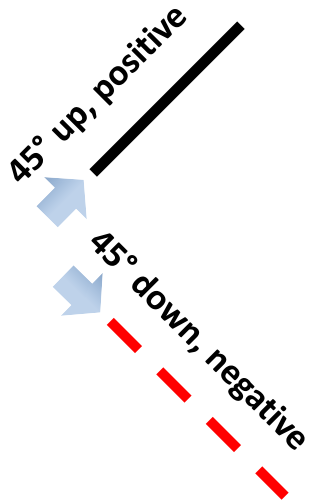
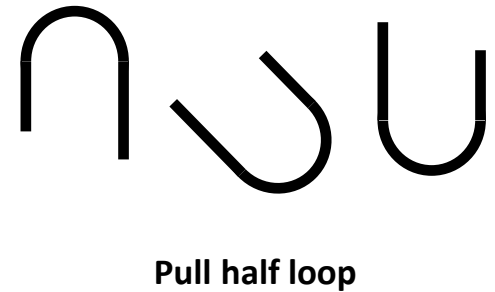
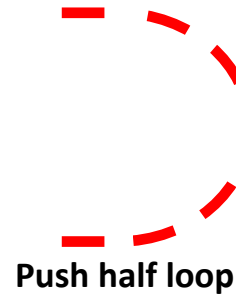
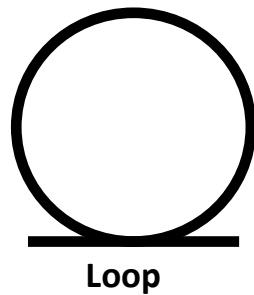
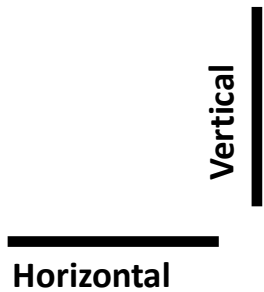
- Carefully watches each element*
- Comments throughout on errors seen*
- Gives each figure a final mark*

The Scribe:

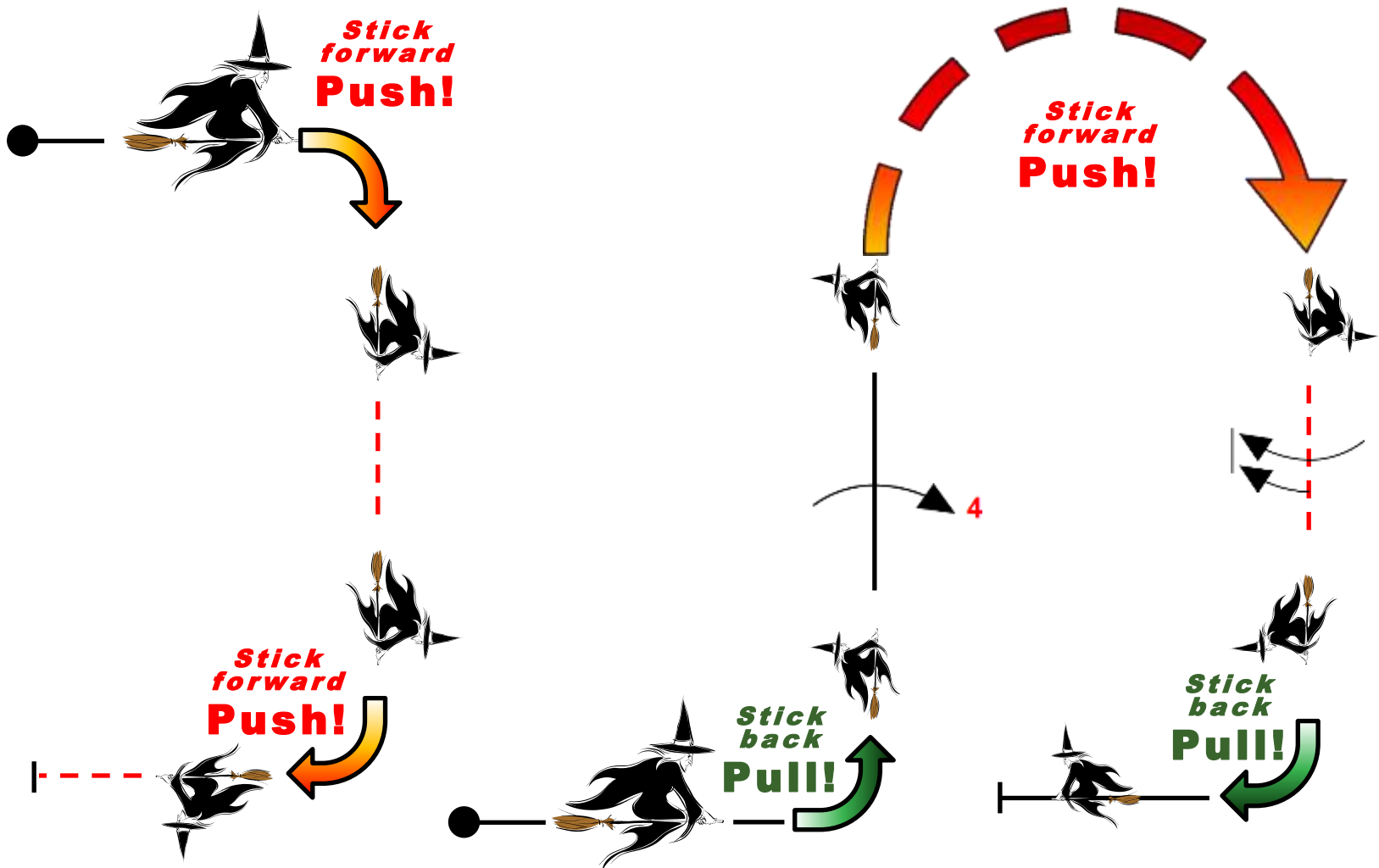
- Records each mark*
- Notes all the downgrade reasons*
- Reads-back the figure number and mark*

Calling 1

Calling Angles and Loops



Pulling and Pushing



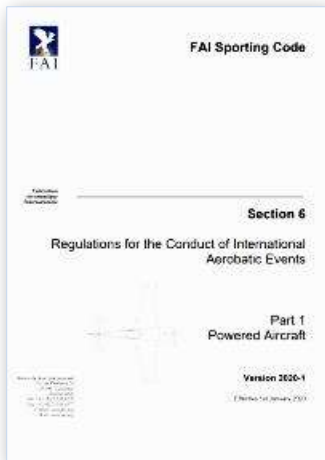
Learning to Judge is not difficult

You have the best seat in the house

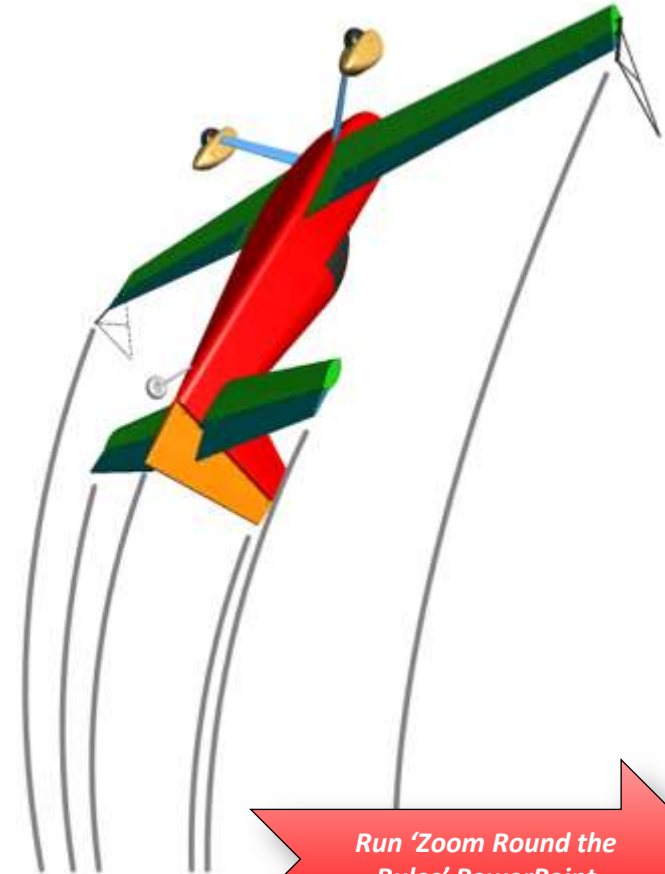
Note to Pilots ... !!

- **Spend some time helping on the Judging Line**
It's a great way to observe common errors
- **It is remarkably useful to see the common mistakes and discover how costly they can be ...**
- **Back in the aeroplane you will have a far better understanding of how to fly the figures**

The Rules of Aresti Judging



RULES
RULES
RULES
RULES



**Zoom around
the CIVA Rules!**

The IAC Rules are basically similar ...

Basic tips for Judges...

- ✓ *Have a spare pair of glasses, sun glasses too*
- ✓ *Take a comfortable chair, an umbrella etc.*
- ✓ *Take some sun screen – don't be the sun-burned Judge!*
- ✓ *Have some spare pens and pencils*
- ✓ *Have a good sun hat*
- ✓ *Drink plenty of water*
- ✓ *Get up and walk around regularly between sequences*
- ✓ *Take a copy of the appropriate rules*
- ✓ *Have a spare clipboard and some elastic bands*
- ✓ *Take some peppermints or sweets – you'll talk a lot*

Now: for Pilots



Key Topics ...

- ↪ Preparation on the day
- ↪ Sequence Cards
- ↪ Learning the sequence thoroughly
- ↪ Warm-Up figures and 'Flying the Box'
- ↪ Wing Rocks and sequence start
- ↪ Flying the figures in the **RIGHT PLACE**
- ↪ Give the Judges **ANSWERS** not **QUESTIONS**
- ↪ Concentrating on **EVERY** part of **EVERY** figure
- ↪ Classic errors, and what to **NOT** do!

Preparation on the day

On the Ground ... *All these things are FREE*

- **Briefing – RWY, Frequencies, Wind, Judge location, Box**
- **The sequence – learn it THOROUGHLY**
- **Food – eat for ENERGY**
- **Drink – hydration is essential**
- **Exercise – get your body ready ... add oxygen!**
- **Toilet ...**
- **Finalise notes on the sequence card**
- **Aeroplane – fuel, oil, loose objects ...**

Get in and Go ... *Mistakes now become COSTLY*

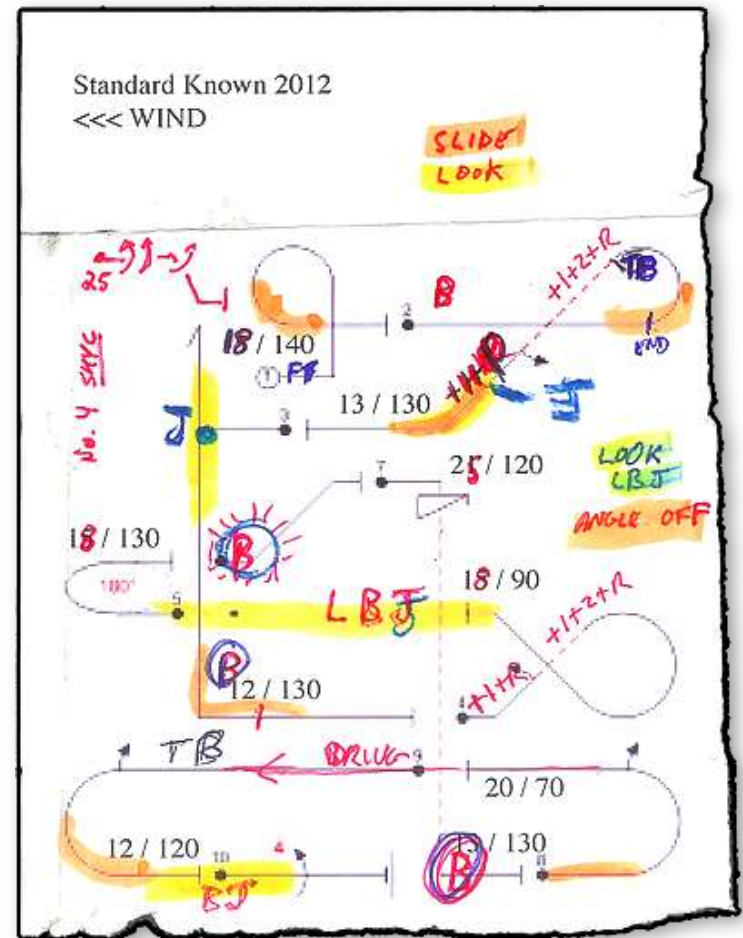
- **Straps and Parachute – tight and comfortable**
- **Timing your start-up – not too early**
- **Radio – making contact with the Chief Judge ...**

Sequence Cards

Sequence or Cockpit cards are critically important -

- *Make them as large as possible*
- *Use bright colours*
- *Add important instructions*
- *Left or Right Wind?*
- *Write them BY HAND to help you learn the figure progression*
- *Add "Gate Height" info*

Everything you do on the ground is FREE
There is absolutely no time to think or re-plan things in the aeroplane

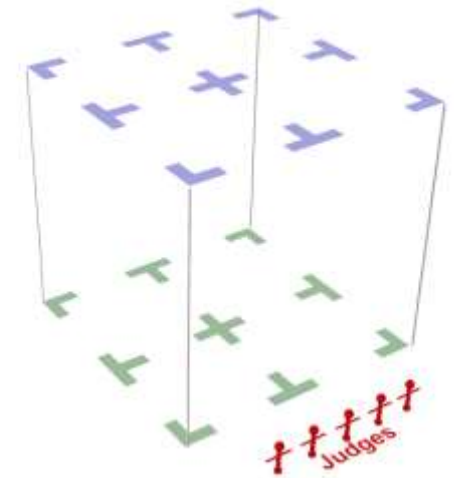


Learn the Sequence

1. Memorise the sequence from your card
2. Go through it as FAST as you can and fix the hesitations
3. Use the published box picture to understand the area
4. Do your “hand-walking” – but beware this is *DIFFERENT*
5. Make a plan to locate every figure – especially the first
6. Determine the “Gate heights” and target speeds
7. Mark the LOW points in the sequence
8. Decide the Cross-Box directions – TOWARDS or AWAY
9. Prepare and plan the Warm-Up figures you want to fly
10. ASK if you are unsure about ANYTHING

Flying the Box

1. Fly round all four sides of the box and study the layout
2. Check the Judges location:
THEY are the focus!
3. Do your warm-up figures as PRACTICE –
 - Fly a 45° down to your start height, check the speed
 - Fly the two half rolls accurately, they are “practice”
 - Fly the other figures (*next page*) and watch the judges
 - Fly a 45° up and get back to your start position
4. Relax ... Wing-Rocks (*all @ 90° please*) ... Go!
5. If it goes wrong – TAKE A BREAK!!



Warm-Up Figures

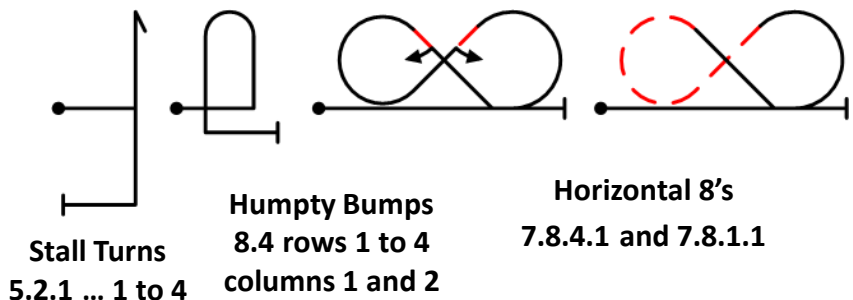
For power Basic and Sports levels



For CIVA power Intermediate, Advanced and Unlimited levels



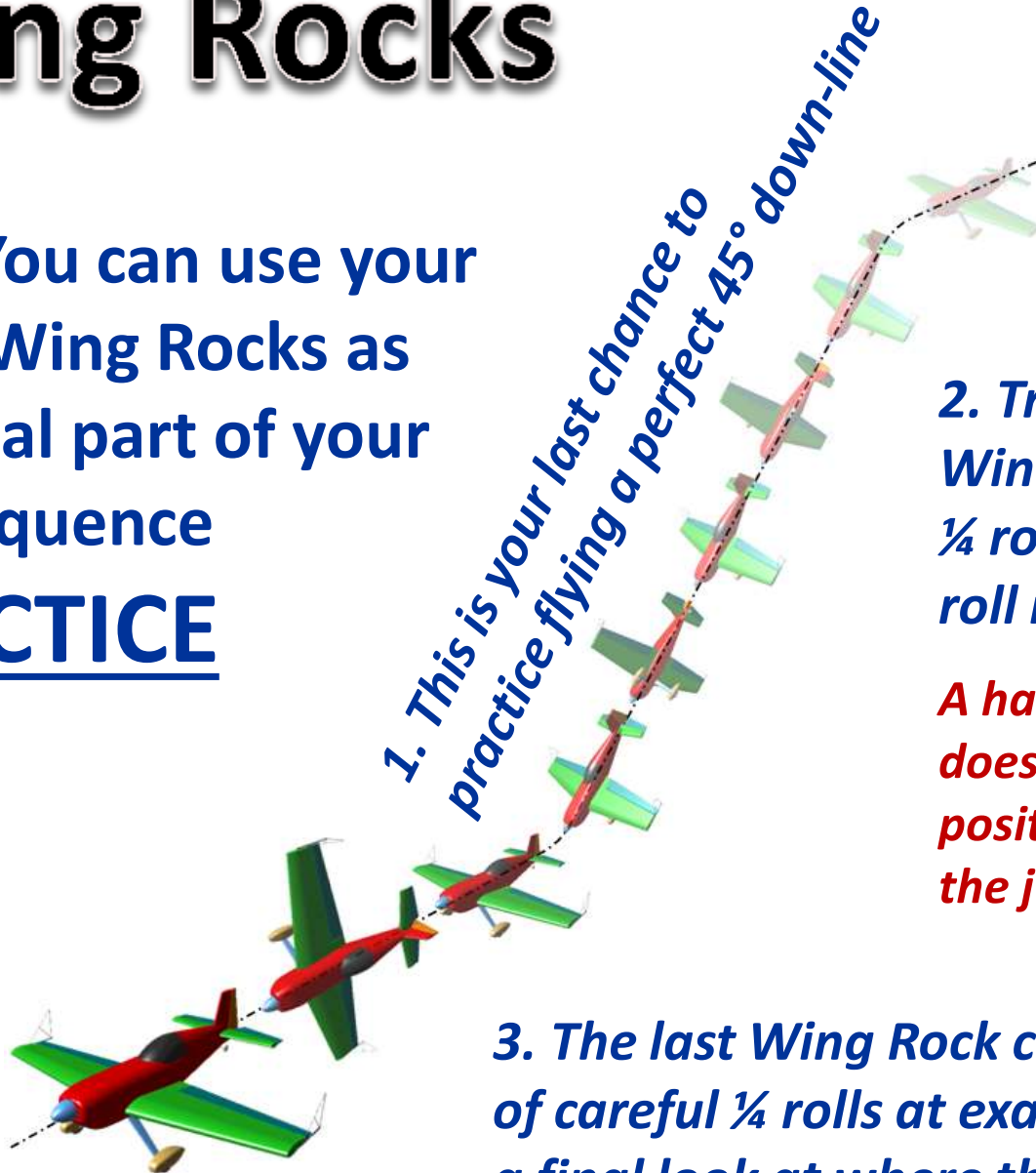
PLUS up to three of -



Stall Turns without rotations
Upward Humpty Bumps without rotations
Either of these two horizontal eights

Wing Rocks

Hint! You can use your
three Wing Rocks as
the final part of your
pre-sequence
PRACTICE



1. This is your last chance to
practice flying a perfect 45° down-line

2. Try to make the
Wing Rocks accurate
 $\frac{1}{4}$ rolls – one exact 90°
roll in each direction

*A half-hearted waggle
doesn't give the same
positive impression to
the judges ...*

3. The last Wing Rock can be another pair
of careful $\frac{1}{4}$ rolls at exactly 90°, then take
a final look at where the Judges are ...

Multi-Tasking anyone?

You have to –

1. Fly the aeroplane – speed, height, attitude, revs, prop, T's & P's
2. Fly EVERY single part of the figure you are in VERY CAREFULLY
3. Know clearly what the NEXT figure is, the correct speed and height for it, and the correct direction to start it
4. Check WHERE you are after EVERY figure, and inevitably ...
5. Adjust your main-axis lines to creep back to the right place
and finally ...
6. Constantly monitor your situation. You must detect if anything goes wrong and make a plan to DO SOMETHING ABOUT IT


Mentally and physically your work-load will be extremely high = no time to think

From the moment you enter the box, make it neat and tidy

- Judges do watch your Warm-Up figures, it tells them what they should expect from you
- Make sure that you start the first figure in the right place, at the right height, at the right speed
- Check where the Judges are after EVERY figure
- Proceed at a regular pace, with fairly short distances between each figure except to reposition ...

Some simple tips ...

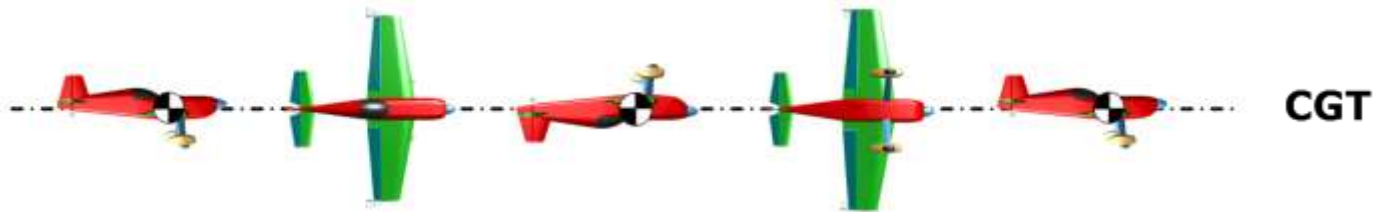
KNIFE-EDGE RUDDER #1

Which one of these LOOKS better? 

1. Normal: probably no drop in knife, but it looks ragged and untidy



2. Better: neat and tidy, appears straight (Judges won't see any drop)



(1) asks a QUESTION that (2) completely avoids

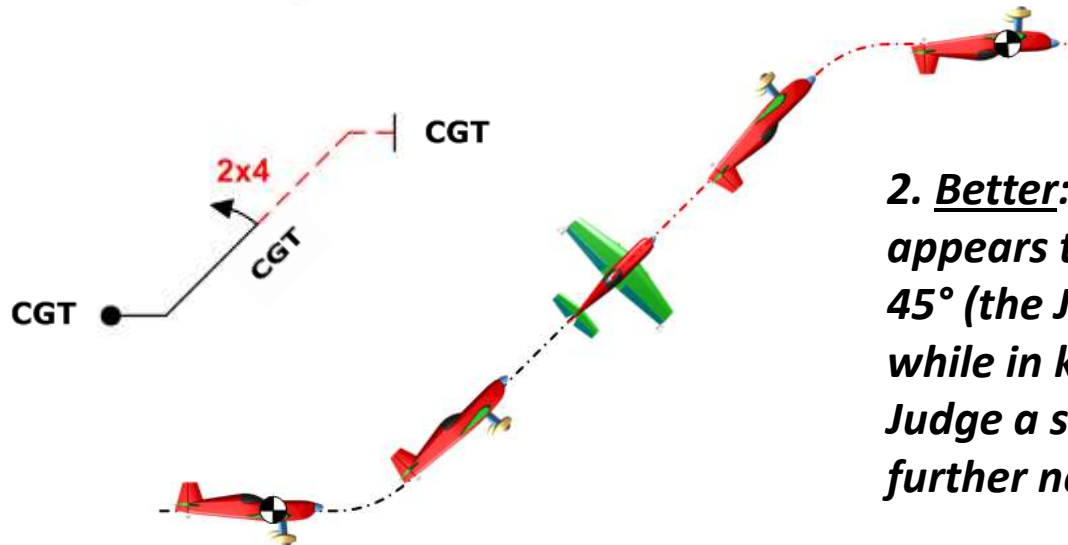
KNIFE-EDGE RUDDER #2

1. Normal: Top rudder forces the Judge to review the aeroplane axis and wonder whether to downgrade it ...

Don't give the Judge questions!

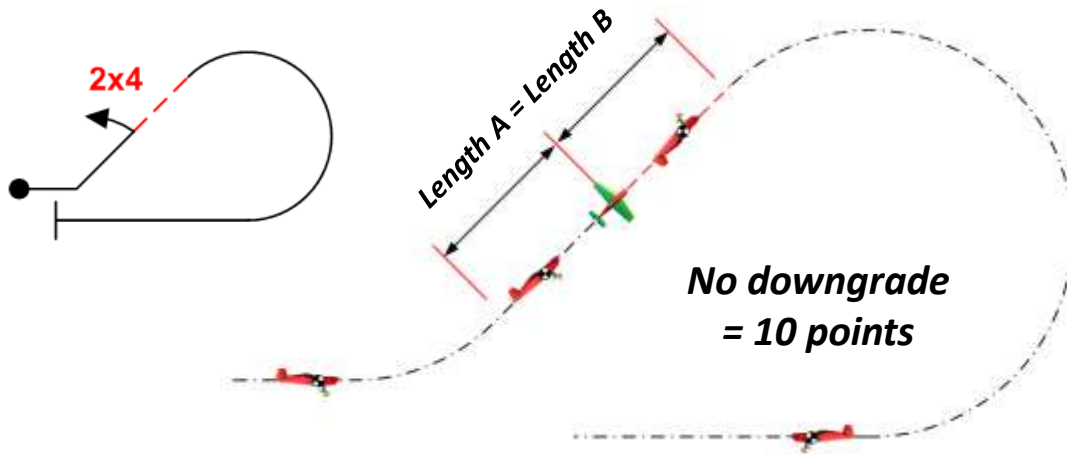
The 'top rudder' probably maintains the 45° better, but it looks ragged and untidy

Check the CGT direction AFTER the 2x4, it's probably off by $10-15^\circ$



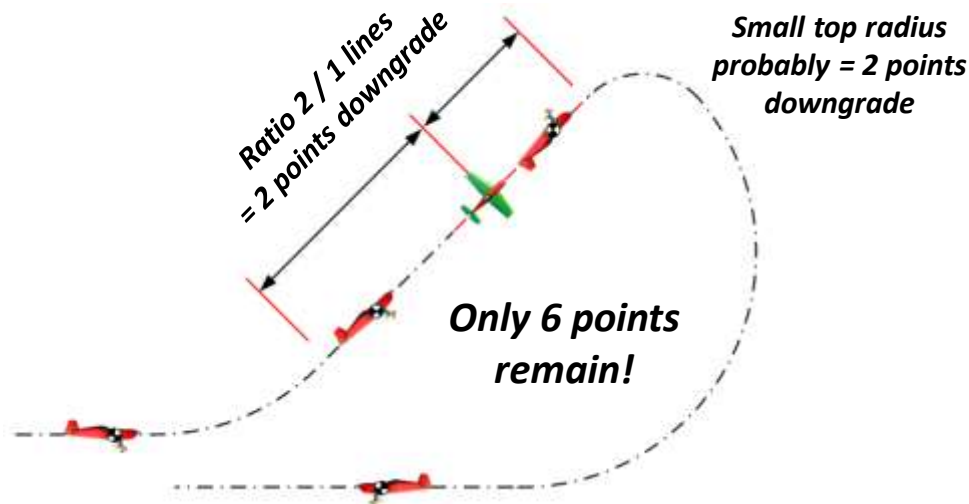
2. Better: This is neat and tidy, appears to accurately maintain the 45° (the Judges won't see any 'drop' while in knife-edge) and gives the Judge a simple Answer with no further need to question anything.

THE SECOND LINE UP



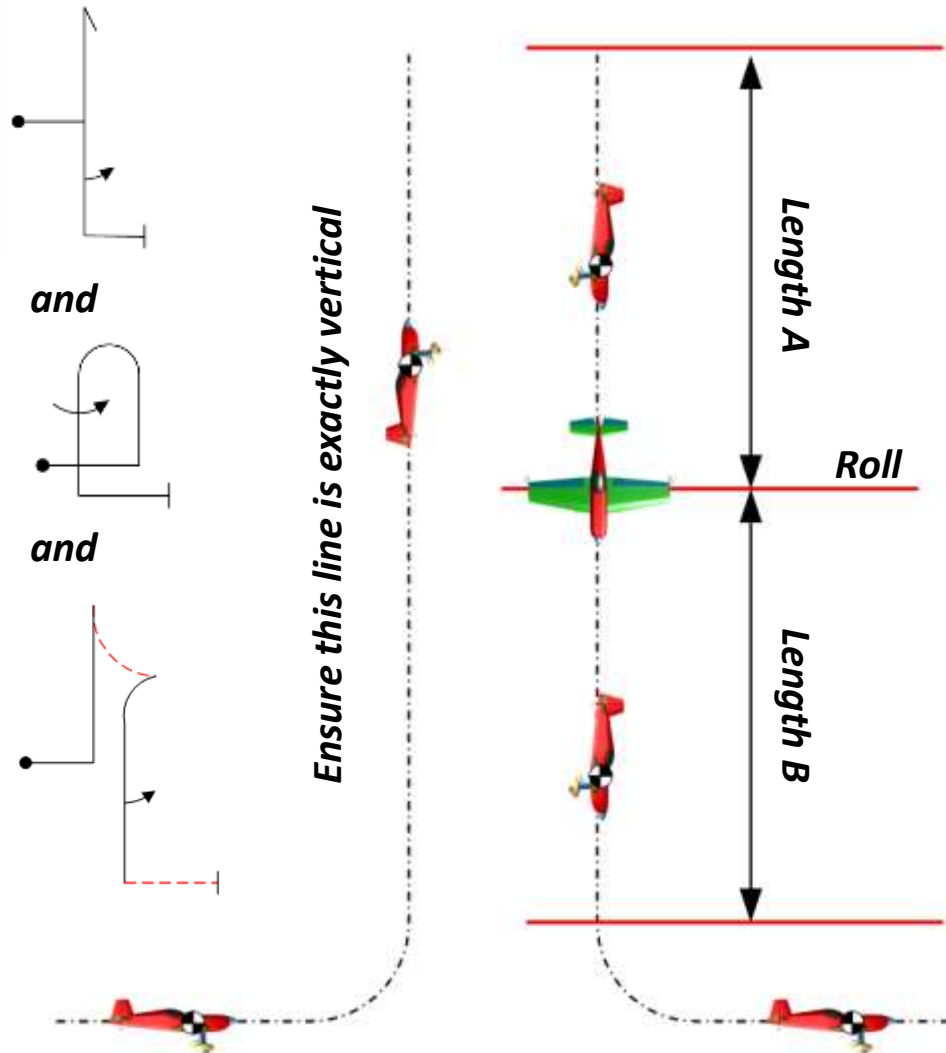
The two 45° line lengths must be the same, but the timing is different.

*The radius of the 5/8 loop **MUST** be held at the same size throughout the whole looping segment.*



Very often the roll is started too late, the speed decays so far that the second line has to be cut short, and the first part of the radius is too small and receives a downgrade.

THE SECOND LINE DOWN



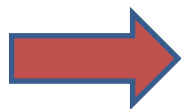
The two line lengths must be the same, but the timing is different.

Very often the roll is started too late and the second line is shorter.

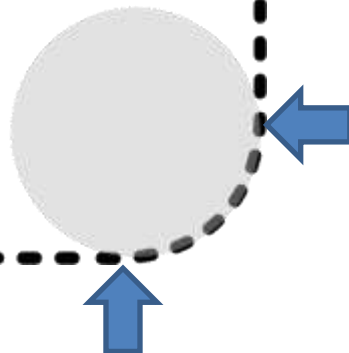
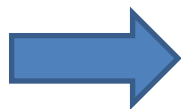
“Ground Rush” can easily overcome your best intentions ...

BAD SHAPES ARE EASY TO DOWNGRADE ...

Corners can be hard to Judge where there's an undetectable beginning and end

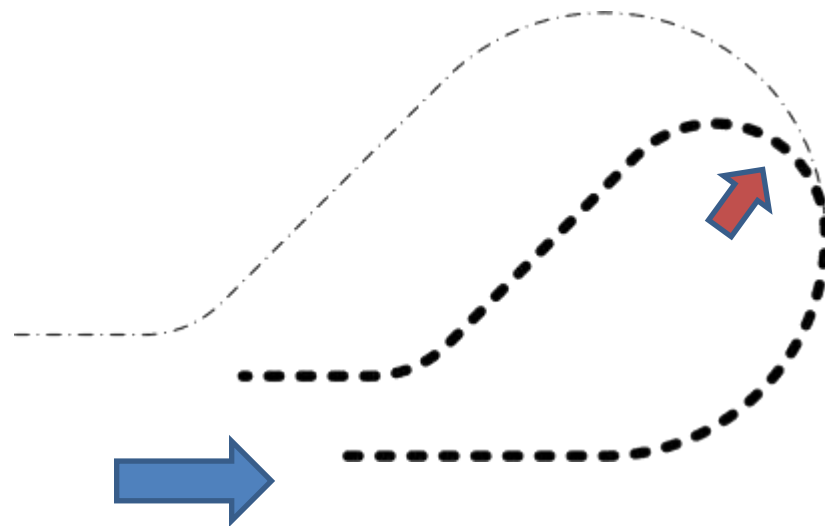


Make clear arcs with well defined start and end points



If you fly too slowly at the top of looping figures:

- The radius will decay
- The shape will look awful



Use max speed to start, pull hard in the 1st quarter loop, relax the back-stick over the top, float down to 45° etc.

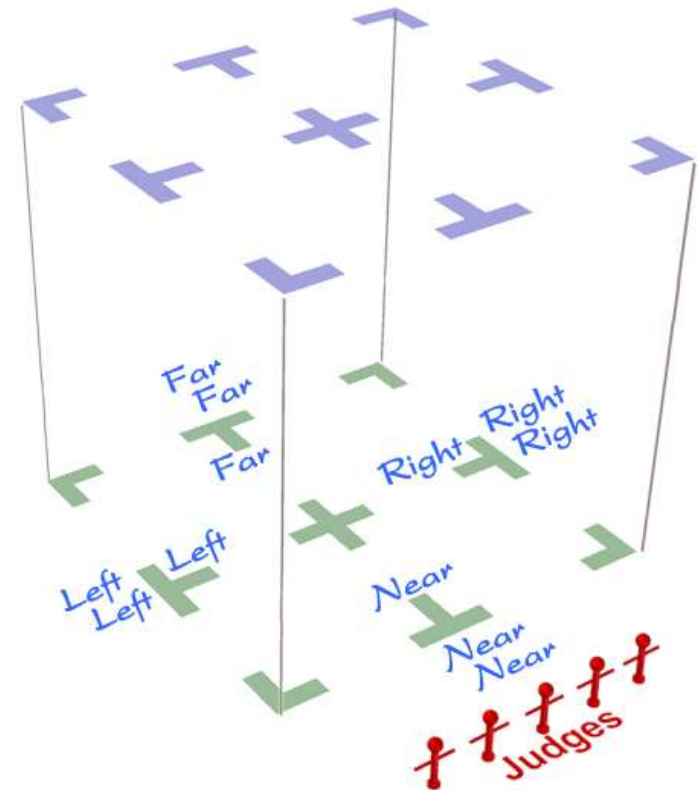
Positioning (or Presentation)

This mark is very important, and is often not given enough attention

It relates to the OPTIMUM location for each figure within the flow of the sequence

- *The rules give good guidance on how to reach the correct mark*
- *Use of the Near Near - Far Far System is mandatory at CIVA events*
- *The words Near, Far, Left and Right are used when the aeroplane strays too far from the central area of the performance*
- *Each Near/Far/Left/Right is a half-mark downgrade from the usual “starter for 10”*

The Near, Far, Left and Right CIVA references



Judges (down)grade *only*

WHAT THEY SEE

It is essential to fly the aeroplane –

To provide the best **presentation** to the Judging Panel

NOT

- *for the sharpest corners (not a grading criteria) or*
- *the highest possible G (only you know this ...) or even*
- *for your mates in the clubhouse – they don't give out the marks!*

- Every figure starts at **10.0** – only YOU can downgrade it
- Keep your performance in front of the Judges
- Make the figures smooth, tidy and not too big
- Long verticals are very boring, not impressive
- NEVER get LOW – take a Break (*and know the value!*)

Good impressions ...

The major Pilot consideration should be –

- Always give the judges simple **ANSWERS**
- Try very hard not to give them ***QUESTIONS*** !!



Open Forum

- Go on – ASK A QUESTION !!
- What do you think ?
- What can you add ?
- What else would you like explained ?

Feedback ?

