



AEROBATIC¹ CONTEST PREPARATION

July 2021

David Pilkington
FRAeS

RVAC AEROBATIC CONTEST TROPHY PRESENTATIONS 2003

INTRODUCTION

RVAC has been prominent in the sport of aerobatics for many years:

- This perpetual trophy was first awarded in 1935. Read out a few of the names – anyone recognise them? EG Roberts 1935, PJ Gibbs 1936, JH Hood 1938, CH Cook 1939, **CA Morrison** 1962, Miss PJ Brown 1967, WF Waterton 1968, JC Fincher 1969, GA Seymour 1971, HV Markby 1975 and RJ Maclean 1977
- RVAC pilots competing at the 1974 National Championships were **Con Simari**, Harry Markby, John Day, John Boag, Dick Maclean, **Ken McKechnie** – that was half the field!
- In 1977, new boy **David Pilkington** had joined them (started aerobatics in 1969 and later some aeros with former RVAC CFI Roy Goon).



A U S T R A L I A N A E R O B A T I C
C L U B

NEWSLETTER AUGUST 1978.

MELBOURNE CHAPTER AERO CLUB COMPETITION

Aston, Wyoming 83110
Attn: Mr. Malcolm White

Dear Mr. White,

On 29 and 30 September 95, Mr. Lester Berven, an FAA flight test pilot from the Sea ACO flight test branch reviewed your production flight test acceptance procedures for both the HUSKY A-1, and the Pitts S-2B. Mr. Berven also flew both aircraft, and completed a production flight test pilot standardization check for Messrs. Peter S. Pierpont and David J. Pilkington.

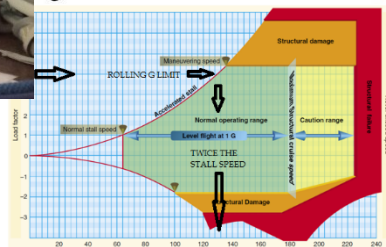
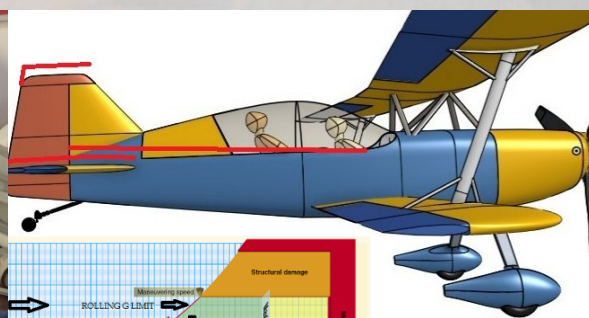
Based on the successful completion of the document review and the flight evaluation, Messrs. Pierpont and Pilkington are hereby authorized to conduct and approve production acceptance flights for both the HUSKY A-1 and the Pitts S-1, and S-2 (all variations).

Flying Instructor of the Year

2019 Winner – David Pilkington

Mr David Pilkington (Australie)

en reconnaissance des remarquables services rendus à l'aéronautique et aux sports aériens, et plus particulièrement à la voltige aérienne.



National Aerobatic Championships Griffith NSW 1985

Advanced Category

FINAL PLACINGS

NAME	SCORE
D.Pilkington	6184.7
W.Farley	5750.1
J.Walker	4623.8
C.Burns	3052.8

For instance, David Pilkington gave a masterly exhibition in the stock standard and now very dated ACA Super Decathlon *Little Nell*, including a half upward vertical roll, an elegant slow motion avalanche, and a remarkable knife-edge half-Cuban which he repeated in case his audience, like me, couldn't believe it was possible.



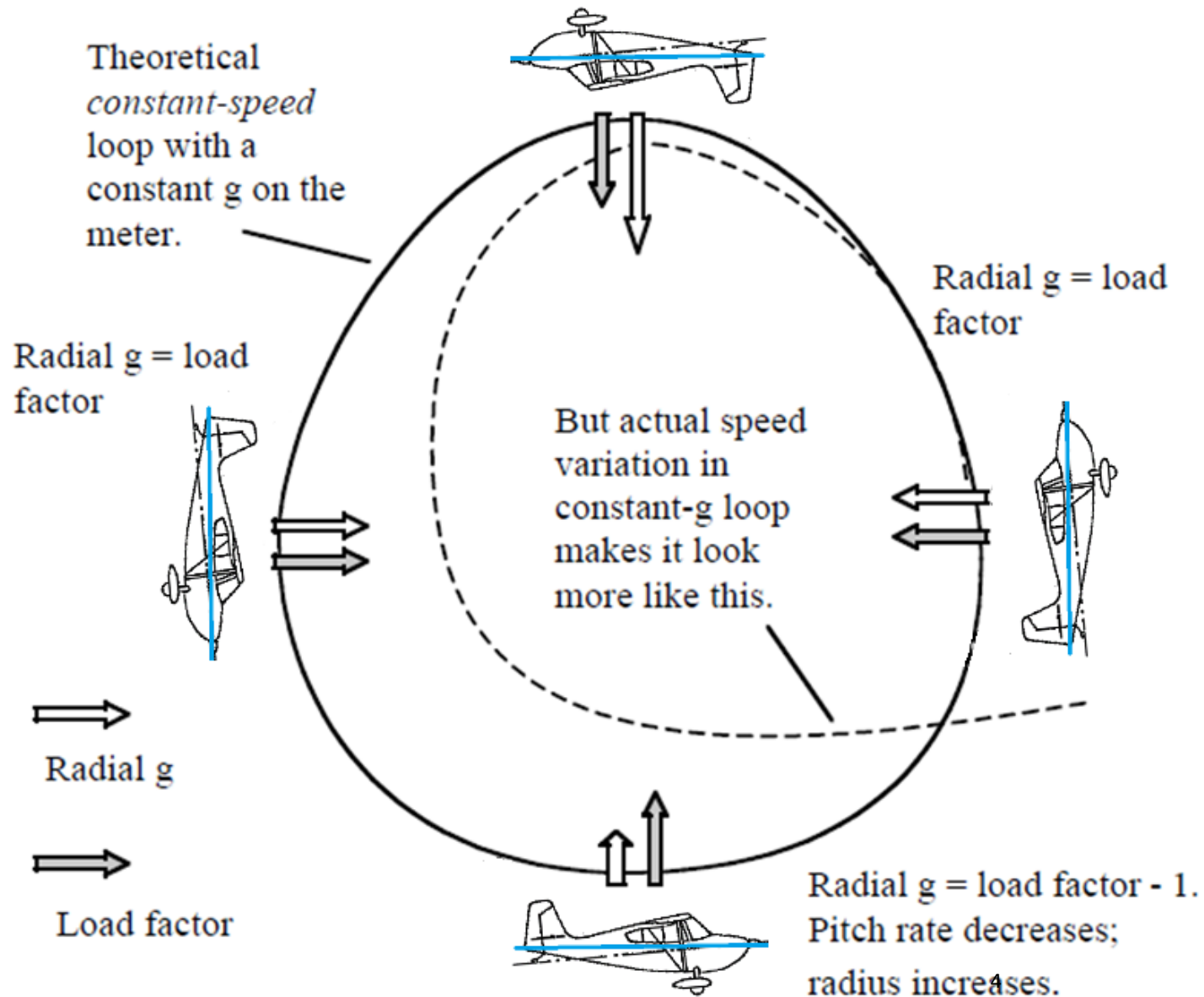
FINAL PLACINGS 1986

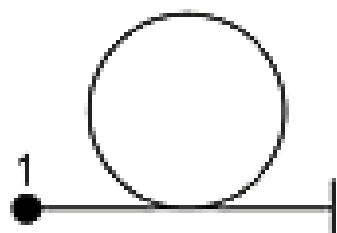
UNLIMITED	
NAME	SCORE
G.Selvey	13796.4
M.Beard	12869.2
B.Henderson	12820.1
P.Larsen	12354.5
S.Hart	10002.2
C.Sperou	9459.4
D.Pilkington	8845.4

CONTENT - OVERVIEW



Radial $g = \text{load factor} + 1$. Pitch rate increases; radius decreases.





Aresti symbol
Cat No. 7.4.1.1
Erect positive loop



CGT

*Full and part loops
are all judged on CGT
and the shape must be
wind corrected, ie. all
looping elements
are ROUND!*



CGT

Fast



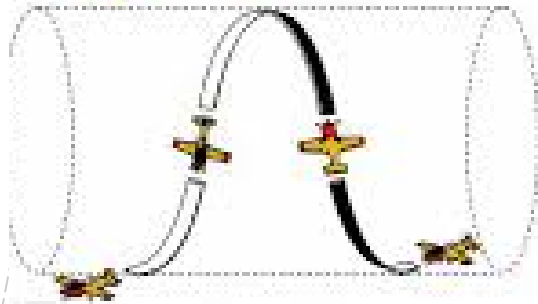
CGT

Fast

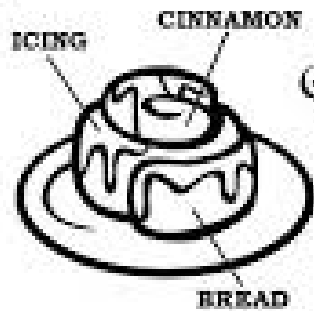
LEARN THE DIFFERENCE



AILERON
ROLL



BARREL
ROLL

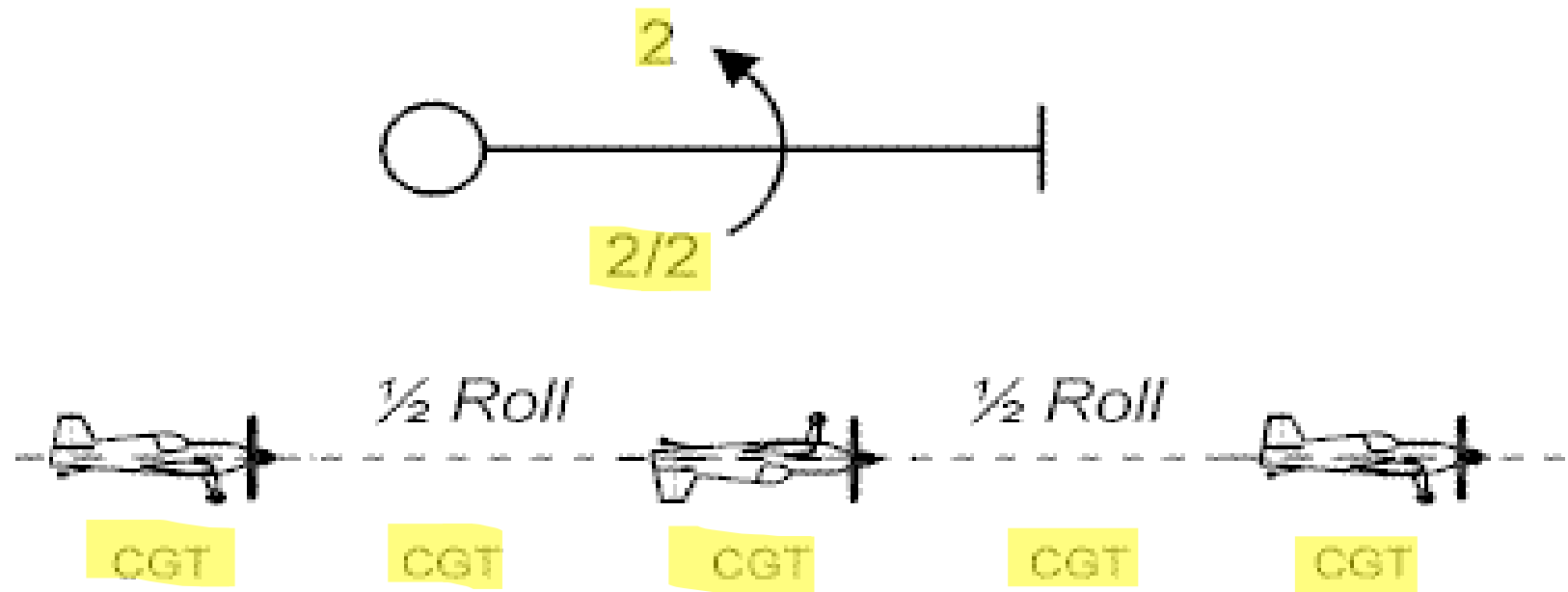


CINNAMON
ROLL

IT COULD SAVE YOUR LIFE



SLOW ROLLS



Vertical Lines

Fast

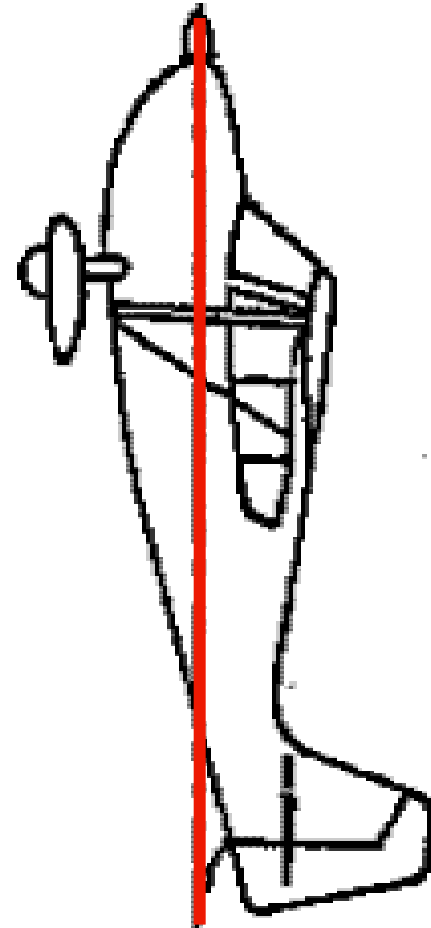
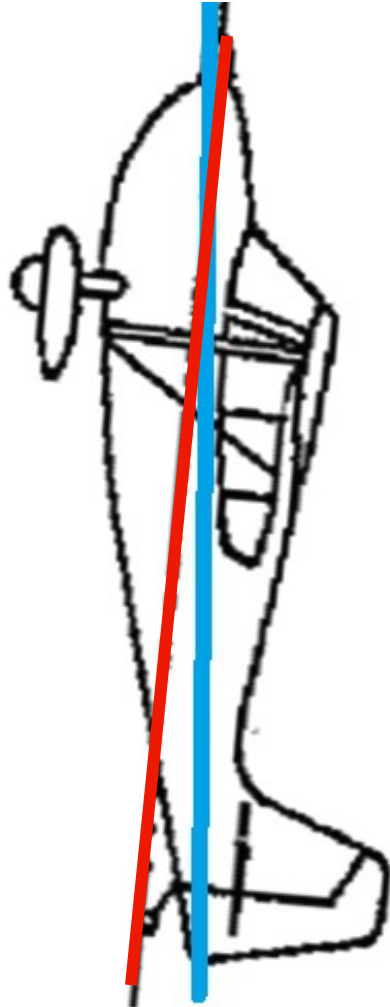


CGT

CGT

NLA

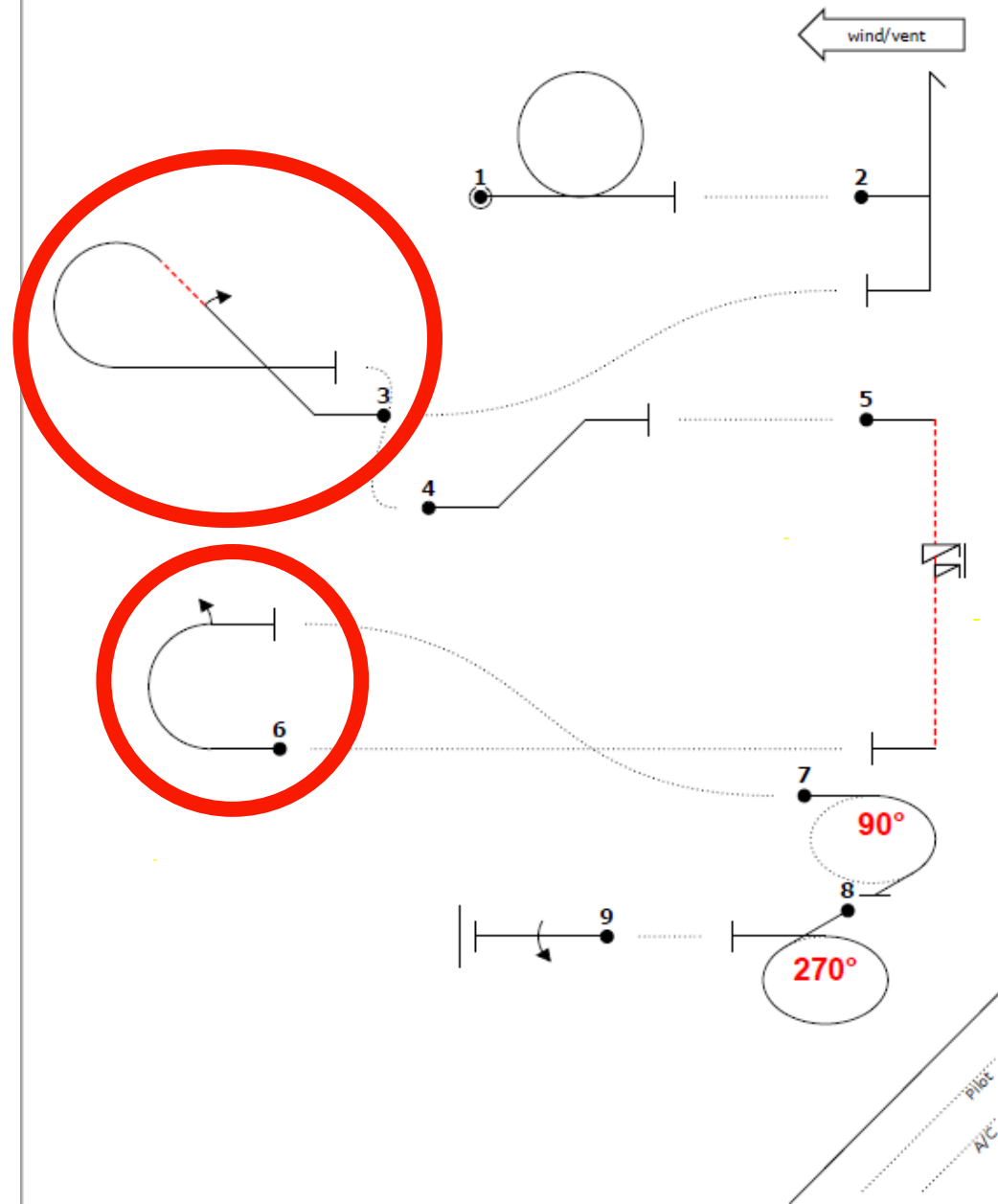
Zero Lift Angle





		Form B
Pilot ID	AAC Graduate Known	Flight #

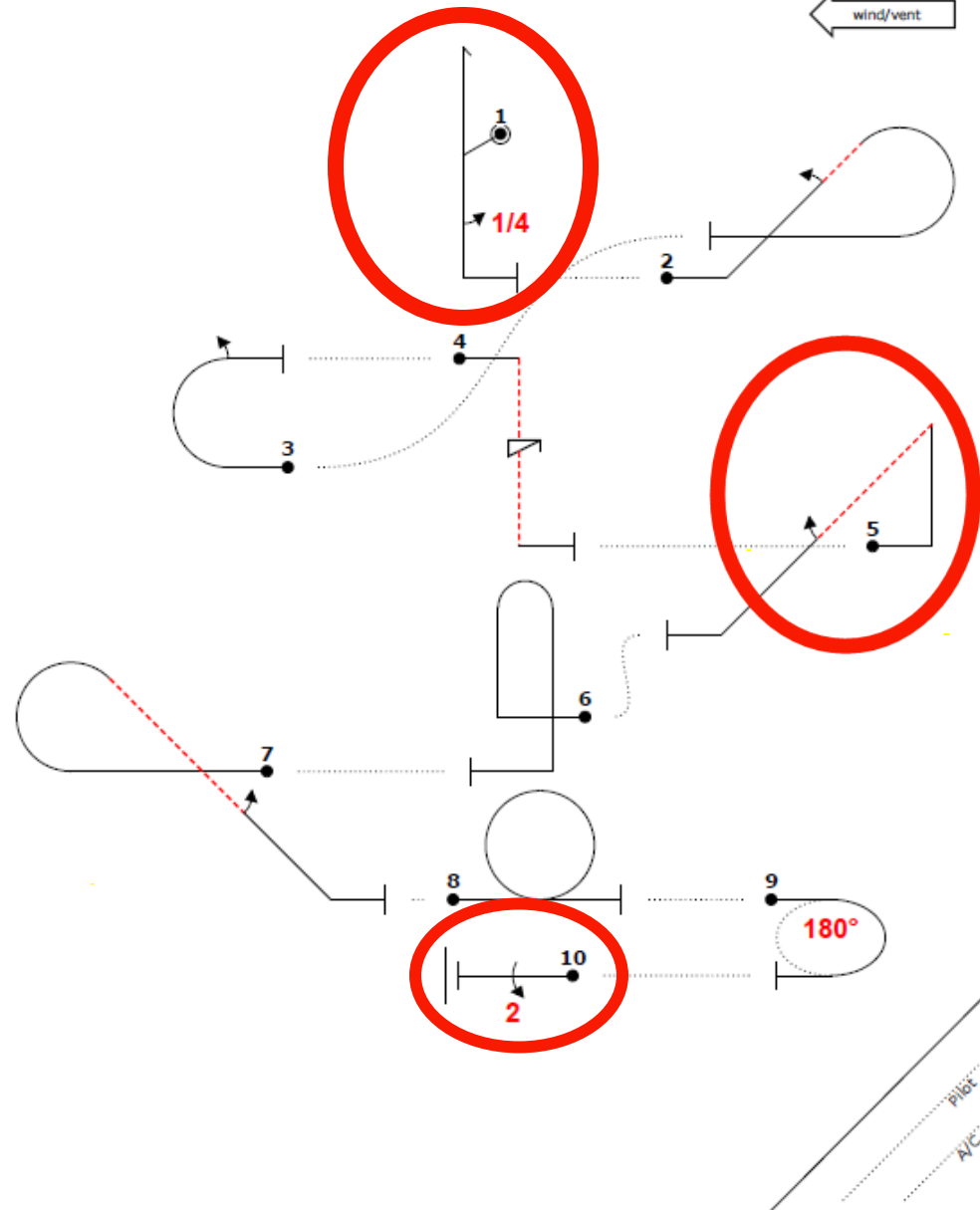
GRADUATE SEQUENCE



2021		Form B
Pilot ID	AAC Sportsman Known	Flight #

← wind/vent

SPORTSMAN KNOWN SEQUENCE



Marking the figures - the basic rules

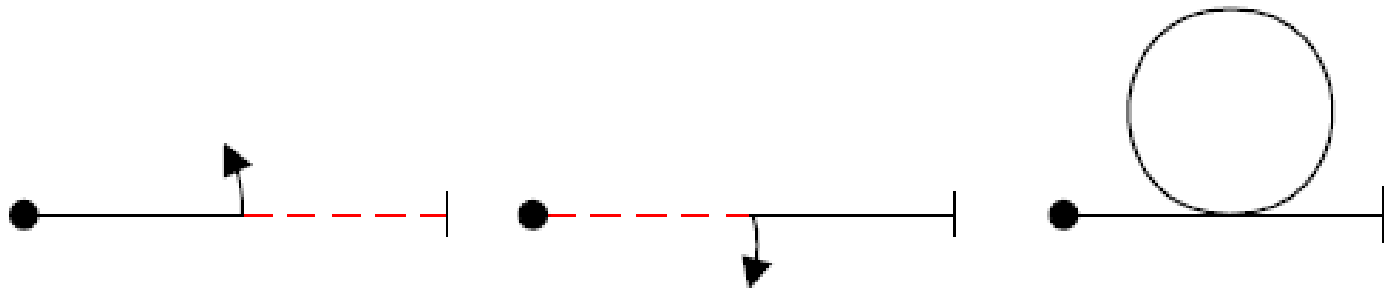
- Start with a perfect 10 – deduct errors seen to nearest $\frac{1}{2}$ point
- Every 5° off line is 1 point
- Score is multiplied by the K factor (difficulty)
 - eg loop K = 10 so 100 points
 - Stall turn K = 17
- Zero for:
 - Exceeding 90° off line
 - Wrong way on x axis
 - Wrong figure

General – IMPORTANT RULES

- A competitor must signal **the start and finish of each sequence**, and any interruption, by **distinctly dipping the wing three (3) times** immediately one after the other by more than 45°.
- A competitor will be given **penalty points** if he or she interrupts his or her program. **Interruptions** will be signalled by the competitor by **dipping the wing three (3) times** immediately one after the other.

General – IMPORTANT RULES

- Before signalling (wing rocks) the start of a competition flight in all programmes, it is recommended that pilots perform the **following safety figures.**



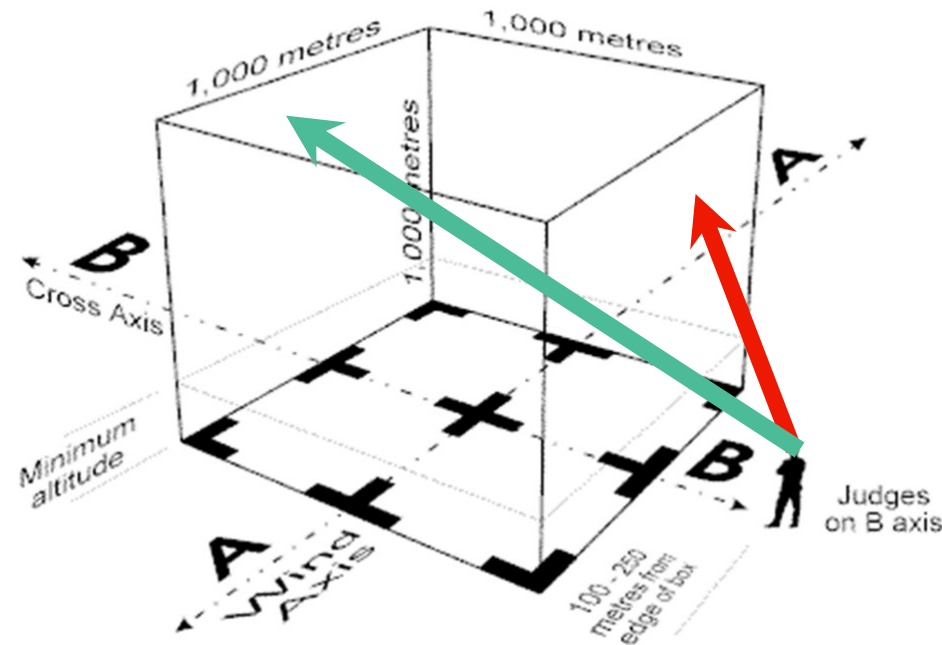
- optional but, if flown, may only be flown once, in any order, and continuously on the same axis. **They must be flown inside the performance zone.**

Practice box entry
Loop
Two point roll

General – IMPORTANT RULES

- Low altitude – stay well away from the limit!
- Don't fly behind the judges!
- **PRESENTATION TO THE JUDGES IS IMPORTANT**

- If you can see the judges they can see you.
- Judges want to clearly see the shape of each figure so



ONLY FLY IN THE HALF OF THE BOX AWAY FROM THE JUDGES

Important Rules - Sportsman

- **Known, Free (or repeat Known) & Unknown**



- DJP's advice:
 - **Practice Unknowns!**
 - **A Free sequence can earn an extra 100 points everything else being equal**

openaero.net

File View Sequence Queue Library Tools Help

b (0,6) 2rc (0,12) o (6,14) m2 (12,0) iv'6s (-7,3) 2s (-1,0) (-7,6) rp (1,14) k2 (10,-6) j (0,2) 3j (-3,1) 1

SEQUENCE INFO

Pilot	Team
David Hooke	AUS
Aircraft type	Registration
Pitts S2C	DAJ

Power AAC Sportsman Free

Contest / location
Watts Bridge

Date
Aug 2021

Notes (top of pages)

File name

FIGURE EDITOR

wind/vent

Fig	Aresti	K
1	8.4.1.1	13
2	8.5.2.1 9.1.2.2	10
3	7.4.1.1	10
4	7.2.2.1 9.1.3.2	6
5	1.1.6.3 9.1.1.6	10
6	2.2.1.1	4
7	5.2.1.1	17
8	8.6.1.1	11
9	1.2.7.1 9.1.4.2	13
10	2.1.1.1	3
11	2.3.1.1	5
12	1.1.1.1 9.1.3.4	2

Total K = 129
(max K = 129)

Alerts

Software & design by Ringo Massa

SPORTSMAN FREE SEQUENCE

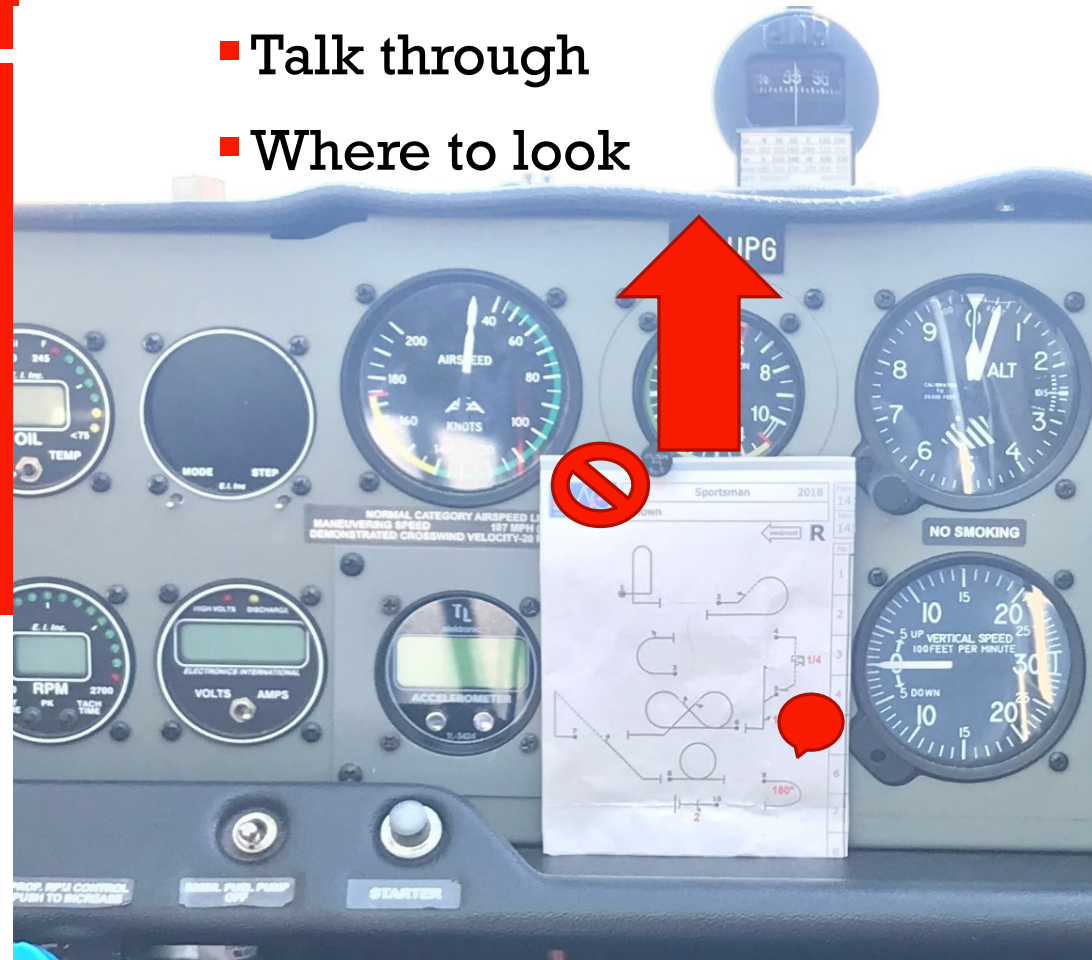
Power				
Fig	Aresti	K		
1	8.4.1.1	13	13	
2	8.5.2.1 9.1.2.2	10 6	16	
3	7.4.1.1	10	10	
4	7.2.2.1 9.1.3.2	6 4	10	
5	9.1.6.3 9.1.1.6	10 3	13	
6	2.2.1.1	4	4	
7	5.2.1.1	17	17	
8	8.6.1.1	11	11	
9	1.2.7.1 9.1.4.2	13 4	17	
10	2.1.1.1	3	3	
11	2.3.1.1	5	5	
12	1.1.1.1 9.1.3.4	2 8	10	
Total K = 129 (max K = 129)				

Actions Prior to Flight - prep

Sequence card – Blu Tack

Marked up: S or O

- Walk through
 - Until you are sick of it
- Sit in the airplane:
 - Talk through
 - Where to look



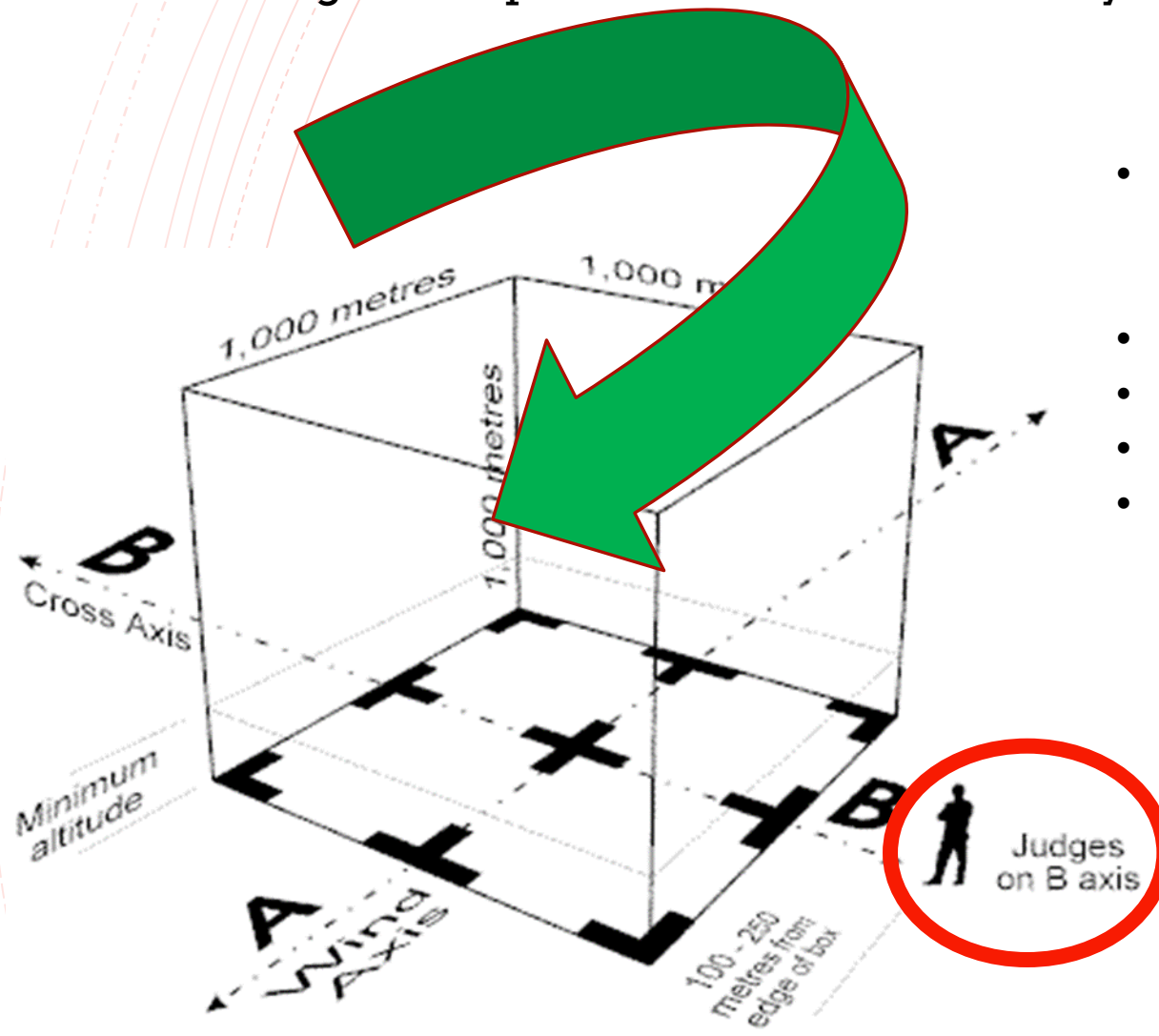
A red speech bubble graphic with a white border, containing the text 'Present to the Judges'. The bubble has a tail pointing towards the bottom left.

Present to the
Judges

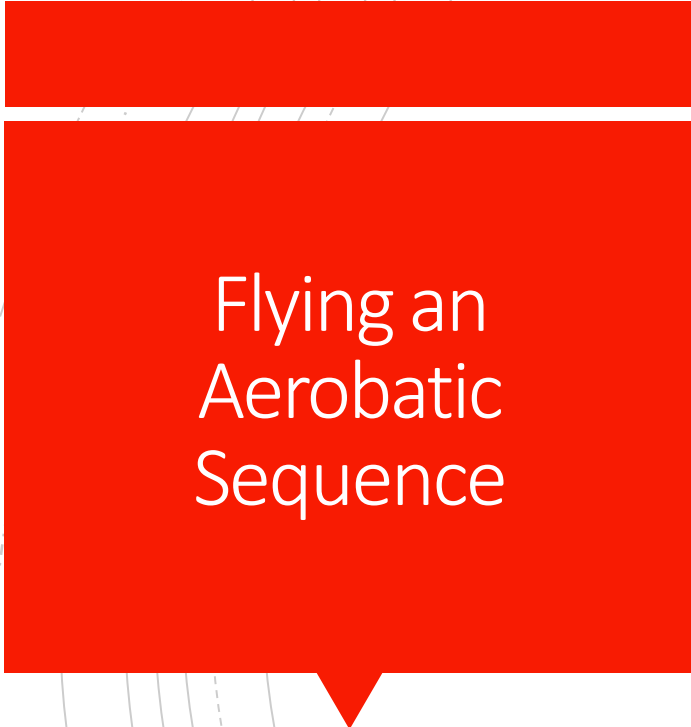
- Forget the box, fly for the judges
- Judging positions will change
- Wind variations
- Decide where to start the sequence

ENTERING THE BOX

- Approach from the holding area unless flying the box lower boundaries
- Fly the safety check manoeuvres in the box – use as practice
- Where to start #1, what height and speed?
- So: what height and speed to commence box entry?



- Long straight-in approaches are easy to misjudge!
- Stay close to the box
- Fly a “base leg”
- Wing dips
- Level - start

A red speech bubble graphic with a tail pointing downwards and to the right. It contains the text 'Flying an Aerobatic Sequence' in white.

Flying an Aerobatic Sequence

- Before each and every figure check the gate:
 - Altitude
 - Airspeed
 - Are you in the right place going in the right direction – where are the judges – where should they be?
- Think of the next figures
- You don't have time to think how to fly the figures so
 - Muscle memory

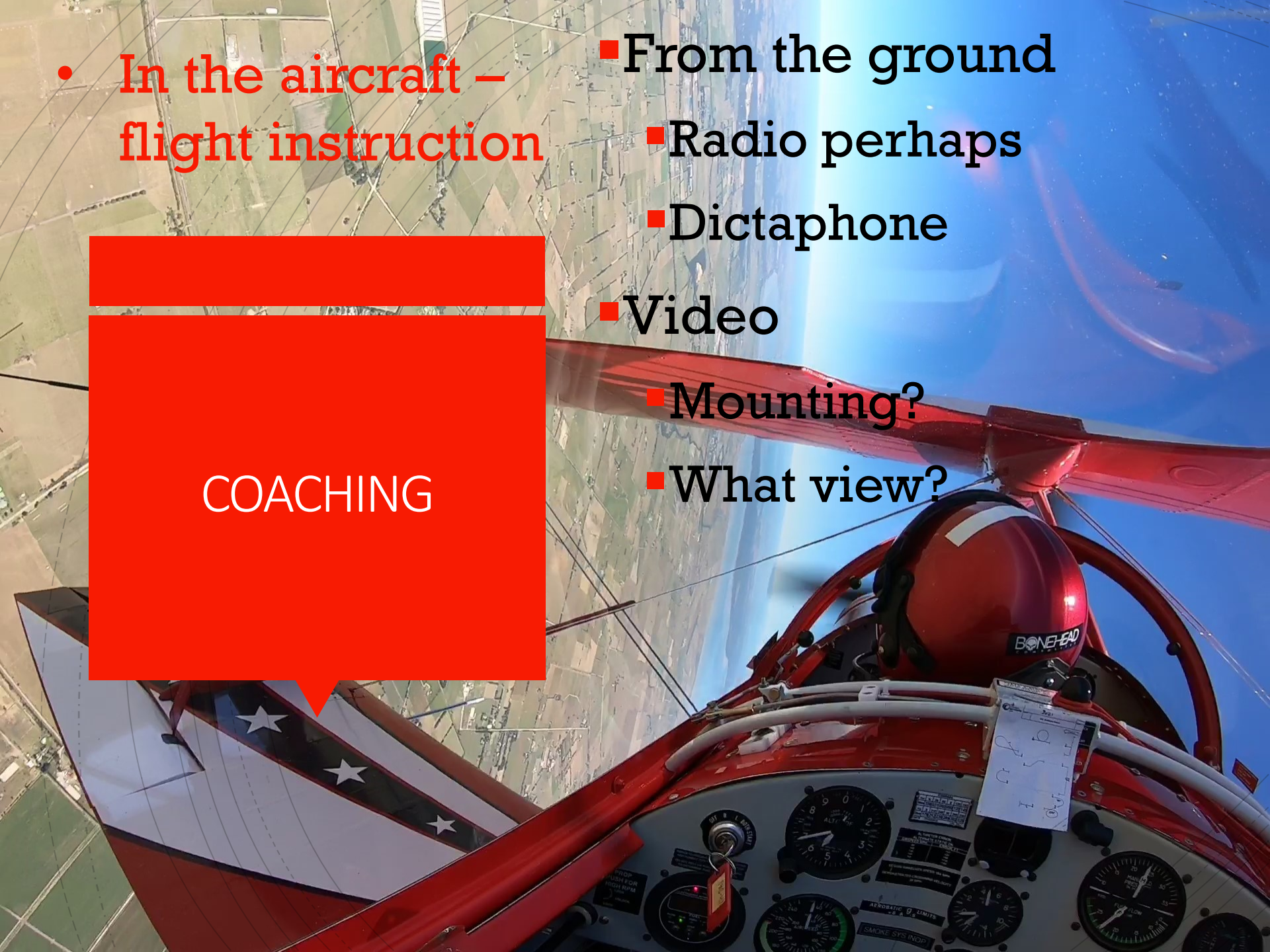


- Fly for the judges
- Fly it like the practice
- Try not to suddenly correct an error
- Take a break – it is cheap!
- After aeros – forget and focus on rejoining circuit and landing

- In the aircraft –
flight instruction

COACHING

- From the ground
- Radio perhaps
- Dictaphone
- Video
- Mounting?
- What view?



Graduate Practice in a Pitts S-2C



A red speech bubble graphic with a white border, containing the text "Discuss that Video".

Discuss that
Video

- Stall turn – good but why look up? multiple small errors – pitch down, wobbles
- Roll off the top
 - Pitch rate too fast at top
 - Stopped early then wing low
 - Lost height after roll
- Spin
 - Climbing into it
 - Over-rotated
 - Get vertical after
 - Pull-up radius varied
 - Get power on early

A red speech bubble graphic with a white outline, pointing downwards. It contains the text "Getting to the Contest" in white. The background of the slide features faint, curved, concentric lines in the top-left and bottom-right corners.

Getting to the Contest

- **Flight planning:**
 - Weather
 - Overnight stop -
Narromine
 - Flight note - following
- **PLB, tie-downs, tools,
parts, oil, pitot tube
cover, ladder**
- **Practice prior to the
contest 10-15 August**

A red speech bubble graphic with a tail pointing downwards and to the right. It contains the text 'What's What at the Contest?' in a bold, dark grey, sans-serif font. The bubble is positioned on the left side of the slide, overlapping the background's curved lines.

What's What at the Contest?

- Briefings & jobs
- Clubhouse & meals
- Transport & accommodation
- Local landmarks and “the box”
 - Runways & hangars



Judges

Deadline

Judges 2

Holding Area

QUESTIONS?



<http://ozaeros.com.au/>