

## 2025 Nationals Newsletter #2 (December 2024)

NZAC Aerobatic National Championships Masterton Feb 26<sup>th</sup> – Mar 2<sup>nd</sup>



Intrepid aerobatic pilots, assembled for action

### 1. Enter – NOW!

Entries close on **Friday 31<sup>st</sup> of January**...in only six weeks! (\$50 late entry fee after that)

The Entry Form 'button' is on the website and also below – just do it NOW so you don't forget (you can always change your mind and cancel a bit closer).

[ENTER HERE](#)

Even if you are not entering at this stage, please give us (the organisers) a heads-up via any means - email, WhatsApp, text - that you are planning on attending.

Before entering, get your documents together (we know, it's a pain but we need them to verify you're legal) and sequences sorted. We can accept pictures of your sequences but prefer .seq files please (contact us if you need a hand with OpenAero).

No Snoozing- get your entries in ASAP. Smoke your entries on in!

Full information for the Nationals is on the [www.aerobatics.nz](http://www.aerobatics.nz) website under Events.



David and Grant and the RV7

## 2. Sort your accommodation - ASAP

Now is the time to grab your friends and get a Book-a-Bach or an Airbnb.

Morris has the 'Presidential Suite' (hangar apartment) booked but may have room for friends if you are quick.

Also, we have permission to set up a tent/camper/van 'city' adjacent to the Aero Club (like they do at Oshkosh). And there may be some rooms/beds in the Aero Club and "Ravensdown" hangar too. All camping or accommodation at the Aero Club / Ravensdown is FREE (except for van rental, if needed). This will be the best (and cheapest) place to be in Masterton!

The Aero Club has full kitchen and bathroom facilities to support us, and a swimming pool too, so we will have a fun time being right on the airfield.

If you have your own tent, van or camper - great! If not, let us know via the ENTRY FORM (or flick us a message) so that we can help sort out something for you – there are rental caravans available in Masterton that can be delivered to the airfield.

We can't stress enough how important it is to sort out some accommodation NOW – Golden Shears is on too, and that makes accommodation very scarce and/or expensive.



Colourful, huh?

### 3. Sequences

For the 2025 Nats, we are changing the format for **Primary and Recreational only**.

Please read the following carefully, identify which category you are in, and understand which sequences you will be flying.

Note – there are **NO CHANGES** to the format for Sport/Intermediate/Advanced/Unlimited.

#### Flight 1

Category	Sequence	Source
Primary	Known	OpenAero – Library / 2025 / NZAC
Recreational	Known	OpenAero – Library / 2025 / NZAC
Sports	Known	OpenAero – Library / 2025 / NZAC
Intermediate	Known	OpenAero – Library / 2025 / NZAC
Advanced	Known	OpenAero – Library / 2025 / NZAC
Unlimited	Known	OpenAero – Library / 2025 / NZAC

(Primary competitors note that Known I and II are the same – that is planned!)

#### Flight 2

Category	Sequence	Source
Primary	Known II	OpenAero – Library / 2025 / NZAC
Recreational	Known II	OpenAero – Library / 2025 / NZAC
Sports	Free	Known or OpenAero – Power / NZAC / Sports / Free
Intermediate	Free Known	OpenAero – Library / <b>2024</b> / CIVA / Int Free Known
Advanced	Free Known	OpenAero – Library / <b>2024</b> / CIVA / Adv Free Known
Unlimited	Free Known	OpenAero – Library / <b>2024</b> / CIVA / Unl Free Known

#### Flight 3

Category	Sequence	Source
Primary	Known III	OpenAero – Library / 2025 / NZAC
Recreational	Known III	OpenAero – Library / 2025 / NZAC
Sports	Unknown	Supplied by Contest Director Thursday night
Intermediate	Unknown	Supplied by Contest Director Thursday night
Advanced	Unknown	Supplied by Contest Director Thursday night
Unlimited	Unknown	Supplied by Contest Director Thursday night

(Unknowns will be distributed on Thursday night, to be flown on Friday)

#### Flight 4

Category	Sequence	Source
Intermediate	Free Unknown	OpenAero / Power / NZAC / Int Free Unknown
Advanced	Free Unknown	OpenAero / Power / NZAC / Adv Free Unknown
Unlimited	Free Unknown	OpenAero / Power / NZAC / Unl Free Unknown

(Free Unknown creation is planned to take place on Friday night, to be flown on Saturday)

#### Flight 5

Category	Sequence	Source
-	4-min Freestyle	-

## 4. Documents

**Sort your Aerobatic rating and BFR ASAP.** Please chase your instructor to get your Aerobatic Rating renewed so you can get some practice in on your own and reduce the amount of safety pilot rides needed, as this really slows down the competition flights. (But we will have safety pilots available if necessary.)

**Medical** – make sure it is current for the comp dates

**LLDAs** – if you need one (intermediate and above), you should have it by now. If you don't have one, you can't practice or compete below 1500'AGL until you do.

**Insurance** - we need to see evidence of **current** Third-Party insurance of at least \$2 million.

And of-course make sure the plane you will be flying has a **current maintenance release** and no outstanding defects.

**Upload** these docs when you submit your entry form (you can go in latter to update the entry form too)



John, Brent and more

## 5. Entry Fees

Do it straight after you enter (we will refund any fees paid if you can't make it).

The Club bank account details are on the entry form. Entry fees are based on the number of flights you are scheduled to fly (at \$60/flight):

Primary / Recreational / Sports - 3 flights - \$180

Int/Adv/Unl - 4 flights - \$240

4 Minute Freestyle is truly Free, due to the entertainment value and cost of your smoke oil.

If you are keen, you can enter in more than one category, in a different aircraft only, and at the CD's discretion.

Remember, you must be a paid-up NZAC member too. Membership is still only \$35.00.

Lunches are extra (but FREE for registered volunteers/helpers/judges). We have found it much easier to plan and pay ahead like this, so please help us to make the event run smoother.

Dinners are extra too, as is the awards dinner. But just use the entry form, do some maths, and pay the correct amount. Thanks.

Landing Fees - this year, Hood Aerodrome will be imposing standard landing fees on all aircraft - \$10 per aircraft / per day (unlimited movements).

There may be hangarage fees depending on which hangar your aircraft is in - sometimes this is a donation towards beer. There is a question in the entry form regarding hangarage – please answer this so that we can help if required.

## 6. Trophies

We need these back – someone else might beat you this year.



Russel laughing that Mo has no idea what or who he is up against next year...

If you won something last year, please engrave it with your name in the same style as previously used then polish it and either bring it back with you or send it to us c/- the Wairarapa Aero Club.

## 7. AGM

This is your notification for the NZAC Annual General Meeting, to be held at 1900 on Thursday 27<sup>th</sup> of February at Wairarapa Aero Club.

If you have any general business for discussion, please send it to the Treasurer prior, and/or be ready to present it at the meeting.

If you would like to be part of the committee, or nominate someone who should be, please email Morris or Andy.

The agenda for the AGM is as follows:

Apologies

Minutes from previous year and matters arising

President's/Treasurer's report for 24/25 season.

Election of officers.

General Business.



Alex and Ian ready to battle in the Alpha

## 8. Timetable and other activities

Monday 24 <sup>th</sup> Feb.	Arrivals / Tech Inspections / Unofficial Practice. Put box markers out.
Tuesday 25 <sup>th</sup> Feb.	Arrivals / Tech Inspections / Unofficial Practice. 1200-1300 Lunch / Briefing. 1300-1800 In Box practice / Judging Seminar 1900: Box closed. Dinner and drinks.
Wed 26 <sup>th</sup> Feb.	0800 Briefing (Aero Club lounge). 0900: Official Practice. 1230: Lunch. 1330: Competition begins – Flights 1. 1900: Box closed. Dinner and drinks – LLDA refresher.
Thurs 27 <sup>th</sup> Feb.	0800: Briefing (Aero Club lounge). 0900: Flights 1 (if required) then Flights 2 1230: Lunch. 1330: Flights 2 until complete. 1900: Box closed. Dinner and drinks – NZAC AGM 2000: 'Unknown' distribution
Fri 28 <sup>th</sup> Feb.	0800: Briefing (Aero Club lounge). 0900: Flights 3 1230: Lunch. 1330: Flights 3 until complete. 1900: Box closed. Dinner and drinks. Free Unknown compilation.
Sat 1 <sup>st</sup> Mar.	0800: Briefing (Aero Club lounge). 0900: Flights 4 1200: Lunch. 1300: Flights 4 until complete then 4-minute Freestyle. 1600: Box closed. De-brief at Aero Club. 1700: Bar opens then 3 course catered buffet dinner at Aero Club 1900: Prize Giving.
Sun 2 <sup>nd</sup> Mar:	1000 -1300 Last competition flights for weather delays. 1300 Final Presentation and lunch (if needed). All day - Collect box markers, tidy up Aero Club & hangar, & depart.

## 9. Questions?

If you have any questions, then please contact:

Organisers - Grant Benns (0210629929) [grantbenns2014@gmail.com](mailto:grantbenns2014@gmail.com) or Morris Tull (+971506449584/ +642102401094 when in NZ) [morristull@gmail.com](mailto:morristull@gmail.com)

Contest Director - Steve Geard 021 351 645 [stevegeard@xtra.co.nz](mailto:stevegeard@xtra.co.nz)

PS - There will be beer and great food at the finish line. We are looking forward to catching up with all you crazy aviators at Hood Aerodrome soon. Cheers Mo.



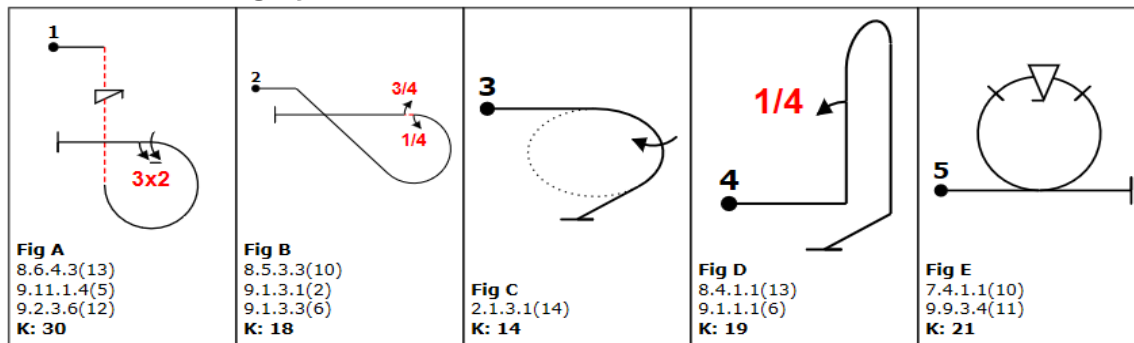
Pierre, teaching aerobatic pilots how to use utensils

# Sequence design 101:

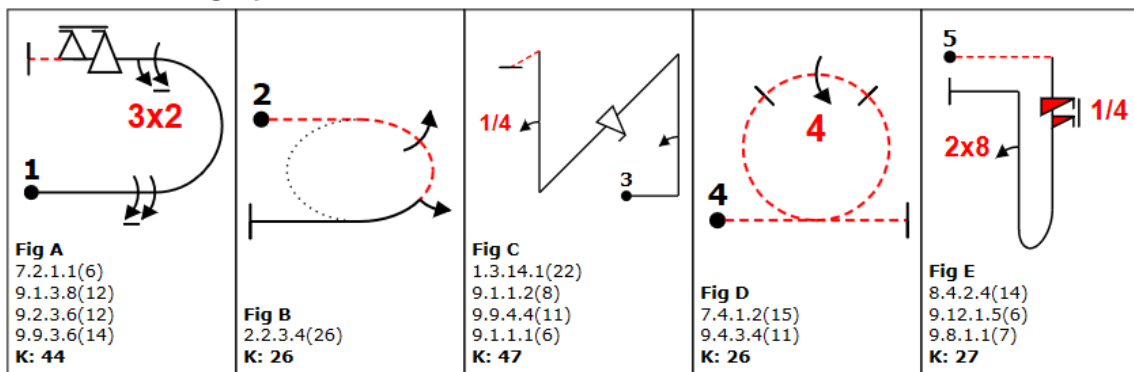
## 2024/25 Free Known (Programme 2) INT/ADV/UNL

- A confirmation of the 2024-25 Free Known figures and some suggestions on how to build your sequence are attached below. The figures are also available in OpenAero – use the CIVA 2024 Free figures.
- The 5 specified ‘Known’ figures for your category are added to your 5 ‘Free’ choice of figures to build your “Free Known” sequence, to be used from April 2024 to the completion of the NZAC Nationals in 2025 in Intermediate, Advanced and Unlimited.
- These 5 figures change every year to force variety and challenge to the competitors.

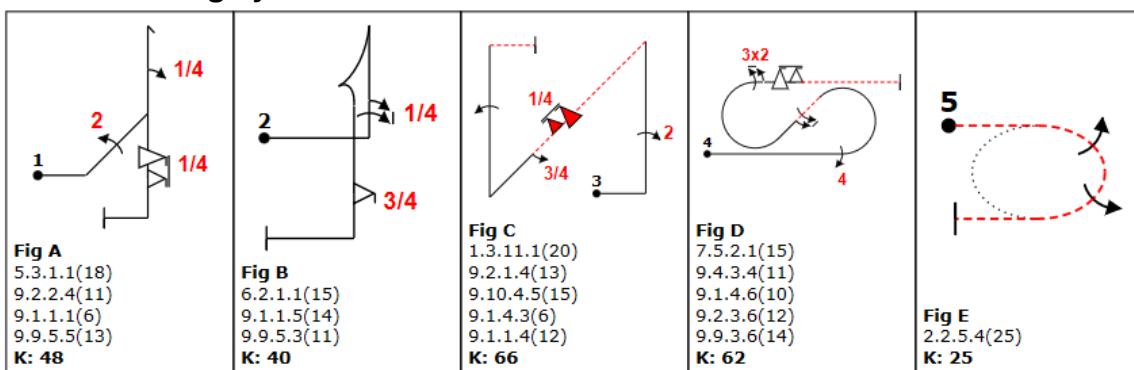
### Intermediate category. Max total K allowed = 200



### Advanced category. Max total K allowed = 320



### Unlimited category. Max total K allowed = 450





## Guidance for competitors

Competitors should preferably design their own Free Known sequence, though they are entitled to use one provided by another competitor or resource. Some examples for the season may be found from the Northern Hemisphere competitions at [www.civa-results.com](http://www.civa-results.com), [www.aerobatics.org.uk](http://www.aerobatics.org.uk), <https://vliegeniseenkunst.nl/en/donac/sequences>

A Default Free Known sequence is generally available for those unfamiliar, have insufficient time or are too lazy (!) to design their own sequence.

Each Free Known sequence must comprise a total of 10 figures.

Within each sequence: 5 figures must be the “Known” figures specified by NZAC/CIVA as shown above and 5 must be “Free” figures, i.e. they are freely chosen by the competitor.

[www.openaero.net](http://www.openaero.net) shall be used for designing and submitting the sequence. The preformatted 5 known figures can be found via dropdown menu on [www.Openaero.net](http://www.Openaero.net) – library – 2024 - CIVA Adv Free Known etc.

The 5 “Known” figures –

- Must be those specified for the category by NZAC/CIVA.
- May individually be placed in any order and at any position within the sequence.
- May be employed in any orientation, i.e. with their start direction along the main box axis into wind, or down wind, or on the secondary axis in either direction.
- Must be used with their design as specified by NZAC, unchanged in any way.

The 5 “Free” figures –

- Must be selected from the Aresti Aerobatic Catalogue Power version or in conjunction with the rules for the category when designing in Open Aero.
- Must, in conjunction with the specified “Known” figures, provide a sequence that complies overall with NZAC rules which are based on the 2024 CIVA regulations.

Sequence files submitted for a NZAC event –

- Must be in Open Aero computer format. Hard or paper copies of any type are not acceptable (although the CD/Organiser can help...).
- Must contain complete pages for forms "A", "B" and "C" as well as forms "L" and "R".
- Must clearly identify on at least one of the forms the 5 “Known” figures using the specified letters A-E.

Sports category pilots are also allowed, and are encouraged, to design your own FREE sequence for the second flight. The required figures are listed in the rules and also on OpenAero. You can make your own Free sequence up to the same maximum K as the Known sequence for the season.

Feel free to contact myself or other senior aerobatic pilots for advice or recommendations and checking of your Free sequences and suitability to your type aircraft.

## **Tips and Hints for designing your Free Known or Free sequence from some of the legends of Aerobatics.**

The Free sequence should highlight what you and your airplane do best.

Always use the maximum allowable points for your category, if you don't, you're giving away points! The percentage score is on the max points, not the points on your sequence it is if less.

Keep the K for each figure not too far from the average for the sequence. As an example (using INT), subtract the value of the Known figures (102) from the total sequence K (200-102=98), then divide the remaining K by 5 (98/5= approximately 20). Try to keep each figure's value close to that average K factor - this reduces risk of point loss by spreading out the max points such that a single zero won't have as large of an impact on the final score. Or don't score zeros!

Choose the right figures for your airplane, e.g. if you have a blindingly fast roll rate, put in lots of rolls. If you have tons of power, put in lots of vertical stuff. If you have everything, well, you're lucky! Higher performance aircraft can fly rolls on the vertical lines to increase the K as needed, while lower performing aircraft require rolls on horizontal or 45-degree lines.

Start with a center box high speed figure that you can dive in to with lots of speed and energy as this energy will carry for a few figures and it makes up for a low powered aircraft.

All vertical lines (Stall turns, Humpties, etc.) should be on the right side of the "B" form. (Upwind). You are exposed to the wind twice as much during stall turns and Humpties.

All looping figures (half loops, Cubans, Sharks-teeth, etc.) should be on the left side of the "B" form. (Downwind). Try to fly the tops of Loops and Humpties downwind. Begin Immelmann's downwind and Split S's upwind. Reason being the roll should be INTO the wind to help avoid the costly 2-point deduction of drawing a line between the loop and the roll.

Place spins into wind as the stall break will appear cleaner, and place the spin early to midway through the sequence as you will probably be struggling for altitude toward the end of the sequence. Get the spin over with early.

Make point or opposite rolls into the wind.

Cross box figures should always be on the upwind side of the box, the wind will blow you into the box, whereas if you are on the downwind end, it will blow you out! Try to place a cross box "wind corrector" every 5 or so figures - it works whether there is a wind or not, however if there is a strong wind you'll be glad you did.

When Rob Holland builds a sequence, he actually comes up with two to three combinations of wind correctors – he puts them on the right side of the "B" form and then build the rest of the sequence around them.

Some good combinations for wind corrector pairs are:

Stall turn 1/4 or 3/4 roll down followed by Humpty 1/4 or 3/4 roll up.

Stall turn 1/4 or 3/4 roll down followed by a 90 turn.

Humpty with roll down followed by a 90 turn.

1 ¼ spin followed by a Stall turn or Humpty.

P Loop and rolling circle.

Reduce 45-degree lines as much as possible. NO down-wind 45-degree lines, they are hard to keep in the box and NO back-to-back 45-degree lines - you're guaranteed an out.

NO center box loops, in fact, if at all possible, avoid vanilla loops altogether - they are very hard to score 10s on.

Choose the minimum K rolling turn, rolling turns are very difficult to score well on, so try to pick the minimum required - give the judges fewer reasons to downgrade. 90 degree turns only. Generally, put the rolling turn last.

Don't beat yourself up by putting a lot of pushing in your Free.

Place more difficult figures early in the sequence so you can get them done while you are fresh and strong and can ease through the rest of the sequence.

A popular style that is emerging has been dubbed the "California Freestyle" - placing most or all the figures at the ends of the box - no center box figures. While this works well for fast airplanes that accelerate on horizontal lines, it must be flown properly so as not to be boring for the judges to watch. Even for fast airplanes, the ends must be centered in the middle 2/3s of the box.

After you draw the free on paper, or preferably in OpenAero, it must be practiced to determine if the sequence can be flown safely and in the box without losing too much altitude. Then get some coaching from the ground for flow and presentation. If your coach is happy, you are all set. Don't worry if you decide to make small changes during the season - just have it finalized well before the competition entry cutoff date. Your FREE KNOWN sequence will need to be submitted to the Contest Director in OpenAero format so it can be checked against the rules and for him to print out the scoring forms before the event.

The most important thing of all when it's all said and done; make sure it is safe and make sure you enjoy flying it. After all; if it is not fun - what's the point?

The Unknown program or Judges Unknown is Program 3 and it is designed by a guest judge or taken from a database and given to the competitors at beer o'clock the night before they are required to fly it. You are not allowed to practice fly it so you have to think it through, use your model aircraft, walk the sequence in your head and visualize as best you can. These are a lot of fun and great to watch for any huge mistakes!

Often, the judges Unknown violates all the rules for a good free sequence that I have just described, just for the fun of the judges.

For those flying the 4-minute Freestyle, look at the rules for scoring and build your sequence that you think will tick the boxes, or you will definitely miss out on some scoring points.

Cheers

Morris Tull

President.

New email; [morristull@gmail.com](mailto:morristull@gmail.com)