

THE VOICE OF CONTROL LINE AEROMODELLERS FROM AROUND AUSTRALIA

Number 266

Produced by the Victorian Control Line Advisory Committee



August 2021
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PRODUCTION SPECIFICATIONS

Please send any submissions for publication by CD/memory storage device or use Email.

Contest results should be tab delimited, i.e. use a single tab between each column of results, if submitted by disk or email. This makes formatting much easier on the editor.



VICTORIAN CONTROL LINE CONTEST CALENDAR 2021

D	ATE	EVENT	CLUB
Α	ug 8	Carrier Deck, 27 Goodyear.	CLAMF
A	ug 9 14	FAI F2 World Championships.	Cancelled
Se	ep 12	Combined Speed, Vintage Combat.	CLAMF
Se	ep 22-29	1st West Wyalong Nationals To be	Confirmed
0	ct 2-4	NSW State Champs. Racing and speed.	Albury
0	ct 17	Corflute Combat, F2B & Classic Stunt.	CLAMF
N	ov 14	Combined Speed, Warbird Stunt and	
		Nobler Stunt.	CLAMF
D	ec 12	Vintage A, Classic B, Classic FAI.	CLAMF

Events will be flown in order of printing. Events in **Bold type** will be flown over hard surface.

CLAMF Frankston Flying Field, Old Wells Rd, Seaford (Melway 97J10), GPS -38.086777,145.148009 10.00am start

Contact :- Secretary, H. Bailey (03) 5941 5978

Email :- clamf@ozemail.com.au
Web site :- http://clamf.aerosports.net.au

KMAC Stud Rd. Knoxfield

(opposite Caribbean Gardens) (Melway 72 K9) 10.00am start

Contact: President:- Reeve Marsh 0405 001 008

Email:- knoxmacvic@gmail.com

Web site :- https://sites.google.com/view/knox-model-

aircraft-club/home

CLAG has monthly fly-ins at the Moe Race Track every first Sunday of the month.

Contact :- Reeve Marsh 0405 001 008

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Any comments, queries or complaints with respect to any article in this publication should be addressed to the author of the article.

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C.L.A.S. CONTEST CALENDAR 2021

DATE	EVENT	CLUB					
Aug 2	F2B Aerobatics.	Doonside					
Aug 8	Peacemaker Day.	KMFC					
Aug 15	Classic Stunt.	SAT					
Aug 28-2	9 Oily Hand Diesel weekend.	Cowra					
Sep 12	Slow and Vintage Combat.	KMFC					
Sep 22-2	9 1st West Wyalong Nationals	To be Confirmed					
Sept 26	Gordon Burford Day.	KMFC					
Oct 2-4	NSW STATE CHAMPIONSHIPS.						
	Racing and Speed CLAS NSW a	t Twin Cities Albury					
Oct 17	F2B Aerobatics.	SAT					
Oct 18-1	9 Classic B Team Racing and Fun Flying.	Rocky Rally					
Oct 31	Classic Stunt.	Doonside					
Nov 7	Festival of Speed.	KMFC					
Nov 14	F2B Aerobatics	SSME					
Nov 28	KMFC Christmas Party and Fun Fly.	KMFC.					
Dec 5	F2B Aerobatics.	Doonside					
KMFC -	(Ku-ring-gai Model Flying Club) - St. Iv Mona Vale Rd, St. Ives.	es Showground,					
SAT-	(Sydney Aeromodelling Team) - "Duck	Pond", Ashford					
	Road, Milperra.						
SSME -	(Sydney Society of Model Engineers) - Luddenham Road, Luddenham.	Model Park,					
DOONSIE	DOONSIDE- Baseball diamond, Whalan Reserve.						

CLASII IPSWICH QUEENSLAND CALANDER 2021

Sep 25-26 QLD State Champs, All grass Racing Weekend

2.5 Simple Rat, Vintage A, Classic B, 27 Goodyear,

Classic FAI, 21 Bendix.

Nov 6 27 Goodyear, Classic B

Dec 11 Christmas Breakup, Vintage Combat.

Send your articles for publication to Newsletter Editor

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3 Bailey Place
Pakenham 3810
Victoria
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hbbailey@optusnet.com.au

Please find attached score sheets for the events held on our June long weekend.

With the uncertainty of borders we ended up with no interstate competitors so re-hashed the schedule to include only events we have enough local entries for.



As we are accustomed to, the weather was glorious.

At least that was true except for an hour of rain on Sunday afternoon which led to F2D being called off half way through, and the top 4 fought it out the following Sunday.

Classic-FAI Team Race went off well on Saturday. For the first time we managed to get more than one heat completed. All teams completed at least one race, and enthusiasm is high for more Classic-FAI racing later in the year.

Several new models are planned or commenced already. And there is promise of another two teams forming.

Team name	Place	Heat 1	Heat 2	Heat 3	Final
B Bellis – I Thompson	1		4:41.86		9:00.73
R Bellis – D Gannon	2			pass	9:02.93
T Letchford – S Walton	3			DNF	9:32.37
R Sherburn – M Sher- burn	4	5:13.09	5:09.76	4:43.56	
A Zamolyi – R Morrow	5	7:16.38			

As local rules in WA permit the use of pressure refuelling with a penalty of 10 seconds per race, the race times shown include the penalty. (3 out of 5 teams prefer arm-cans)

While some might not agree with the use of this 1960's technology, its what interests some teams, and if it gets them involved in Classic-FAI then its got to be a good thing.

Personally I don't get my hands on the dirty end, but I'm not keen on the fuel bottle injecting dirt into my R250 after it's thrown on the ground, so its good with me.

Combined Speed was held on Monday. The field consisted of several F2A, Class-5 and a couple of Stock Jets.

The top performer of the day was the "Stock Jet" of Todd Zanetti which set a new Australian record for the class.

Several FAI observers per present to ratify, record and process the model

and equipment. The official record claim has been submitted.

Cheers T/Rev.

2021 West Australian State championships for Combined speed								
Competitor	Speed Class	Flight 1	Flight 2	Flight 3	Best flight KMH	Australian record KMH	Percentage of Aust rec- ord	placing
Todd Zanetti	Stock Jet	12.58	N/T	10.85	266.98	252.86	105.62%	1
Bruce Bellis	F2A	12.90	N/T	N/T	279.07	297.77	93.71%	2
Richard Bellis	F2A	12.93	N/T	15.38	278.42	297.77	93.50%	3
Bruno Butkevius	Class 5	17.37	17.13	17.30	210.15	241.77	86.65%	=4
Scott Lehmann	Stock Jet	N/T	13.22	N/T	219.12	252.86	86.65%	=4
Trevor Letchford	F2A	N/T	14.13	13.69	262.96	297.77	88.30%	6

2021 West Australian State championships F2D Combat							
Competitor	Round 1	Round 2	Round 3	Round 4	Final (sudden death)	Placing	
Richard Bellis	W	W	L	W	W	1	
Bruce Bellis	W	W	W	Bye	L	2	
Kim Parks	W	L	W	L		3	
Scott Lehmann	L	W	L			4	
Emily Parks (junior)	L	L				5	
Trevor Letchford	L	L				5	

The future of F2D Combat:

Article continued from last month's edition.

Written by Leon Baird

I would imagine that all of us involved in F2D Combat will have at some time, thought of what the future holds for the sport (and for Control Line flying in general)? As concerning any realm in this rapidly changing, fact free Covid-19, agenda driven hysteria/fear, surveil-lance/control, and looming WEF 'The Great Reset' world we live in, any longer term future we may face is difficult, if not impossible to predict?

Leaving aside any thought of it dying out altogether, or of some kind of restriction or ban being implemented by authorities, let us have a brief look at possible future rule changes, and possible technical/design trends/changes.

Since 1978, there has been an almost continual debate over the F2D conduct rules, a process that to some degree continues today. These largely revolve around their complexity, ambiguousness and over penalties/disqualification for minor pit crew infringements and for example, Pilots' feet or foot over line infringements - for what is meant to be a Pilots' skill competition. Without adversely affecting safety requirements, perhaps most penalties should be reduced, and some eliminated so as to lessen the effect on the final score outcome? Although there has been some rule clarifications and changes for the better over the years, the rules still remain many, they remain complicated and they remain over penalizing? Pilots are still losing bouts because of minor rule infringements by their pit crew, or themselves (or conversely, are winning them due to the infringements of their opponent or his/her pit crew). The outcome of a bout should never be decided by rules infringements, and yet that is often what happens. I am not sure it is any easier (or any better) to compete these days, than it ever was - maybe it is even more difficult? I don't want to delve further but after all these decades, it seems we will likely never have a rules set that contains fewer rules, which are easier to understand, which do not excessively affect the score outcome, and which support the original object of the sport?

As far as technological changes are concerned, it is conceivable that F2D could go to electric power in the future?

This is already beginning to happen in F2B. However, I think that for most of us, it is the raw power and noise (and danger) which attracted us to the sport initially, and which keeps us in it now - to soften any of it through the adoption of electric power, will be an appalling and alien concept? Some people have made such prototype electric models, but the wing loading and power/weight ratio at present, makes them decidedly unexciting.

We will see a continuing evolution of construction and materials used to produce models, possibly leading eventually to an all Composite structure, with little or no Balsa or Softwood. If that proves be the case, I will soon expect the all Composite moulded L. E. to make an appearance, as a significant development milestone along the way. Certainly, commercial models will become increasingly expensive in the future, regardless of which development path is taken. In addition to a steep increase in model prices, I am uncertain that all Composite construction can achieve a sufficiently lightweight structure and balanced model strength/wing loading ratio?

Aerodynamically, I don't see any significant or radical changes regarding commercial F2D models, although we will see? Could we see a trend to reduced Tip section percentage thicknesses on commercial models?

Regarding engine technology (assuming two stroke engines continue), unless there are further engine rule changes to reduce noise (and power), I would expect things to remain essentially the same for some time yet. In time, there will inevitably be some improvements made to engine materials and also to the technology employed in their manufacture.

I do however, fear possible future rule changes concerning a reduction of Venturi hole size and/or Muffler opening size, which could make current engines obsolete (especially so in the case of smaller Venturi hole sizes). In that situation, engines will need to be redesigned, and possibly employ alternative materials where necessary in order to produce the best power under the restrictions, and to dissipate the additional heat build up the Muffler opening size change will likely incur. Alarmingly, that may result in a situation similar to the introduction of the 1993 Silencer rule, where all of the popular double exhaust stack engines then in use (mainly in Europe) became obsolete virtually overnight (a few tried using twin Silencers for a while) - forcing some manufacturers to re-design for a single outlet Silencer equipped version, others to discontinue F2D engine manufacture, and one or two to simply go broke - not to mention the numbers of flyers that gave up the sport, and of the significant costs and trouble the dismayed remaining flyers endured in the process of replacing their suddenly obsolete engines.

Here in Australia, we were less affected by these rule changes, since it mostly meant adapting Silencers to existing single stack engines such as, Rossi, Nelson, Super Tigre, MVVS, Cox/K&B Conquest, CS, or any number of other engines then in use. As I mentioned earlier, diesel engines neatly side-stepped the inconvenience.

Let's hope that there are no such engine rule changes, at least for some time, so we can continue to enjoy flying F2D Combat using our existing equipment into the medium range future?

Apology:

I mentioned in last months' issue, that Greg Pretty and I were the only users of Russian style F2D models at the 1993 Wagga Nationals, which I now realize is an oversight and error. Brant Aldhamland also attended, and entered the competition using his impressive Nelson glow powered home built Russian models. That Greg and I were the only diesel engine users, is correct.

I apologize for any confusion this oversight may have caused - Leon Baird.



Now Ok the old Vintage type engine might be

alright with the performance that it has but I have actually seen an R/C model at the 13 & half field with a .60 glow engine and a 12 x 6 Electric prop.

The owner came to me saying that he was having problems tightening the prop. I wasn't surprised when I saw it as the hub was only about 8mm thick.

In fact he had to use pliers on the prop driver to undo it. Thank God he came to me before trying to start it.



A lot of people seem to be unaware of how dangerous this can be. The chance of a blade flying off is very real.

Norm Kirton

Engine Blue Print.

By Matt Korhonen.

OK, so the engine is de-burred.

Now is the time to re assemble - or not!

Actually now is a great time to TIME the engine if you are interested in what's what. If the engine times out OK then one might think about other things, like the FIT of the engine. I think some people call it blue printing an engine. And in this case we are talking about making sure everything fits and lines up correctly.

The place to start is with the crankshaft.

What I like to do is measure the crank from the front where it contacts the front bearing to the rear where it sits up against the rear bearing. Then I measure from the back of the rear bearing to the back of the front bearing (Surfaces the crank sits up against).

What we don't want

- A) Is to crush the bearings toward each other
- B) Let the crank sit too far back

At this time I also fit the crank to check the centring of the con-rod as well the spacing to the back plate. If there is too much of a gap between the rod and back plate this could be bad news as the design of your engine (older) might allow the rod to walk the crank pin. The other thing to check is the crank pin. Some older engines just had seriously overly long crank pins.

Problems.

Lets start with the back plate. If there is to much of a gap, you may need a stuffer plate or filler plate. The way I did it was to make the plate with a threaded extension. Then drill a hole in the back plate and thread the plate in (screw it in). As well use a locking screw on the other side. Some engines would simply allow you to remove the gasket (rubber O ring) to take up the free space.

To long a crank pin – This is a tricky one and generally only affects older engines. But, where does the con rod sit? Up against the crank web? In the middle, or toward the back of the crank pin. Yeah, some engines may have been machined so that the crank sits too far forward and to correct the mistake they simply put in a longer crank pin. This is a tricky situation with many options available, many requiring a lathe. In a worst case scenario you may need to rebuild the bottom end.

Con-rod!

If the rod sits too far forward, one may only need to reverse the rod and that might fix the situation. Otherwise you may need to fit a small washer to centre the rod. Now a slightly off centre rod may not be the end of the world but if you are chasing power then the more true the engine is fitted, the more power will go to the prop.

If the rod sits too far back, then this is a far more serious issue as it may indicate that the crank shaft is poorly aligned. This then might require the crank to be trued first with spacers.

Crank shaft.

So the crank needs to sit in the case properly so that the rod is in the centre of the bore (Cylinder). Also the crank needs to sit in the bearings correctly so as not to crush fit them. Remember, as the case warms it also expands some. So if there is no forward and back play, the bearings may tighten even more causing power robbing drag. A lot of Team race engine builders went to great lengths to set up their bottom ends just so.

Lets recall, we have measured the crank and the spacing for the bearings. We want those to match. If the crank is a few thou longer who cares, but if the crank is a few thou shorter (or more) you may need a spacer to correct the fit. SuperTigre from memory always made their cranks shorter requiring a spacer to be fitted to the front of the crank to sit up against the front bearing. Again it might pay to check and re check (blue print) the bottom end to make sure things are where they are supposed to be because some times those spacers were overly generous. Perhaps some one was mixing parts? (Used engines).

So lets imagine your bottom end is true.

Now we need to check where the rod sits in the piston. Depending on the engine, older engines allowed the rod to walk quite a lot on the wrist pin. But on newer aluminium pistons the design does not usually allow for this, so just check for centring and binding.

Piston Cylinder fit.

This is more advanced.

Some engines came out of the factory so tight that running in the engine pretty much flogged the rod to death and maybe did the same to the crank pin and wrist pin. This is why lapping became popular with people chasing power.

- A) Lapping keeps the cylinder and piston round while excessive material is removed,
- B) Lapping allows a person to control the shape of the material removed.

And what was popular was making the piston a little barrel shaped and honing the cylinder to a matching taper. This allowed for minimal stress when running in the motor and a good running seal with as little drag as possible. This is kind of advance stuff, and I dare say many a piston cylinder was ruined in the learning stage.

C) One way is to lap the piston to the cylinder with a mild abrasive like Brasso. Only lap so far as to allow the piston to go past the exhaust port by hand to maybe 5mm of top dead centre. And then run in the engine. The goal being to minimise wear and tear during the run in process. A lot of people would run in the engine then do a rod swap because of the rod wear.

Talk to the car guys, they want cross' hatching in their bores as it retains oil and makes for a better seal (But that's with rings)

Now, we might be ready to bolt the engine back together again. Don't forget to clean and clean some more to remove any particulate matter and use liberal amount of oil.

Now depending on the engine. Usually older engines or cheap 3rd world engines have issues that need addressing. But it pays to check. Just to re affirm that your engine has the potential to be a performer. I have seen / owned many an engine that look good on paper and look like race engines from the outside. Only to be complete rubbish when you look under the hood or try running them.

I have a Russian combat engine that wont pull the skin off a rice pudding. Looks good but it performs like a Cox 049. Just rubbish internals and a crank case that's as soft as butter. Some engines are only useful as paper weights. So spend your money carefully to buy something that works rather than something so you can be different.

NSW State Control Line Championships.

Held at Whalan reserve Sat 12th — 14th June

Results for F2B — Classic — Vintage.

Weather for the 3 days was great and despite all the hurdles over the past 12 months attendance was excellent, with most of the models showing a high standard of construction and finish, a credit to the competitors.

F2B — 13 Entries Classic Stunt — 9 entries Vintage Stunt — 5 entries

Frank
Battam
shows his
beautiful
new
Yatsenko
Evolution.
4th place

in Ex-

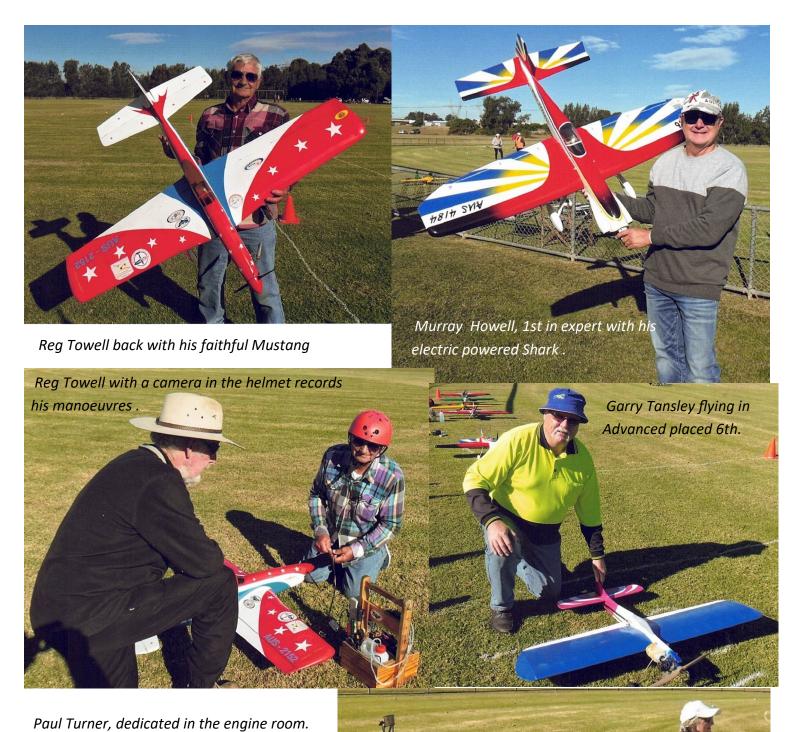
pert.

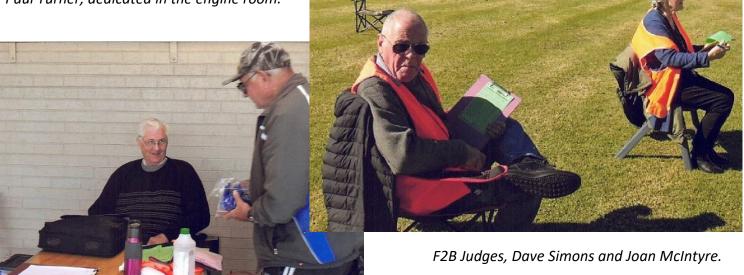




Garry Lynch returns to the competition circle.

3rd place in Advanced.





Hard Yakka for four rounds.



Classic Placings—Left, Garry Lynch 2nd, Centre, Reg Towell 1st, Right Geoff Van Kampen 3rd.



Brian Eather checks in his 1949 beautiful "Humongous"



RESULTS F2B EXPERT
RESULTS F2B ADVANCED

1st Murray Howell

1st Steve Thomas

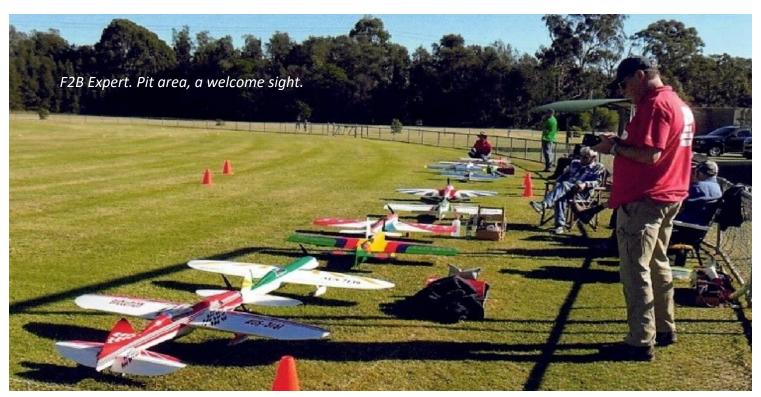
2nd Brian Eather

2nd Geoff Van Kampen

3rd Bruce Hoffman

3rd Garry Lynch







Tony Bonello's beautiful Caprice

Hi All

VMAA Notification MAAA FAI Cards - 17 July 2021

The VMAA is experiencing a delay in sending the FAI Cards for 2021/22 and apologise for any inconvenience.

We do expect the cards to be mailed out this week if all goes well.

As a reminder to all, if you have paid your Club fees, including State/Federal, you should have a receipt from your Club Registrar.

The receipt is proof that all fees have been paid and you are covered by insurance.

The receipt can be used if visiting other clubs as a "stand-in" FAI Card.

For Club Registrars

If you are attempting to add an "**Associate Member**" into your club membership and the Registration System does not accept the member, it is most likely that the member's parent club has not processed his Federal and State fees.

Please refer above regarding receipts.

If you wish to contact the VMAA Secretary please click on the following link: Secretary@vmaa.com.au

Stay safe and enjoy the flying

VMAA Secretary

Les Spaltman brought his new Vintage A "Voodoo" model that was made by Ray Harvey to the Frankston field and collected some accessories that he had ordered.

NEW MODELS

The model was put through its paces by Andrew Nugent and Mark Ellins with some gentle engine settings. All concerned were happy with the results.

Les commented. "Big thanks to Andrew and Mark for helping me out with the Voodoo 5 and my R250...great to see an engine I have had in a box for 10 years finally in the air".







Combined Speed at Frankston 11-07-2021

The two events for the day were to be Combined Speed and Classic Stunt.

There were plenty of stunt models in attendance and the weather in the morning was pleasant enough but the lack of a stunt judge and motivation prevented a competition taking place. By the afternoon the wind had picked up so that even some sport flying was not worth contemplating.

Combined Speed took place in the morning. Robin Hiern was flying his new Class 5 model for the first time in competition and his flight of 98.87% of the record was not a bad result.

<u>Pos</u>	Name	Class	Engine	Flight 1	Flight 2	Flight 3	Fastest	Km/h	<u>%</u>
1	R. Hiern	Class 5	Novarossi 21	15.06	15.18	16.85	15.06	239.04	98.87%
2	A. Nugent	Class 1	Novarossi 12	19.51	19.19		19.19	187.60	81.08%
3	K. Hunting	S/Speed	???	27.70	27.66		27.66	130.15	79.54%
4	R. Hiern	FAI	Profi	N.E.L	15.35		15.35	234.53	78.76%
5	H. Bailey	Proto	Novarossi 21	36.91	36.00	36.24	36.00	160.93	74.42%
6	H. Bailey	1/2 A Proto	OS 10	34.37			34.37	104.74	74.11%



AUS 13953

Robin Hiern with his new Class 5 model that was built during Covid lockdown and a much

older FAI model.

Reeve Marsh's "Ruffy"



OK Classic FAI team race competitors, it's time to start preparing for ROUND 2 of the International Postal event.

I am running it over a THREE month period from August 1st to October 31st to allow entries from everywhere, especially those countries affected by Covid-19 restrictions.

Once again we will be using the Australian Classic FAI rules.

Would those who are interested in being part of this Global event please indicate their intentions by posting on these pages.

https://www.facebook.com/groups/151045113550096

I am hoping for a much larger entry that Round 1 which only attracted entries from Australia and New Zealand. Remember that SOLO entries WILL be allowed, again because of restrictions, but will incur a 10 second time penalty. I look forward to LOTS of entries.



Marcial Garcia Suarez in Brazil is building this "Espadon" for an ETA 15





New in box CMB 21/Darp pan/Ops spinner/					
few carbon props, all items new					
New in box Paw 149 DS 3 bicentennial edition					
New in box PAW 249 DS	\$125				
New in box PAW 19 BR	\$125				
New in box P.M.C IMP .75	\$125				

wayne wilson <whyzedman@hotmail.com>

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7x4 & 7x6 left @ \$2.50 each 9x6 Black GF \$3.00 each 10x4 Black GF \$3.50 each 10x6 Black GF \$3.50 each

+ letter post or parcel post rates depending on size, weight & quantity ordered.

Pure, first pressing Castor Oil:

Note: New price increase below due to a 20% price increase from my supplier effective 1/12/19

2.5 litre
4.0 litre
4.9 litre
450 +5 kg satchel Auspost price
460 +5 kg satchel Auspost price

Pick up only 5lt castor oil price is \$60

Above prices inclusive of new container cost

Premixed Diesel fuel in new 500 ml & 1 lt steel containers \$22 & \$35 respectively

I cannot post diesel fuel (i.e. dangerous goods) unless you can arrange with your own courier

PayPal "gift payments" accepted Bank EFT deposits accepted.

Cash accepted.

PH Ken 0433 797 058 combtkid@hotmail.com

As some of you already know I have taken over the manufacturing of CL props for Supercool props.

Email me for any enquiries / orders

F2C, GY, Speed, Free Flight & other props available.

Contact Ian Thompson

iandthompson@msn.com mobile 0451085325

Be considerate with phone calls. I am in WA & there is a time difference from Eastern States.

U.S. Hard rock maple bearer wood, precision cut and machine sanded.

Cost \$4.50 each plus postage. All lengths 12"

Sizes: 3/8"x3/8"

3/8"x1/2"

1/2"x1/2"

Also, I now have a stock of 3/16" sq. and 1/4"sq rock maple spars.

All spars are precision sanded with 150 grit. \$4 each plus postage.

TCA Italian glow plugs in Australia.

I have for sale a large range of TCA glow plugs.

TCA supply Luca Grossi the current F2A European champion.

There are std type 1/4x32 thread, Nelson style tapered seat with flat coils and the "turbo style" tapered seat.

Italian made TCA Nelson type combat plugs arrived for those that might be interested, \$8 each plus postage.

email: aheath296@gmail.com

Speed pans for sale. 2cc size (\$25) and 21 size. (\$30)Also small amount of Nelson type T/R pans. (\$25) All pans in the "as cast" state. Not finished.

Andrew Nugent. andrew.n5@bigpond.com

For Sale.

38µ (micron) Mylar laminating film (heat activated adhesive).

Suitable for C/L combat models, great for F/F models. Even better with tissue doped over it for a 'vintage look' This is very close to the 'Oz Cover' that was sold by Saturn Hobbies many years ago.

1m x 5m \$20 + postage at cost.

feraldoghunter@gmail.com

Danny Mz mob # 0477224751

I can now produce wings and tailplanes that are shaped on a Computer Numerically Controlled (CNC) router and can be any planform and shaped with any section although I have my favourites. The finish and accuracy of these products has to be seen to be believed.

They have laminated leading edge and reinforced front panel on the outboard wing for catching.

Internal control grooves and bellcrank assembly are also part of the package. They are ready for glassing as supplied. A shut-off actuator can be supplied as part of bellcrank assembly if required.

I can also supply spruce for leading/trailing edge etc. cut to any section size.

I can be contacted via Facebook or

Mobile 0404205562

Ray Harvey



Wanted

Crank shaft for Mc Coy 09 diesel.

Aeroflyte 2" rubber wheels not balloon type.

Drive hub for an OS 32/37 SX

Spinner assy for OS 61/65 RSR

wayne wilson <whyzedman@hotmail.com>

Wanted.

ST46 needle valve assembly and a tongue muffler or standard muffler.

Kim Laughton Mob Tel:- 0403 327 311

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Fuel Items; Fuel Tanks; Glow Plugs; Handles; Kit
 Timers & Programmers; Wheels & Landing Gear.

Free Flight - Timers & Programmers.

Cox Engines - Surestart & Bee Engines; Glow Heads; Tanks; Gaskets; Props; Mounts; Parts & Accessories

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