
**THE VOICE OF CONTROL LINE
AEROMODELLERS FROM
AROUND AUSTRALIA**

Number 289

Produced by the Victorian Control Line Advisory Committee



September 2023
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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.



COMING
EVENTS



VICTORIAN CONTROL LINE CONTEST CALENDAR 2023

DATE	EVENT	CLUB
Sep 10	Combined Speed , Vintage Combat.	CLAMF
Oct 8	F2B & Classic Stunt,	CLAMF
Nov 12	Warbird Stunt and Nobler Stunt, Combined Speed ,	CLAMF
Dec 10	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, 103R 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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COMING
EVENTS



C.L.A.S. CONTEST CALENDAR 2023

DATE	EVENT	CLUB
Sep 3	F2B Aerobatics.	SAT
Sep 10	Slow Combat & Vintage Combat.	SSME
Sep 16-17	Rocky Rally Classic B Team Racing and Fun Fly.	Rockhampton
Sep 17	Gordon Burford Day.	KMFC
Sep30-Oct2	NSW State Championships. Team Race and Speed.	CLAS Albury
Oct 15	F2B Aerobatics.	SSME
Oct 29	Classic Stunt.	Doonside
Nov 5	Event TBC.	KMFC
Nov 12	F2B Aerobatics	SSME
Nov 26	KMFC Christmas Party and Fun Fly.	KMFC.
Dec 3	F2B Aerobatics.	Doonside.

KMFC - (Ku-ring-gai Model Flying Club) - St. Ives Showground, Mona Vale Rd, St. Ives.

SAT- (Sydney Aeromodelling Team) - "Duck Pond", Ashford Road, Milperra.

SSME - (Sydney Society of Model Engineers) - Model Park, Luddenham Road, Luddenham.

DOONSIDE- Baseball diamond, Whalan Reserve.

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2023 ClasiI Ipswich

Contest Calendar



2nd-3rd September 2023 *QLD State Racing Champs,
CLASII Ipswich*

Venue: - CLASII - Enter through car park on Ernest St,
Leichhardt, Ipswich

Saturday start 9:00 am 2.5 Simple Rat (Whipping allowed),
27 Goodyear, Classic B, Vintage A,
Vintage B,

Sunday start 9:00am Classic FAI, 21 Bendix, Open Bendix.

Contact :-Mark McDermott 0402295370,
mark_mcd@bigpond.com with any questions regarding the Clasi
club.

Scheduled event times may vary.

2023 Western Australia

CONTEST CALENDAR

DATE	EVENT	VENUE
10 Sep	Postal Classic FAI - Round 3	WAMASC
16 Sep	State 1/2A Combat	WAMASC
14 Oct	State Vintage Combat	WAMASC
29 Oct	Combined Speed	WAMASC

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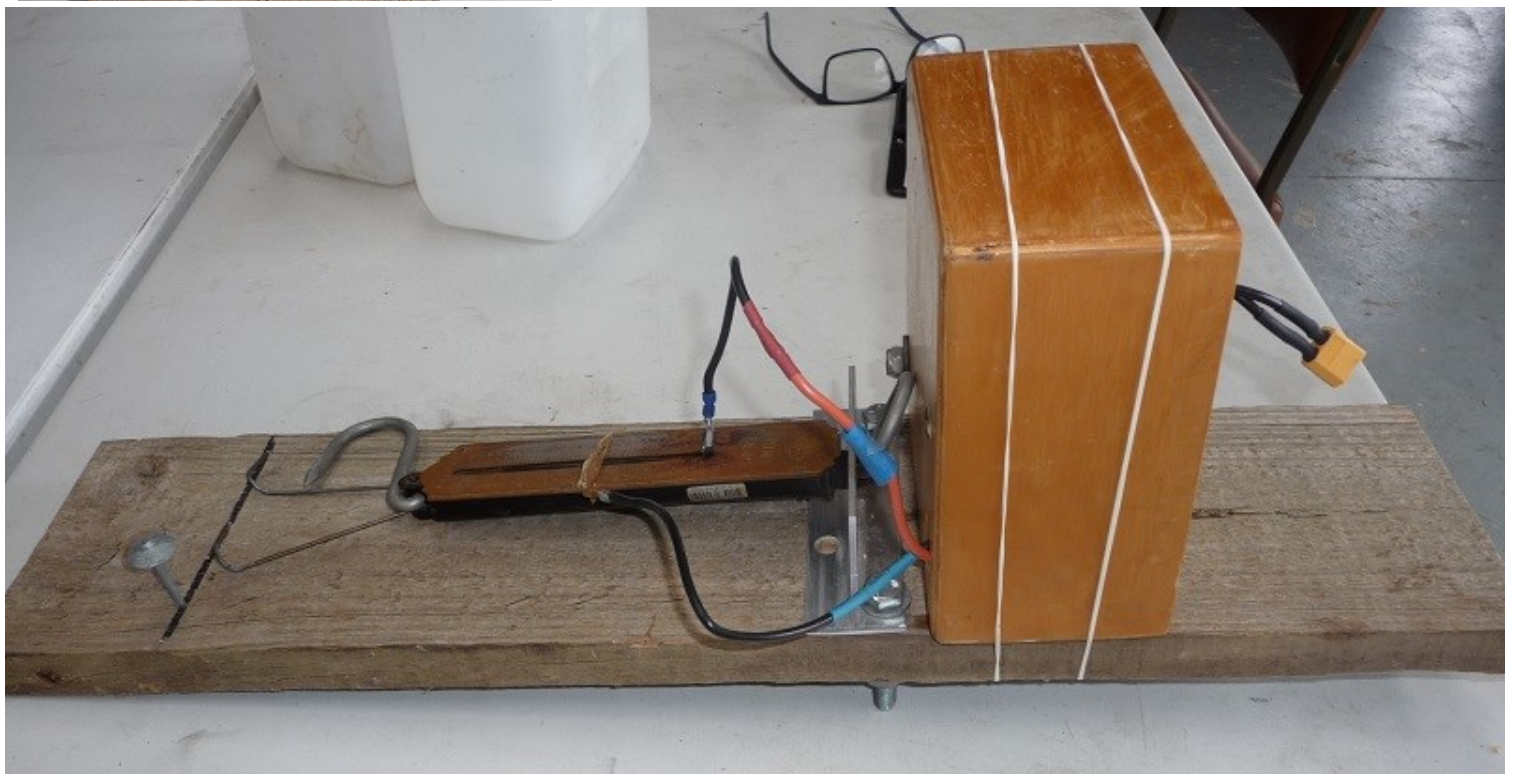


The item pictured here was displayed at the CLAMF club barn a few weeks ago.

Some thought it was a new type of mouse trap but could not figure out how it was supposed to work.

It turns out that is actually a prototype piece of line pull test equipment to give an audible alarm when the correct tension is applied.

Aero modellers are a devilishly ingenious lot!



CASTOR OIL

By Bert Striegler.

Rescued from George M. Aldrich's web site, now closed down, after his passing away. Some edits and additions by Göran Olsson.

Back in 1983 there was quite a controversy in Radio Control Modeller magazine about the tests that were necessary to measure the "lubricity" of various oils that might be useful in model engines. Castor oil was used as the benchmark, but it was obvious no one knew why this was so. They apparently got a lot of info on various industry tests of lubricants, but these were really designed for other purposes. This was my answer. I will remind you that I was a lubrication engineer and not a chemist, but I drew my chemical info from Bob Durr, the most experienced lubricant scientist in the labs at Conoco. Bob worked with my group on many product development projects and I can tell you that he is one smart hombre! Small changes were made in the text, but surprisingly very little has really changed since this was originally written. Here goes with the answer:

"I thought I would answer your plea for more information on castor oil and its "film strength", which can be a very misleading term. I have never really seen a satisfactory way to measure the film strength of an oil like castor oil. We routinely use tests like the Falex test, the Timken test or the Shell 4-ball test, but these are primarily designed to measure the effect of chemical extreme pressure agents such as are used in gear oils. These "EP" agents have no function in an IC engine, particularly the two-stroke model engine types.

You really have to go back to the basics of lubrication to get a better handle on what happens in a model engine. For any fluid to act as a lubricant, it must first be "polar" enough to wet the moving surfaces. Next, it must have a high resistance to surface boiling and vaporization at the temperatures encountered. Ideally the fluid should have "oiliness", which is difficult to measure but generally requires a rather large molecular structure. Even water can be a good lubricant under the right conditions.

Castor oil meets these rather simple requirements in an engine, with only one really severe drawback in that it is thermally unstable. This unusual instability is the thing that lets castor oil lubricate at temperatures well beyond those at which most synthetics will work. Castor oil is roughly 87% triglyceride of ricinoleic acid, [$(\text{CH}_3(\text{CH}_2)_5\text{CH}(\text{OH})\text{CH}_2\text{CH}=\text{CH}(\text{CH}_2)_7\text{COO})_3(\text{OC})_3\text{H}_5$], which is unique because there is a double bond in the 9th position and a hydroxyl in the 11th position. As the temperature goes up, it loses one molecule of water and becomes a "drying" oil. [Another look at the molecule.](#) Castor oil has excellent storage stability at room temperatures, but it polymerizes rapidly as the temperature goes up. As it polymerizes, it forms ever-heavier "oils" that are rich in esters. These esters do not even begin to decompose until the temperature hits about 650 degrees F (343 deg C). Castor oil forms huge molecular structures at these elevated temperatures - in other words, as the temperature goes up, the castor oil exposed to these temperatures responds by becoming an even better lubricant! Unfortunately, the end by-product of this process is what we refer to as "varnish." So, you can't have everything, but you can come close by running a mixture of castor oil with polyalkylene glycol like Union Carbide's UCON, or their MA 731. This mixture has some synergistic properties, or better properties than either product had alone. As an interesting sidelight, castor oil can be stabilized to a degree by the addition of Vitamin E (Tocopherol) in small quantities, but if you make it too stable it would no longer offer the unusual high temperature protection that it did before.

Castor oil is not normally soluble in ordinary petroleum oils, but if you polymerize it for several hours at 300 degrees F (149 deg C), the polymerized oil becomes soluble. Hydrogenation achieves somewhat the same effect. Castor oil has other unique properties. It is highly polar and has a great affinity for metal surfaces. It has a flash point of only 445 degrees F (229 deg C), but its fire point is about 840 degrees F (449 deg C)! This is very unusual behaviour if you consider that polyalkylene glycols flash at about 350-400 degrees F (176-204 deg C) and have a fire point of only about 550 degrees F (288 deg C), or slightly higher. Nearly all of the common synthetics that we use burn in the combustion chamber if you get off too lean. Castor oil does not, because it is busily forming more and more complex polymers as the temperature goes up. Most synthetics boil on the cylinder walls at temperatures slightly above their flash point. The same activity can take place in the wrist pin area, depending on engine design.

Synthetics also have another interesting feature - they would like to return to the materials from which they were made, usually things like ethylene oxide, complex alcohols, or other less suitable lubricants. This happens very rapidly when a critical temperature is reached. We call this phenomena "unzipping" for obvious reasons. So, you have a choice. Run the engine too lean and it gets too hot. The synthetic burns or simply vaporizes, but castor oil decomposes into a soft varnish and a series of ester groups that still have powerful lubricity. Good reason for a mix of the two lubricants!

In spite of all this, the synthetics are still excellent lubricants if you know their limitations and work within those limits. Used properly, engine life will be good with either product. Cooked on a lean run, castor oil will win every time. A mix of the two can give the best of both worlds. Most glow engines can get by with only a little castor oil in the oil mix, but diesels, with their higher cooling loads and heavier wrist pin pressures, thrive on more castor oil in the mix.

Like most things in this old life, lubricants are always a compromise of good and bad properties. We can and do get away with murder in our glow engines because they are "alcohol cooled" to a large degree. Diesels, though, can really stress the synthetics we use today and do better with a generous amount of castor oil in the lubricant mix. Synthetics yield a clean engine, while castor oil yields a dirty engine, but at least now you know why! "

Bert Striegler

Bert was the Sr. Research Eng'r. (ret.) at Conoco Oil Co. He's a graduate in aeronautical engineering., and a long time modeller. I never understood how he wound up in the oil research business, but I guess it's because he's just very smart ! I deserve no credit, Bert's the brain ! /George M. Aldrich

Wynn Paul, from Lexington, Kentucky, U.S.A. writing you. A life member of the U.S. Academy of Model Aeronautics, and long time competitor in control line precision aerobatics.

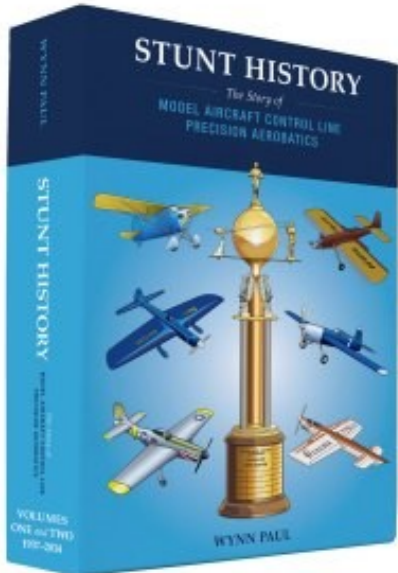
I have just had published my lifetime work, "Stunt History-The Story of Model Aircraft Control Line Precision Aerobatics - 1937-2014" which is a two book set, with hardback 9 x 12 inch covers and 80# glossy paper inside. The two book set is placed in a colourful slip case. The books have a total of 976 pages with over 1500 photographs, many in colour. Total weight is 12 pounds !

This is a two volume set; volume I is 1937-1979 and volume II is 1980-2014.

The first chapter is a condensed history of the development of model aircraft flying beginning with Leonardo da Vinci's drawings, the gliders Otto Lilienthal in the late 19th century, early free flight planes, the development of the model ignition engine, the first documented control line flight in 1937, early radio control, and control line flying up to 1945.

STUNT HISTORY

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The CLAMF monthly competition took place on Sunday August 13th. Scheduled events for the day were Carrier Deck and 27 Diesel Goodyear team race.

The setting up of the HMAS Seaford deck can sometimes be dependant on the days ground conditions and the prevailing weather but no such problems on this chilly morning and only a light breeze welcomed our five eager contestants. The sun did manage to poke through the clouds on a few occasions which warmed up the proceedings. Four pilots flew the two rounds of contests but Harry was unfortunate to have his engine stop mid flight during the seven slow laps and could not re-start the engine as the needle had come out of the carburettor and was lost at sea.

Tim Cooper used his Hellcat model powered by an electric motor. He was the only competitor to use flaps and that assisted him to fly some nice slow laps. During his first flight he miss judged his landing approach and touched the water/grass but his second flight he landed on the deck on his first approach.

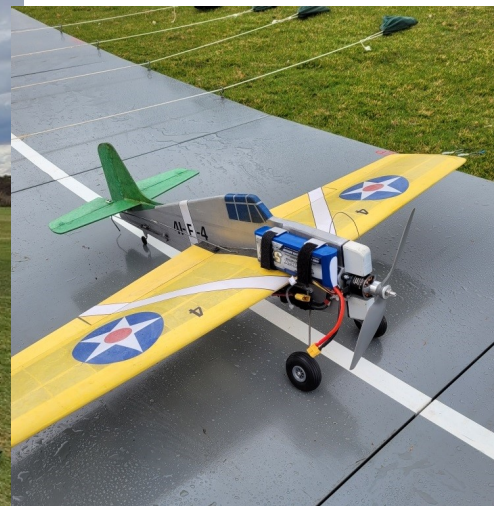
Mark Ellins missed two of his landing approaches which resulted in a 10 point reduction in his landing point allocation.

Paul was the only pilot to obtain his highest score in round one and Murray's second flight score was the best of the day and earned him first place.

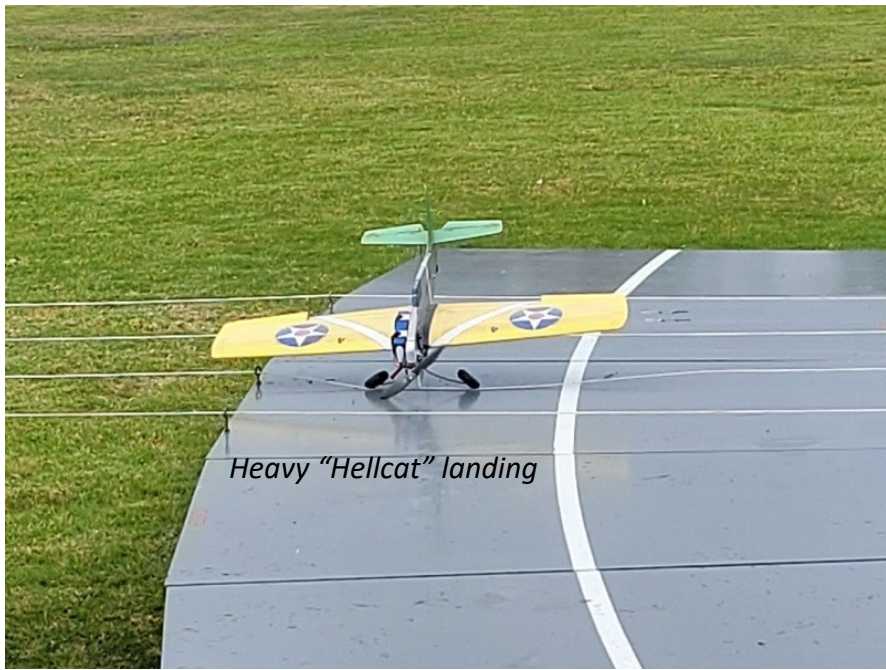
Thanks to Colin Ray and Andrew Nugent for doing the timekeeping and filling in the score sheets.

Carrier Deck. Result of best score of the two rounds flown.

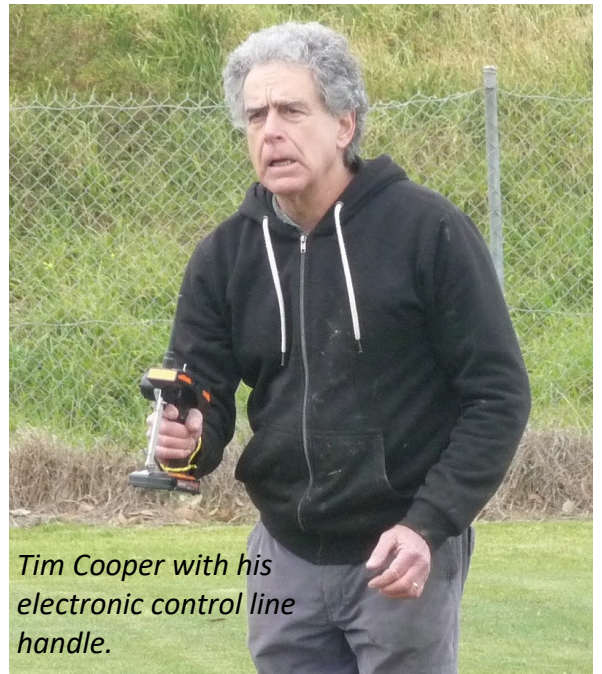
Place	Entrant	7 High speed laps	7 Low speed laps	Low minus High score	Landing points	Total Score
1.	Murray Wilson Bearcat/HP40	30.62 secs	94.28 secs	63.66	100	163.66
2.	Paul Stein Corsair/HP40	26.66 secs	86.61 secs	59.95	100	154.95
3.	Tim Cooper Hellcat/Electric	31.87 secs	74.92 secs	43.05	100	143.05
4.	Mark Ellins Bearcat/HP40	25.84 secs	74.39 secs	48.55	90	138.55
5.	Harry Bailey Bearcat/Thunder Tiger36	22.34 secs	Splash	-	-	-



Pictures from Andrew Nugent and the Editor.



Heavy "Hellcat" landing



Tim Cooper with his electronic control line handle.



Corsair approach.



Following on after the conclusion of carrier deck and the lunchtime sausage BBQ it was time for some **27 Diesel Goodyear team race**. With some mixing and matching of team members we had some two up races. Colin Ray piloted for Murray Wilson to set the fastest time of the day of 5:05.50. Ken Hunting was pitting his Fora powered model and progressively improved his three race times and Tim Cooper had Murray Wilson doing the pitting duties to do a personal best race for Tim of 5:12.42.

27 Goodyear results.

Place	Team	Rd 1	Rd 2	Rd 3
1	C. Ray/M. Wilson	5:17.35	5:05.50	
2	T. Cooper/M. Wilson	5:37.96	5:12.42	
3	H. Bailey/K. Hunting	5:29.96	5:18.21	5:14.26
4	K. Hunting/H. Bailey	5:39.16		

KMFC Peacemaker Day Sunday 6th August 2023

Chaps and chapettes,

Holy crap! The KMFC Annual Peacemaker Day has snuck up on us while we were looking the other way!

WillyWeather and the Bureau of Met. hadn't been informed in time and have booked in a shower or two; but nowhere near enough to dampen our enthusiasm, right? The good news is light winds are the order of the day.

There will be plenty of casual flying on the world renowned KMFC three circle field, a concourse d'elegance and of course the KMFC FREE LUNCH; this year brought to you by a team of gourmands headed by Michelin Starred chef Ric Benomo...

The menu for this years culinary event centres around fresh, hand formed hamburger patties hot off the grill on a soft, toasted bun. Choose as many topping as you want. To accompany this a delightful, cheeky little Coca-Cola, noted for its length on the palate and chilled perfectly.

So, rattle out those Peacemakers, (Flitestreaks will also be welcomed), or any old thing you'd like to fly, and come along to an event likely to be talked about for years to come in hushed and reverential tones.

John Dodds.



Despite a fairly poor weather forecast, a hardy band of Peacemaker aficionados from KMFC and our fellow Sydney clubs braved the conditions and flew their lovely Peacemakers at St Ives.

Natalie, head to toe in pink, with her lovely concourse winning pink Peacemaker.

Sydney Aeromodelling Team (SAT) Classic Stunt competition flown at the "Duck Pond" Ashford Road in Milperra close to Bankstown Airport.



Competitor	Round 1	Round 2	Round 3	Score	Handicap
GEOFF	498				
FRANK	368				
BRIAN	521				
RES	535				
JOHN	349				
PAT	446				
GARRY	551				
	202				

Models are from front, upright Thunderbird, Venus, Nobler, Nobler, Palmer Hurricane, inverted Thunderbird, Bearcat.

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2.5 litre	\$35 +3 kg satchel Auspost price
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4.9 litre	\$60 +5 kg satchel Auspost price

Pick up only 5lt castor oil price is \$60
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Premixed Diesel fuel in new 500 ml & 1 let steel containers \$22 & \$35 respectively

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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: ah Heath296@gmail.com

Andrews Pans.

Hi All,

I've been asked over recent months about the availability of pans and what types I have.

I had a dig in my pan box and was quite surprised to see about 8 different types. It's grown over the years! The quality has improved also. I'm on my 3rd foundry now, it was a problem getting a company who wanted to take it on. Material is casting alloy CC601.

Price is still the same at \$25 for "as Cast" pans. I'm not preparing them in a finished state because of problems with my arms at the moment.

I'm not keeping a lot of stock, but will get some cast if asked. It usually takes about 3 weeks. I will always get a couple extra done.

Also, I've just finished a new master. It's copy of Steve Rothwell's engine plate. Simple little thing, but it will save cutting the plate out of tough aluminium

After last month's update and photos of the available pans, I wanted to clarify some of the prices .

29 speed pan..... \$30

2cc speed pan....\$25

T/R pans.....\$25

Rothwell style plate..... \$12

All the pans are unfinished . Although I usually clean off most of the flashing ,

Andrew Nugent.

andrew.n5@bigpond.com

A few engines for sale.

Enya 049 reed valve F/F new in box	\$125
OS 15 111 C/L new in box	\$100
OS 15 C/L new in box	\$100
HGK 15 F/F new in box, no NVA	\$125
Cipolla 1.5 D looks new in box	\$90
MP Jet 06 D TBR used excellent in box	\$100
Super Tigre 29 FI F/F very good used in box	\$90
Owen 2.5 T new in box	\$ 475

Contact Wayne Wilson @ whyzedman@hotmail.com

Enya SS 15 DBBS NIB \$250

EVO36 Stunt as new in box \$150 ONO

David Murrell ddtmis@gmail.com

0416236456 Coffs Harbour

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

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Wanted

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Contact Wayne Wilson whyzedman@hotmail.com

I'm chasing a CS Oliver Tiger to put in a Vintage A model I built many years ago. I'd like something that's reliable but doesn't have to be fully competitive as I don't think it will be raced at this point. I'll probably consider anything.

Contact is

Mark Kennedy

93 Kingfisher Parade

Toogoom Qld

0422 408 330

markkennedy756@gmail.com

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