PropShaft

Magazine of the New Zealand Model Power Boat Association Incorporated

Issue 4 2005

In this Issue

Unlimited Hydro's at Mission Bay

NZMPBA
NEW ZEALAND MODEL POWER BOAT ASSOCIATION INC.

NZMPBA Website: www.nzmpba.co.nz

PRESIDENT
Grant Binns
11 Westhaven Grove
Palmerston North
Ph: 06 355 1625
Email Binns@Blackley.co.nz

VICE PRESIDENT
Steve Trott
103 Longview Drive
Papamoa 3003
Ph: 07 542 0897
Fax: 07 542 0897
Mob: 0275 706737
Email: sktrott@xtra.co.nz

SECRETARY / TREASURER
Grahame Haines
P O Box 764
Blenheim
Ph/Fax: 03 572 9142
Mob: 025 226 2922
Email: nzmpba@xtra.co.nz

COMMITTEE

Wayne McNaught
263 Mitchell Street
Brooklyn
Wellington
Ph/Fax: 04 384 8968
Email: wayne.ultieng@paradise.net.nz

Tony Rutledge
16 Reuben Grove
Lower Hutt
Ph: 04 567 6362
Email:
tony.rutledge@paradise.net.nz

Greg Clarkson
12 Kenilworth Place
Hamilton
Ph: 07 846 7117
Email: 3boys2dogs@xtra.co.nz

John Belworthy
37 Mahoe Street
Lower Hutt
Ph/Fax: 04 569 2312
Email: jc.belworthy@xtra.co.nz

Malcolm Miller
93 Sykes Road
Manurewa
Auckland
Ph: 09 2682742
Email: CMB_4_ME@slingshot.co.nz

Propshaft Publisher	John Belworthy
Scale Hydro Registrar	Grahame Haines
Records Collator	Grahame Haines
Presidents Cup Points Collator	John Belworthy
Trophy Custodian	Tony Rutledge

NZMPBA List email discussion list group.

To subscribe, email Peter Collier at ppspeter@ihug.co.nz and he will put you on. Basically it is a means of emailing news, ideas, technical questions, useful websites etc to all subscribers on the list and responses go back to all list members. Note it is plain text only - no attachments.

Stuff From The President

Well it is now all over for another year with the last scheduled event for the year having just finished here in Palmerston North.

Support for the events has been difficult to achieve with numbers between 12 and 18 being common. The problem is that this isn't enough people to make the regatta run smoothly and you end up with more heats and thus it takes more time.

We have also had a burst of late entries to events which makes programming and planning the event very difficult for the organiser, basically it is unfair and to this end we need to be a lot harder on the late entrant, either pay more because in a lot of cases you have to do the draw and sometimes the entire programme again or just reject their entry which of course doesn't help with the numbers game.
We want to get as many on the water as we can but you have to play the game as well.

We had a good committee meeting as part of the last regatta and you will see a few things of interest in this Propshaft directly from that meeting including the AGM details, information on a display at the big boat event, some siginificant remits for next year and next years proposed programme of events.

This has been a reasonably difficult year from an event perspective but the boating has been very enjoyable as it always is. I have managed to get a couple of new boats on the water and improved the performance of a couple of others. I still have a few on the building programme and hope to make some headway with these over the break.

My holiday with Mother in the USA was a great break and it has certainly helped with the busy run home to Christmas.

Please read this issue carefully, think about remits for the AGM and have a good look at the remits and programme included in this issue.

If you have something to say, get to the AGM and say it.

Other than that have a happy and safe Christmas and New Year and I look forward to catching up with you at an early event in 2006.
Regards
Grant Binns

Important Notice - Remits.

These must be received no later than the 14th January, 2006.
They will be posted out to all financial members the next week, at least 14 days before the AGM. The AGM will be at Lake Karapiro rowing club rooms on the Saturday after the GP racing.

Post Remits to John Belworthy, 37 Mahoe St, Waterloo, LOWER HUTT.
(So I can post them out the next week)

ThunderBoats on Mission Bay Bill Muncey Cup

San Diego September 16-18 2005 By Doris

I started planning attendance at this event nearly 12 months ago as the final part of a three week holiday in the USA with Mother and another couple.

Brian Dougan gave me the web site details about 3 years ago so I suppose it is all his fault really.

From the web site I got in touch with Al Waters who is the contest director for the model racing part of the entire programme, yes that's right the model event is part of the whole Thunderboat weekend.

After much communication with Al we developed a plan which worked really well.

The weekend program ran for three days (Friday, Saturday and Sunday), the models had a practice day on Friday as did the big boats, Race day for the models was Saturday and this was a scale hydro event with Sport 45 as a support event. Saturday also had racing for the big boat with qualifying heats for all of the classes. Sunday was big boat day with heat racing and finals in all classes.

The mission bay event is huge with a wide range of events and activities.
The boat entries included:
9 Unlimited Hydroplanes
12 Unlimited Lights
12 Superstock Flat bottoms
8 Cracker Box's
Lots of SST 45 Mini Tunnels
7 Top Fuel Drag Boat Hydroplanes
5 Top Alcohol Drag Boat Hydroplanes
59 other boats in 8 other drag boat classes
1/8 scale Hydroplanes
Sport 45 Hydroplanes

So where do I start. Well Friday morning I headed to the pond to find Al and see what he had been able to organise for me. The directions he had given me were spot on and after a short walk I found the pond and Al and a few others testing some boats.
We had a quick chat about things in general and he gave me a super pass for the weekend, this included site and pit area entry which was absolutely bloody neat.
After meeting a few others and confirming an invitation for my group to the modellers Saturday night bar-b-que (the hospitality was just great) we headed across to the big boat pit area for a look around.
This was a great time to visit because there wasn't a lot of other on lookers. Al introduced me to a couple of team owners, a couple of drivers and team mechanics. I also met a couple of other modellers including Roger Newton who was involved with the U25 team. Roger and I chatted each day as I bumped into him.

I also started taking photos of the boats, I took more than 300 photos and video of the big and small boats including a few fuzzy ones because at full zoom when they

are coming at you at the end of the back straight at close to 200mph they are bloody hard to photograph.

Out of the three days for the event I managed to be there for 2 and a half, I joined Mother and the others at SeaWorld on Friday afternoon which was also great fun and in some cases quite spectacular.

Saturday morning and this was race day for the models so I was prepared to spend all day there. When I arrived the site was set up with individual pit areas under the trees, a preliminary pit area and a hit pit in front of the drivers stand.
The narrow pond resulted in a long narrow course so a smooth tight turning boat was an advantage.
Key observations
The boats were louder than ours even though most ran after market silencers or silenced pipes of some kind.
They were quicker than ours but I am sure we would be competitive with our lower nitro setups especially the 1/8 scales. Our well setup boats would handle just as well if not better.
The Sport 45 class was as quick as the 67's. They would have been faster than ours.
For the scale Hydros, Mac and CMB cam motors were the most common. (Al ran a K motor in his boats). The Sport 45's had a bit more variety in engine make but again mostly Mac and CMB.
The boats were pretty reliable, not a lot of dnf's due to engine stops.
Most of the guys I spoke to had a lot of other boats as well to use at other events.
Like always, a good start was the key to success.
In the final, everyone got a trophy whether you finished or not. Your placing was based on when you crossed the line or when you stopped. I think this is the same for the big boats.
The trophies were just great.
The portable drivers stand was very smart.
Saturday night's social function was really enjoyable and everyone was invited.
The sponsored draw prizes were very good and included fuel, servos, receivers and full sets of radio equipment, pipes and a very sort after full Stanley tool kit.
The standard of finish on the models was very high, the newer ones in both C scale and sport 45 were great and then you had others that showed signs of race wear and tear, just like ours.
Motors get modified to improve performance, many of the CMB's were running OS carbs.
Using modified or tweaked props was another key to improving performance. A wide range of props were in use.
During the mill they could cut the course except in the last 30 sec to get a better start (just as the big boats do).
They have a pit area under the trees, the next heat grid, and then the hot pit. This means a lot of moving boats and gear around, especially when the heats are mixed between classes. Everyone gets a heat sheet and the heats are called over the PA system, if you are not there you miss out.
All up a great day with a lot to see and learn.

Sunday morning and I had arranged for the shuttle to take mother to the zoo and drop me back at the boats.

Observations
They predicted over 100,000 people for Sunday and while I don't believe there were that many, there was a big crowd.
The noise from most of the classes was incredible, the Unlimiteds were quiet by comparison, a rather strange sound but hell with five or six on the water they were impressive.
The programme was fairly busy so there wasn't a lot of slack time.
Providing you had the right pass access to the pits was easy and you could get fairly close to the hydros, the other boats you could almost get into.
There was some great heat racing in all of the classes with the first two or three boats generally being well matched.
I didn't get down to the drag boats (it was a reasonable hike) but I could see them takeoff from the end of our beach.
The noise was huge and the water spout (geyser) was instant and high, really impressive.
The cracker box boats run just like the models, they skid, slide and bounce all over the place.
There were a couple of incidents U8 and U3 having a touch during the first heat on Saturday,
The U8 llumar team worked all night and managed to repair the sponson damage, U3 wasn’t that luckily and did not race on Sunday. U3 is the piston packer so this was a major disappointment for many of the spectators. Luckily I saw the boat run in practice on Friday and it certainly has a sound of its own (V12 Allison).
The final was impressive, 6 boats plus the trailer, O boy O berto got the perfect start, full noise right on the gun. This boat had been running well with two heat wins so that was the kiss of death, half way through the fist turn it just stopped. Miss Eliam was also flying in the final and looked awesome and took out the final with ease.

The whole site was a hive of activity and my 2.5 day were very enjoyable and a great learning experience.
There were invitations to come over and bring a boat, they would sort out the rest and there is no doubt that attending this event would be a lot of fun.
Several of the guys had been to Australia to compete and the Aussies had been over there on several occasions. Perhaps we could consider it for the future and look to broaden our horizons with a bit of international competition, especially if we can fit in a big boat meeting to attend as well.

Latimer Lodge Hydrofest.

26th & 27th November 2005. Palmerston North.

2005, where the hell did it go ? This was the last regatta for the year and had been in doubt for a couple of reasons, firstly entries 1 week out indicated there simply wouldn't be enough people to make it happen, secondly, the venue was in bad shape due to a lack of rain presenting a low water level and lots of weed.
Well the entries rolled in as they do and Doris did a great job of getting access to another area of the lake and getting the appropriate works done so we could all go racing.
The weather was again not on our side, however, the enforced move to the opposite side of the lake meant that instead of the wind being in our faces producing rough conditions, then it was over our shoulder leaving the water essentially flat, all one had to be careful of was the odd sneaky gust that caught more than just a few out.
I am always greatfull to those who at these events realize that I like to do some racing too and take charge of running various races and give me a break, thankyou

to those concerned, overall it was great work by all to get stuck in where required and help out with pitting etc etc…….
There was a lot of real close fun racing enjoyed by all and I am not aware of any great disasters, so much so that there was not even 1 candidate for Doris to bestow the Tit of The Day Trophy on !!!!!
Some things of note were Leon Jacobs picking up the sticks and driving some hydros for the very first time, scales at that, and doing very well in the process…….also Tony Rutledge standing next to Taylor Trott (10 yrs old) and expecting to see an unmoving full throttle setting but being surprised that in fact its use was being thoughtfully put to use, the next question from TR being " when is Taylor getting his next boat, maybe he could start driving your hydros soon ??!!) Thanks Tony, I so needed another project !!!
Then there was Greg Clarkson, running his new 1/8 scale "Tide" an especial effort to have this boat running was well rewarded with some good runs, although as he found and Tony R later admitted the boat really needs about a pound of lead in the nose…..this boat will be very competitive next year so adds even more to the quality of this class.
The driving standard over the whole weekend was very good, in a couple of the offshore heats there was not even 1 stoppage, the hydro racing close, fast and entertaining, what more could one ask for ??
In any case please see the results of the last round and the wrap up of the overall Hi points for the year for each class.
See ya all at the water next time and I wish you all a safe and happy xmas and new year.

Regs, TUI.

Latimer Hotel Hydrofest Results

Offshore.

Best presented Boat.

1	T Trott	Villain
2	D Hansen	Dazzla
3	L Jacobs	Outlaw

Enduro.

1	N Plumpton	119 laps
2	J Belworthy	104
3	D Hansen	98
4	S Trott	91
5	T Trott	75
6	P Collier	65
7	T Rutledge	51
8	L Jacobs	47
9	D Ward	42
10	G Clarkson	23
11	G Binns	12
12	N Wong	10

B Hydro Matrix

1	N Plumpton	950.11 pts
2	J Belworthy	243.91
3	S Trott	216.08
4	L Jacobs	173.22

rest dnf

C hydro Matrix

1	P Collier	997.46 pts
2	N Plumpton	213.04

rest dnf

Sport 45 Hydro.

1 Lap Sprints.

1	J Nicholls	13.58 secs
2	S Trott	13.81
3	P Collier	14.09
4	G Binns	14.22
5	L Jacobs	18.30

Heat Racing.

1	G Binns	1100 pts
2	L Jacobs	1000
3	S Trott	525
4=	P Collier	400
4=	J Nicholls	400

Latimer Hotel Trophy Final.

1 J Nicholls
2 G Binns
3 L Jacobs

Rest dnf

C Scale Hydro.

1 Lap Sprints.

1	S Trott	11.08 secs
2	T Rutledge	12.81
3	G Binns	13.14
4	L Jacobs	14.82
5	G Clarkson	15.00

Heat Racing.

1	T Rutledge	1600 pts
2	S Trott	1200
3	G Binns	977
4	L Jacobs	750
5	G Clarkson	507

Latimer Hotel Trophy Final.

1 G Binns
2 L Jacobs
3 G Clarkson

Rest dnf

NZMPBA Hydrofest Series, 2005.

I must start by saying thank you to the various host clubs and all those who have taken an active part in the series, be it as competitors or helpers and organizers.
I get a great deal of satisfaction in running the series and hope that it continues to gain support and provides entertainment for all those that take part in future.
Speaking of the future then through out the year I have taken onboard a number of various ideas and comments about a number of things, such as boat judging, 1 lap sprints, the heat racing points format etc.
So far as these things are concerned I have not yet necessarily decided on the absolute format for 2006, however, at this point there are 3 regattas scheduled to make up the series, some possibilities of format changes might be that for instance the scale judging takes place first thing each day while the first event is in progress, this relies on enough people being around to make it happen but would certainly negate all the current down time while boats are judged with nothing else happening, also the way boats are judged is being considered. It has been noted also that the presentation of the boats running in offshore needs to be sorted so it is more in line with the rules, please have a look at these and adjust your boat if necessary. So far as the 1 lap sprints are concerned then it seems that most would actually like to maintain the event as it is quite unique, once again it is the problem that with each boat having 8 minutes to record the best time that it is boring and time costly, so perhaps we go to a system of drawing the competitors names from a hat (random draw) on the day and they get effectively one go at it, I mean once they hit the water then they need to start their attempt when they are ready, however, there is no allowance for a stall at the bank or any other stoppage, no returns to the pits for fine

tuning etc.. it just means that this is not just treated as an extension of the previous practice time as some do at present, the only potential here is that some might try to run an auxiliary tank to get more run time…..these sorts of efforts to bend the purity intent of this “cut throat one chance” event would be frowned upon.
So far as the heat racing is concerned then it seems that most would like to have a few more heats each, maybe 7 or 8 instead of the current 5, then only the best 5 or 6 heats count, ie drop your worst 1 or 2 results, combined with either closer points allocation or actually run along the lines of the normal matrix points scoring system, this would close up the competition which means that better and more consistent racing is required to be competitive.
It appears that the last chance and trophy finals heats are the only areas not in question.
In any case, it is my plan to finalise all the above during the xmas break when I will actually get a chance to work on it ! SO IF YOU have any comments please get them to me pre xmas via the contact details else where in this mag.

Thx, Steve Trott.

Hi Points Series Hydrofest Results 2005.

Offshore Hi Points

Enduro.

1	S Trott	210 laps
2	J Belworthy	186
3	N Plumpton	176
4	D Christiansen	144
5	D Hansen	141
6	T Trott	131
7	P Collier	126
8	T Rutledge	113
9	G Binns	99
10	P Lokum	65
11	D Ward	64
12	L Jacobs	47
13	G Clarkson	23
14	N Wong	22
15=	W McNaught	5
15=	J Nicholls	5

B Hydro Matrix Hi Points

1	N Plumpton	950.11 pts
2	P Coller	663.00
3	J Nicolls	391.00
4	J Belworthy	243.91
5	S Trott	216.08
6	L Jacobs	173.22

C hydro Matrix Hi Points.

1	P Collier	997.46 pts
2	D Christiansen	929.00
3	T Rutledge	668.00
4	N Plumpton	213.04

Sport 45 Hydro Hi Points.

1	J Nicholls	5910 pts
2	G Binns	3597
3	S Trott	3064
4	T Trott	2892
5	P Collier	2732
6	J Belworthy	2375
7	W McNaught	1740
8	L Marsden	1298
9=	G Merrey	280
9=	N Wong	280

C Scale Hydro Hi Points.

1	T Rutledge	7352 pts
2	S Trott	5389
3	G Binns	5082
4	T Trott	4027
5	J Nicholls	934
6	D Chrstiansen	225

Remit

Grant Binns – No 71

That the endurance racing format is changed to a two 20 minute heat format and the racing rules are amended as follows:

ENDURANCE

1) Each team shall consist of the driver and a pit person.
2) Only one boat per team is permitted.
3) Each team shall be allocated a space at least 1.5m wide on the jetty (where possible).
4) Ten minutes are allowed for tuning and motor warm up.
5) General racing rules shall apply with regard to right of way.
6) The 2 1/2 minute countdown start is used and all boats must be on the water 30 seconds before the start or they must remain on the bank until the last boat has passed the start line.
7) Once on the water a boat must mill around the buoys at the left hand end of the course at reduced speed. See Mono Matrix diagram.
8) Any driver that crosses the start line early must complete an extra lap.
9) The event will comprise of two 20 minute heats. Each heat will be in an anti clockwise direction.
10) Most laps accumulated over the two heats determines the winner.
11) No limits on fuel capacity. Fuelling stops allowed.
12) All drivers must use the appropriate pit lanes when entering or leaving the pits. Failure to do so will incur a 1 lap penalty.
13) Boats must be driven at a greatly reduced speed in the pit lanes.
14) All buoys must be rounded.
15) Missed buoys can be recircled but a 1 lap penalty will apply if a missed buoy is not recircled.
16) Boats coming into the pits have that lap counted.
17) Any boat stopped on the course may be retrieved by the rescue boat.
18) Retrieved boats are returned to an area nominated during the drivers meeting. The boat will be collected from that area by the driver or pit person.
19) A dangerous condition may stop the race, which may be restarted when the danger is clear.
20) The stoppage time is not counted as elapsed time.
21) Laps are counted by an appointed lap scorer and at least one observer. They shall keep an accurate record of the laps completed.
22) The lap scorer or observer may be called upon to give an account of any incident.
23) Any hull type is eligible for Endurance racing.

The Endurance course diagram remains the same.

Remit

Grant Binns – No 71

That the existing endurance rules be retained in the rule book as a guide for those who wish to run a 1 hour endurance event.

Remit
Grant Binns – No 71
That the stock electric class be amended to allow for a wider range of motors.
Electric Classes

- **Standard Class**
  - Hull shall be mono or deep vee only.
  - Drive must be direct. No gearboxes allowed.
  - Motor must be an off the shelf 540 type with standard magnets, closed or open end bell.
  - The battery pack shall be a maximum of 7 cells totaling 8.4 volts nominal.
  - Maximum cell capacity 3700mah

Remit
Grant Binns – No 71
Remove the word motors, i.e. only one motor allowed in 12 cell stock class.
Wording will now be as follows:

- **Up to 12 cells Stock**
  - Hull is open, motor must be closed end bell, unopened unmodified with standard magnet and brush configuration (i.e., Turbo 700bb).
  - Gearboxes are acceptable.
  - Maximum of 12 cells totaling 14.4 volts nominal.
  - Maximum cell capacity 3700mah

Remit
Grant Binns – No 71
I propose to standardize the course to that used in the USA.

ELECTRIC CLASS

1) Each team shall consist of the driver and a pit person.
2) Starting procedure will be a Le Mans type start from the jetty.
3) The course will be an oval with 52m straights and 18m diameter turns or other suitable course nominated by the race director. It must allow all competitors to start at right angles to the jetty and head for the first buoy.
4) NZMPBA general racing rules shall apply where applicable.
5) Matrix point scoring system shall be used.
6) Races shall be 4 minutes plus the time to complete the last lap.

Remit
Grant Binns - No 71
Speed Record – Stock Electric. For this class the boat must be configured as it would race for a 4 minute event with the exception of prop changes. Ie no special motor or batteries will be allowed.

Remit
Grant Binns - No 71
This is a proposal to change the way we compete for our national titles.
The reason for the remit is to see if we can generate increased attendance at events during the year and thus make them more viable. Also at a single Nationals event

over the last few years attendance has been very poor thus making the events difficult to run.

Nationals Event
That the association no longer holds a single Nationals event.
That National titles are to be raced for at specific events during the year.
The committee will allocate National title events to appropriate regattas throughout the year.
That all National Title trophies (including Presidents cup etc) are presented at the following years AGM dinner and that the trophies are held by the winner until the following AGM.

Thoughts by Tony Kockott
I have been giving a lot of thought to Doris's proposals about the nationals. I feel that if the NZMPBA is to be the national association of New Zealand it really needs to hold a national event. It is very difficult and expensive for people to travel from the northern and southern reaches of this country numerous times of the year. Also the nationals are supposed to be the place to find the champions in each class and maybe for this event we should move towards having a more serious competition than just having fun. We went to the New Zealand Buggy Championships a few weeks ago. 78 drivers and they were very organised. Lap scoring done with transponders, etc. Anyway I don't know what you think. This is all stuff that needs to be trashed out at the AGM.

Engine Tuning for Nitro Fuels. By Peter Collier aka James Taylor/Big Bird

After witnessing some of the reliability problems encountered by a few of us at final round of the hydro series at Palmerston North I have been prompted to write an article on the problems encountered when tuning our methanol burning engines for varying amounts of nitro.

The basic problem goes like this. A boat that is normally quite reliable on its regular fuel mixture of say 80:20 methanol/oil mix or even with a low 5 -10% of nitro starts behaving erratically if the nitro is increased. Retuning the mixture returns some smoother running, but it still surges on idle and often quits when launched. Sound familiar, and it all runs counterintuitive to the expectation that nitro is supposed to increase reliability and improve idle.

An article on the internet is referenced as a basis for this discussion on how this relates to our fuel mixtures of methanol, nitromethane and oil. I could have presented my own chemical analysis to illustrate the point but this article does it so much better. The only drawback is that is in imperial units (BTU's, cfm and lbs etc) rather than Joules, m^3 and kg, the important point is the ratio between the values for methanol and nitromethane in Table 1. What follows after the article is my own take on some of the tuning difficulties we experience with fuel mixtures on our models.

The Article is at http://www.smokemup.com/tech/fuels.php

Fuel Comparison: Gasoline, Methanol, Nitromethane

In our everquest for more power we need consider what propels our cars, FUEL. Most hot rodders usually only consider running one type of fuel in their engine, gasoline. This article's intent is to explore some of the other alternative fuels, alcohol, and nitromethane.

Gasoline - Gasoline is what most of our cars came setup so it's usually what we stick with. Gasoline is a mixture of hydrocarbons. The petroleum distillate fraction termed "gasoline" contains mostly saturated hydrocarbons usually with a chemical formula of C8H18. The air fuel ratio, A/F Ratio, for complete combustion is 14.7:1, stoichiometric. The A/F ratio for maximum power is approximately 12.5:1 - 12.8:1. This means that our engine at max power, 12.8:1, consumes 12.8 pounds of air for 1 pound of fuel. Gasoline has approximately 18,400 BTU/lb . Using the air flow calculator with the default inputs we get our 355 SBC consumes 567.53 cfm @ 6500rpm which is 42.64 pounds of air and consumes 2.89 pounds of fuel. Therefore if we are using gasoline our engine is producing 53,176 BTU's of energy at 6500 rpm.

Alcohol (Methanol) - Alcohol is usually used in the form of Methyl alcohol or methanol. CH3OH is the chemical formula. Methanol burns at a much richer mixture than gasoline does, between 5.0:1 - 6.0:1. That's 5 lbs of air to one pound of fuel. Methanol has approximately 9,500 BTU/lb. Using our 355, example above, SBC consumes 567.53 cfm @ 6500rpm which is 42.64 pounds of air and now at 6.0:1 ratio for Methanol is 7.11 pounds of fuel. Therefore if we are using Methanol fuel our engine is producing 67,545 BTU's of energy at 6500 rpm.

Nitromethane - is a fuel that is used mostly in specialized drag racing classes, "nitro funny cars" and "top fuel". Nitromethane's chemical formula is CH3NO2. The oxygen in nitromethane's molecular structure means that nitromethane does not need as much atmospheric oxygen to burn, part of the oxygen needed to burn nitromethane is carried in the fuel itself. Typical A/F ratio for nitromethane is 1.7:1 and nitromethane has an energy content of 5,000 BTU/lb. Using our 355, example above, SBC consumes 567.53 cfm @ 6500rpm which is 42.64 pounds of air and now at 1.7:1 ratio for nitromethane is 25.08 pounds of fuel. Therefore if we are using Nitromethane fuel our engine is producing 125,412 BTU's of energy at 6500 rpm.

Table 1

Fuel	Engine Flow (cfm)	Air lbs of air (lbs)	A/F Ratio	Pounds Fuel (lbs)	of Energy Content Fuel (BTU/lb)	of Total Thermal Energy (BTU)
Gasoline	567.53	42.64	12.8:1	2.89	18,500	53,176
Methanol	567.53	42.64	6.0:1	7.11	9,500	67,545
Nitromethane	567.53	42.64	1.7:1	25.08	5,000	125,412

Summary - As you can see from Table 1 above the clear winner is nitromethane. But that doesn't mean to go out and pour nitromethane in your car and see how it runs, if you do your engine will surely blow up. Nitromethane is very expensive and dangerous to handle. The interesting alternative to gasoline is Methanol. Methanol will make more power, typically around 20% more power than a similar engine running gasoline. Some things to consider in running methanol is your fuel system will have to be completely changed / upgraded. Based on the table above the fuel system will have to flow approximately 2.5 times as much as the gasoline engine.

I guess the old saying is true. "*Gasoline is for washing parts, alcohol is for drinking and nitro is for racing.*"

SMOKE

Hi me again
The important piece of information contained in Table 1 is that nitromethane requires a considerably richer air to fuel mixture. If we were running methanol and changed to 100% nitro then the needle valve would need to be opened up quite a bit. Like for instance from 1 turn to 3.5 or thereabouts.

Anyway back to our problem and the fuels we use that may contain a percentage of nitro methane. Table 2 illustrates the changing air/fuel mixture requirements for our fuel with increasing nitro. This is based on a fuel that contains 20% oil like most of us probably use or thereabouts, anyway that is another discussion. The presence of the oil further increases air/fuel ratio of methanol fuel from 6:1 to 4.8:1 and that adjustment is reflected in Table 2.

Table 2: The effect of nitro in fuel

Nitro %	Methanol%	Oil%	Air :Fuel	Needle turns	Power ratio
0	80	20	4.8:1	1.00	1.00
10	70	20	4.3:1	1.10	1.11
20	60	20	3.9:1	1.22	1.21
30	50	20	3.5:1	1.37	1.32
40	40	20	3:1	1.56	1.43
50	30	20	2.6:1	1.81	1.53
60	20	20	2.2:1	2.16	1.64

The undeniable trend is that increasing nitro in the fuel requires the needle valve to be opened some more. The increase in power ratio is also impressive, but such optimism that we are actually getting proportionately that much more power should perhaps be tempered with the realisation that it may not necessarily follow that just dumping more heat energy into a motor actually all ends up as shaft power. The reality is probably that the efficiency drops and more heat is dumped out the exhaust. Dragsters running on high nitro with flames billowing from the exhaust pipes probably best illustrate this additional loss.

Tuning for nitro

Having read this far you are probably wondering what my point is and I definitely do have one. While it is easy enough to open up the main needle to satisfy your motors requirements for more fuel because you have added nitro all should be well, well yes, no not exactly. Opening the needle takes care of full throttle running, but close the throttle to idle which on good metered carburettors leans the mixture out you could be way too lean for this higher nitro fuel. The solution is that the carb idle mixture needs retuning for the fuel change.

Wow is that ever easy. Now some of problems experienced by us at the hydro regatta and elsewhere make more sense. To recap on some comments and observations, and apologies in advance to any parties concerned/offended/misquoted.

1. Only recently being a convert back to nitro but only for hydros, after many years without touching the stuff. I have noticed some peculiar tuning effects. Motors that had been tuned reasonably well for straight no nitro fuel, with nitro idled by surging badly or just quit. The assumption is that the idle mixture was lean, while the main needle had been tuned for the new fuel. The next correction to try was simply adjusting the idle mixture to a richer setting to fix the problem. And guess what my hydros now pull away from the bank with plenty of grunt, just what I hoped the nitro would deliver.

2. John Belworthy commented his Nelson powered Sport 45 was giving him a s..t of a regatta, with guess what the surging idle problem again. At the end of a not entirely satisfying set of heats John ran his Nelson on an auxiliary tank of straight gas to flush out the nitro and guess what it idled smoothly just like a charm. So watch out next regatta.
3. Greg Clarkson's new CMB67 powered C Scale was idling badly, but otherwise ran fine. Greg also made a comment that the nitro appeared to upset the idle and was easily fixed.
4. Afternoon tea back at the Binns' residence Graeme and Carolyn Rose had called in on returning from the Kapiti Fly-in, complete with 436 trailer in tow. Anyway the conversation over a cuppa got onto the subject of nitro and idle settings. Graeme reported that he always needs to richen up the idle when running nitro.

So what do we conclude? Table 2 says when you add nitro you need a richer mixture and this applies to both the main and idle adjustments.

Myth busting
Who has heard modellers say? I use nitro because it improves idle and starting, maybe it does but try this for a slant on it. Whenever I tune a new carb the idle mixture often needs a little tweak towards lean, if I run straight fuel. So perhaps they come from the factory setup for 10-20% nitro so then nitro will indeed make the motors they are attached to idle better and accelerate better too. The same is probably behind some motor manufacturers recommendations to use nitro!

Footnote
The same air flow in Table 1 implies that the engines are running at the same rpm which the article said was 6,500 rpm but the BTU increases which equates to BHP and since it is at the same rpm the increase must be gained through Torque rather than rpm, which is exactly what model engine analysts have been saying for years. Nitro is a Torque producer rather than an rpm producer.

Well happy idling to you all, see you next year on the water.

(Ed's note: Both my Hydro's had a similar problem – not running continually after starting. I have since checked the compression on the 21 motor – 11:1! This is way too high for 30% nitro. Compression is an important part of running nitro. The more nitro, the lower the compression required. This is another factor to consider.)

Ross Homewood son of the late Gordon Homewood.
I have been involved with the NZMPBA for five years now. Inspired by my fathers involvement with model boats in New Zealand.
Watching Gordons success with his business GRH Hobbies inspired me to get involved. Starting out with an electric mrp tunnel then fitted with a thunder tiger 3.5 outboard I realised this sport was great but alas I soon crashed it due to a sub standard throttle cable tearing the left sponson off at Hagley Park in Christchurch so I got on the phone to Gordon and ordered myself a dumas hotshot sprint which in time sealed the deal breaking the existing record by some thirty odd kph. Then I was hooked, first 65, then 70 kph, absolutely fantastic, I had the bug.

Now I have 5 boats in total ;- 2 3.5 tunnels,1 scale hydro (notre dame ex Don Horne/ Gordon Homewood and now mine).
Enjoying my first race against the best in NZ at Blenheim and placing 3rd in the high point series was very humbling.
After that meeting I sat down and designed my own 3.5 Hydro based on Notre Dam's hull and old deck with a few mod cons. This Hydro performed quite well from day one powered by a 3.5 force car engine and CMB power pipe but now has been up graded to an OS 40 FSR. I have tested it on only one occasion and it has real potential.
Last but not least I have been given a new Dave Marls hull called The Puma which has to be potentially the fastest boat I have. Powered by 61 VRM it can touch 80 kph. Most recently I was really impressed with Glen O'Donnells carbon fibre version. Running thru the speed run at 91 kph on it's first day out and I do believe his boat will go thru the 100 kph mark hands down.
Ok down to business I have recently relocated to Putaruru South Waikato area and hope to get to more model boating events.
To start things off in 2006 following the weekend after Wellington off shore GP action at Lake Karapiro is upon us. So following in my fathers foot steps I have decided to do something that hasn't been done since the 1980's. Gordon would organise a model boat stand for static display and at the lunchtime break followed by a drivers briefing we will have 45 mins to an hour to display our models in front of 500 to 800 people on the water. After making contact with John Belworthy to get permission to promote the NZMPBA at this event he replied "go for it". Then he suggested a hand full of people to ring and get some support which I have done. This will include Steve Trott & son, Tony Rutledge, Warren Belk and Peter Collier who have committed themselves already. All who thought this was a great idea and want to support me in this whole heartedly.
Reflecting on past events we use to have a great day even if only to promote our sport and of course this is all really rewarding. After receiving good support I contacted the secretary of NZ GP Hydro Club. Denise was only to happy to hear from me and we have her full support. The GP Club will be providing power to our display site and also tables to display our boats on. This venue will be the same as past years in a undercover area, above the boat ramp, behind the control tower, over looking most of the GP course. Free admission tickets for both days for those who wish to display their boats for static or on water have yet to be arranged. I will do my utmost best to make this so. If you have any questions please contact me on ph 07 883 3309 or mobile 027 3250 180. I will look forward to hearing from NZMPBA members who are financial and even though this is only a display. All rules and regulations will be followed as a normal race meeting to promote safety and good behavior in front of the public eye. A second frequency is an advantage but not essential and I hope all who want to put their boats on the water will so in turn be able to do so. Keep in mind that we only have 45 mins to an hour each day to run our boats but the water closes at 4.30 pm for those who wish to muck around may do so with permission from officials. For those who need accommodation there is a camping ground at the Lake with good rates and Cambridge is only 10 mins away for anyone who needs supplies.

Regards Ross & DeeAnn Homewood email address is modelboats@paradise.net.nz

Note: 2 day passes have been arranged for those displaying models.

Ross Homewood with Notre Dame

Round three Endurance / Matrix Series.

It is three weeks until Christmas and I am trying to remember what happened in a regatta last winter (or at least the temperatures at the time felt like winter although it was in early October). Due to crafts disease this report will be brief.

Definition of anxiety – Lap counting the second heat of C2 enduro having competed in the first heat and watching Neil chew up my overall lead lap by lap. Honest I was not sitting there muttering “break something or stop as far away as possible” – at least not more than 50 or 60 times anyway. Good on you Neil for proving again that finishers are winners.

Unfortunately Doris didn’t send me the full results with the individual heat scores, as that would be far more interesting to read. By the way the reason that this report is so late is not that I forgot but coz big D forgot to email the results up here – honest.

Warren Belk made a welcome return to boat racing after too long an absence. He had fun and his boats ran with his usual reliability. Warren has always been a keen supporter of the 20 minute enduro heats and I think that after this years three events that he might just be right, although a few of us are going to have to have a rethink on our boat setups.

This event should probably be named “How to blow up a CMB 90” as on Saturday, Steve was looking with some astonishment at the new extra breathing port he had

created in the side of his motor, and on Sunday I managed to convert my piston into a 17 piece kitset (plus lots of tiny bits) in the bottom of the motor. Steve has managed to find a new case for his but I am still on the hunt for another piston – might need a new circlip as well as there is some evidence that it might have departed it's residence shortly prior to the rest going munch.

Anyway that is enough blather from me and Logan has just woken up and is wanting food so have a look at the results to see who did what.

Round three Endurance / Matrix Series Results

A Mono Matrix

Greg Clarkson	619.09
Wayne McNaught	563.52
Neil Plumpton	469.9
Warren Belk	465.92
Grant Binns	179.43

A Endurance

Neil Plumpton	91
Greg Clarkson	63
Warren Belk	63
Grant Binns	38
Wayne McNaught	20

B Mono Matrix

Neil Plumpton	586.44
Peter Collier	446
Warren Belk	444.26
Daryl Christensen	0
Leigh Marsden	0

B Endurance

Daryl Christensen	108
Warren Belk	86
Neil Plumpton	74
Greg Clarkson	68
Peter Collier	45

C1 Mono Matrix

Peter Collier	653.65
Steve Trott	625.73
Tony Rutledge	592.68
Greg Clarkson	586.47
Leon Jacobs	469.78
Wayne McNaught	423.97
Taylor Trott	371.33
Pieter Lokum	364
Ian Jacobs	357.25
Daryl Christensen	348.86

C1 Endurance

Greg Clarkson	119
Steve Trott	106
Peter Collier	93
Nigel Wong	88
Daryl Christensen	82
Taylor Trott	79
Wayne McNaught	58
Leon Jacobs	46
Ian Jacobs	41
Tony Rutledge	35
Pieter Lokum	18

C2 Mono Matrix

Greg Clarkson	662.64
Neil Plumpton	590.17
Peter Collier	540.69
Duncan Atkinson	488.06
Nigel Wong	106.82

C2 Endurance

Neil Plumpton	100
Greg Clarkson	84
Duncan Atkinson	72
Nigel Wong	55
Grant Binns	51
Steve Trott	38
Peter Collier	37
Daryl Christensen	16

C Tunnel Matrix

Grant Binns	578.82
Neil Plumpton	545.95
Nigel Wong	471.47
Peter Collier	211

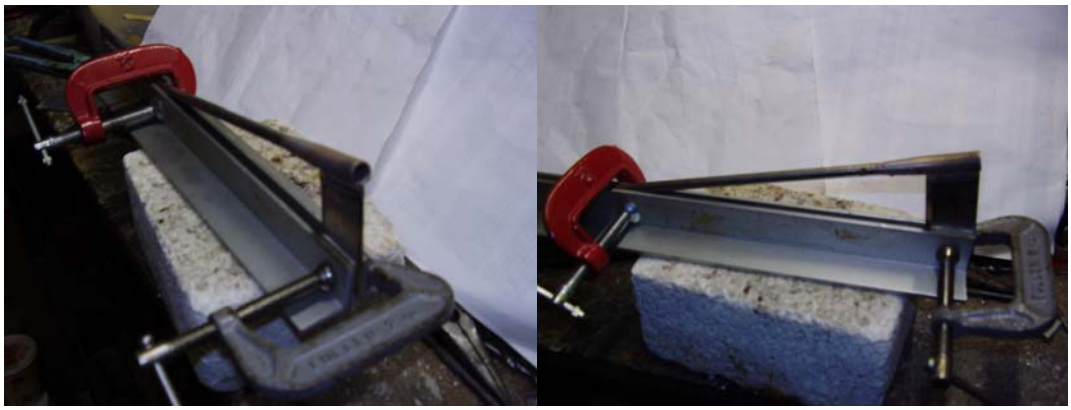
Handy Tips by Peter Collier

Cleaning brushes

A tip I picked up form my involvement with aero-modellers is an effective way to clean epoxy resin from your brushes. Just wipe the excess resin from the brush with a paper towel and immerse the brush in malt vinegar working the vinegar through the bristles for 30 seconds or so and then rinse in water. Brush should be totally clean, the vinegar polymerises the epoxy and it just drops out.

Propshaft Jig

For years I have always struggled to line up a prop tube and skeg and hold it in place to ezy-flo it together. The best answer so far is to clamp the two pieces between lengths of aluminium angles. Some spacers may be required to allow for the difference between a 3 mm skeg and 6.4 mm tube in order to keep the aluminium angles parallel.



With all in place ezy-flo it together and allow to cool as you normally would.

News from around the Regions
Bay of Plenty news…
Ian and Leon are getting busy with more new boats, Tui is trying to fix some of his old ones and finish one new project that has now been on the go for 1 year !! Tui is also very close to renegotiating use of the lake at Rotorua again which would be fantastic, if successful then there would be 2 regattas there during 2006.
Tui and Warren are still working with the local council to try and have a “home” venue developed, there are 1 or 2 possibilities on the table at present.
All work and no play here folks, for all you guys who have a local lake and take it for granted, DON’T !!!

Manawatu News
We are going to have some major changes to the lake over the next 3 months due to weed and the gravel extraction process but hopefully we will be able to get it sorted without too much difficulty. We may end up with a new site at the other end of the lake with access of Walkers road.

Doris still has lots of projects on the go, monos, riggers and electrics, Leigh is working on his sport 45 and a re power on a deep vee or perhaps even a new one. Andrew is fitting an ASP 46 to the Challenger deep vee and he is working through a revamp of a C1 mono that he got of Pig Pen. He also has a sport 45 that we will start putting together in the new year.

Wellington News
Pete has the bug again and is churning new boats out like a man possessed and as usual they are very quick.
Rumour has it LM will be building a Puma mono – this will also be very quick. I wonder what size motor Tony - OS81?
Harry has finally had a run with the new 21 rigger with some sorting out required, but still impressive.

GRH
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Manufacturer and Distributor of Quality Model Kit sets and Accessories

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Cambridge 2351
New Zealand
Phone: 64 7 827 7636
Fax: 64 7 827 7636
GST REG NO. 12 426 818

24th October, 2005.

New Zealand Model Power Boat Association,
C/o Grahame Haines,
P.O. Box 764,
Blenheim.

Dear Grahame,

Now that I have cleared my head a little and am picking up the threads of my life, I just wanted to thank the members for all they have done for me and for Gordon over the past 14 years. The obituary and the President's comments in the last newsletter were very much appreciated by all of us and we thank you too for retiring Gordon's racing number, he would have been really chuffed!

I am picking up the pieces of the business and have started to learn where things are, mostly by turning the place upside down, and what they are for. The modellers are a very patient lot and ~~are also helpful by describing down~~ to the last nth what a product should look like so the poor person at the end of the phone can get a mental picture of what is needed. I will endeavour to keep the business up and running, but am waiting for one of you guys to win lotto and come and take it off my hands!

Thank you once again,

Sincerely,
Judy Homewood.
Judy Homewood.

NZMPBA - AGM

4th February, 2006 Rowing Club Hall at Lake Karapiro – 5pm.

Possible accommodation at Lake Karapiro camping and Pursuit Centre
Karapiro Domain Cambridge 07 8274178.
ring office hours only nine to five

Proposed Calenda for 2006		
Event	**Venue**	**Date**
Wgtn offshore	Wellington	Sun 29/1
Display AGM	Lake Karapiro	4/5th Feb
Scale 1	Rotorua	18/19th Mar
Matrix 1	Palmerston North	29/30 Apr
Teams Event	Palmerston North	20/21st May
Queens Bthay	Blenheim	3/4/5th June
Scale 2	Palmerston North	July 8/9th
Matrix 2	Rotorua	Aug 19/20th
Scale 3	New Plymouth	Sept 16/17th
Thunder Down Under	TBA	Oct 21/22/23
Matrix 3	Hamilton	25/26 November

Can clubs contact me to let us know of any significant club events so we can add them to the calendar – Ed.

Have a Merry Christmas and Happy New Year from the Committee.

Save driving, look after each other and I look forward to seeing you around the regattas next year.