

PropShaft



Magazine of the New Zealand Model Power
Boat Association Incorporated

Issue 2 2009



All on action at the start of a heat of the 3rd Wellington Offshore Regatta

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Editorial

Ah the job of an editor, 4 weeks ago I did not have enough copy for an issue of Propshaft and then it all arrives thanks to those that have contributed to this bumper issue.

Subscriptions

These are now due and include a plea from our Treasurer and Secretary to follow the instructions on the APPLICATION FORM at the rear. This is not just about getting the \$ in the bank it is also about ensuring that our records of members details are kept up to date and it will make the jobs of those that administer the business of the NZMPBA on a voluntary basis a pleasure rather than a hassle. At worst we may end up with your \$ and no record of it against your name and this has been happening.

Presidents Report No 2 2009.

This issue of Propshaft may be a little thin, I guess for the greater part this is due to a particularly wet and cold Winter which has slowed activity down quite a bit, but not to worry, Spring is all but a few weeks away and there are a raft of events on the Calendar to get stuck into.

Through this period the committee have been beavering away on various projects and some are close to completion, in particular IRMS (Integrated Regatta Management System) which should be ready for initial trials and testing during September.

As noted previously, if there is some thing specific you believe the committee should be doing or looking into, please speak up, it is your ideas that will drive this great hobby/sport onto bigger and better things.

Please make use of the Propshaft magazine to report what your local club has been upto, there might be some thing your club has been doing that could be of interest to another club some where.

Recent events in both the North and South Islands have been run, and quite successfully with good attendances and great racing.

Regional club activity has been quite well supported despite the Winter weather, it is important to remember that this level of activity is the grassroots of our hobby and where we are most likely to bring new people into the fold, keep the days simple and fun, carry some promotional give-aways with you that you can use to encourage people along, use local shows and expos to promote your clubs, get some posters in windows advertising when and where your club race days are, if we all get stuck into it we can create much wider membership, more the merrier as they say.

In any case, I will leave you to enjoy the rest of this publication which has some really great info like JB's write up on how to get the best out of an ASP motor on std fuel...

Keep the articles, regatta reports and results coming, without these we don't have a magazine !!

See you at an event soon...

Regards,
Steve Trott,
President.

Queens Birthday 09 Blenheim

(A weekend of 2 halves)

This years pre entry list showed signs of it being a good regatta with 16 entries the most for several years. Most readers will be familiar with the weekends concept in that you enter 1 boat to do 4 different challenges over 2 days for the Radio Marlborough Challenge Trophy.

Challenge 1 100 meter speed. The entered boat must complete a speed run to qualify and points are awarded on a percentage basis of the existing class record. Because we have the speed course set up, it also give boaters the opportunity to attempt to break records with other boats not necessarily entered in the challenge.

Our water traditionally has a ripple on it from dawn till mid morning then goes like glass then ripples up again when the sea breeze arrives.

Daniel Steenhardt from Christchurch broke the ice , as it were and made a couple of passes with an A class Seducer for a shot at the class Deep Vee record and straight away set a new mark of 68.311 kmh up some 7 kmh on the old mark. He later made several attempts to capture the mono record that stands at 70kmh but could not quite make it.

Some competitors ran challenge boats through to record times then it was Brendon Kirk from Christchurch next with a P2 mono. Bang another record. 91.954 kmh up another 7 kmh on the old mark.

Local Dale Matthews was now keen for a shot at the C1 hydro record as the water was flattening out and woohoo another record. 83.093 with a back up of 81.958. This bettered the old record by .5 kmh and was the narrowest increase of the weekend. Being a brand new boat it is showing potential of hitting the 100kmh barrier in the future.

Cantabrian Grant Palmer wanted a challenge run with a P2 Deep Vee and low and behold another record. 85.763 kmh and a back up of 83.770, up .7 On the old mark.

Dale has been running an AC Magnum C1 Deep Vee for a couple of years now that has been knocking on the record for most of that time. He installed a new Rossi engine some months ago and that change paid big dividends. He completed 4 passes next. 2 as a mono and 2 as a Deep Vee and wammo 2 more records. As a mono 84.856 and back up 82.854, as a Deep Vee 84.161 and a backup of 83.916.



The venue, the water and the bridge

By Now we had glass water so Ant Schroder lined up his record holding open class Waka for an assault on his own record. And entered the 150 k barrier with a pass of exactly 150.000 kmh. He was happy to leave things at that to give others a run on the good water.

Duncan Atkinson of Nelson had built a new outrigger for P2 hydro and had a go at his P2 record and again bettered the old mark by 1.3 kmh to a new mark of 95.175. 100 kmh is a definite reality once the hull is sorted.

Brendon as mentioned before had already claimed the P2 mono record and requested another run as the water was now more suited to his set up and it was. 2 identical runs at 94.550 exactly (record and back up).

The sea breeze arrived at about 1pm and with a big entry it was time for some racing.

Challenge 2. Anti clockwise matrix. Object, complete 4 heats of 4 laps racing anticlockwise on the old mono course. With most boats now a days set up for clockwise racing, it has now become a good challenge that generally favours the older type monos and tunnels; however a well set up hydro with a turn fin on the left can still be competitive. We had 2 hydros 2 tunnels and the rest monos this year.

12 heats of at times very close racing ensued with minimal rescues between heats and at the end Grants record breaking Insane Deep Vee prevailed with 4 perfect heats from Duncan in 2nd and Brendon in 3rd.

As this event went smooth and quick and we had a big mono entry we threw in an extra event of mono only matrix and again good close racing with this time Daniel prevailing with a C2 boat and Matt Gay second with his 12yr old son Bob third.

By now it is 5pm and water starting to glass off again. Some are keen to get in some more speed runs in the ½ hr left before dark. Brendon in particular was keen to complete a set with his very quick P2 drag cat tunnel on flat water as it kept thinking it was an aeroplane and tried to fly when there was ever a hint of a breeze, resulting in some often fine back flipping aerobatics.

Brendon did 2 runs first and stopped on the water needing a rescue. His first run was a record 121.314 kmh and the second only 116.129. Bugger! He needed 118.281 for a back up.

Ant then went out for a couple of runs and did the first run up whilst Brendon was still out in the dinghy. He was out of the way for the second run so Ant went right down to the bridge which gave him 300m of wind up. Boy did it look quick! The return likewise however he stopped out on the water after the run so needed a rescue. The first run was 149.223 and ant called it a chicken run coz Brendon was in the way. The second run was **163.636 kmh** and our first official run over the magic 100MPH. He needed 159.545 for a back up for a record so I indicated he needed to get his bum into gear as the light was fading fast. I coaxed Brendon to try a back up run while Ant was getting ready and pulled out a 118.714 to back up the record.

Mean while Ant discovered the reason why his motor quit, a munted plug. So a new plug, refuel and a ¼ turn richer on the needle and away for 2 runs. After the second we called it a day as it was getting hard to see the sight boards to line the sight poles up on so then worked the times. 156.692 and 155.172 respectively so yet another increase on his record pass from the morning session. Some discussion ensued and we determined if he leaned out 1/8th of a turn in the morning he should back up the 163 so with that it was off home to work some points and print some record cards

SUNDAY

(The Second Half)

During the night I heard it blowing hard and raining in Blenheim and by daylight it was fine again. Good I thought. The predicted icy southerly blast that was to bring snow to low levels had passed over during the night and the water at the Diversion was almost smooth so speed runs were on. Ant had a couple of practice runs but things weren't right. An inspection thru the glow plug hole showed a hole in the top of his piston so his 159 back up went begging. We pulled the front bouys out and were just gearing up for the first runs when whammo it hit. Full blast southerly and freezing cold and our smooth water gone.



This is how it looked!

We had to pull down the tent before it blew away and everyone hid behind an obstacle for shelter.

Challenge 3 Oval Matrix. 4 heats of 6 laps on the oval course.

Only 12 were prepared to brave the weather and water to contest the oval. Trying conditions meant many rescues especially the smaller boats and Tony Rutledges double shovel hydro.

After 12 heats Brendons Insane had a perfect 4 out of 4 for first Daniel 4 out of 4 for second and grant 3rd on 3 heats.

Challenge 4 10 lap free for all (or the Neddys race as Ron Loader used to call it.)

A 1 race 10 lap blast on the oval course for the 10 highest point's scores after the first 3 challenges we had 9 neddies. We had 4 finish, Brendon, Daniel, Joe Fraser and Glen O Donnell from Hobby smart, in that order.

By now every one was frozen so a quick vote and it was off to the open fire at the Grovetown pub where I could work out some results in comfort. And yes snow fell out side while we were there!

On the whole a great weekend result wise. 9 Records and a new name on the Radio Marlborough Challenge Trophy and our first boat to run over 160kmh.

THE RECORD BREAKERS



L to R. Daniel Steenhart A Mono, Dale Matthews C1 Hydro with C1 mono/Deep Vee in front Ant Schroder open Hydro, Brendon Kirk P2 Cat and P2 mono, Grant Palmer P2 Deep Vee and Duncan Atkinson P2 Hydro. (Note the clothing!)

RESULTS

NAME	PART 1	PART 2	PART 3	PART 4	TOTAL	PLACING
Brendon Kirk	1095.863	465.93	822.56	1000	3384.353	1 st
Daniel Steenhart	731.956	406.3	783.79	900	2822.046	2 nd
Grant Palmer	1008.336	563.25	557.13	0	2128.716	3 rd
Joe Fraser	767.949	0	461.7	800	2029.649	
Glen O'Donnell	665.583	434.74	51.83	700	1852.153	
Ant Schroder	1097.727	156.94	548.37	0	1083.037	
Duncan Atkinson	958.380	545.16	290	0	1793.54	
Malcolm Russell	721.925	316.44	498.66	0	1537.025	
Dale Matthews	957.229	428.21	140.9	0	1526.539	

Shane Matthews	860.332	247.18	0	0	1107.512	
Matt Gay	776.963	304.34	0	0	1081.303	
Bob Gay	712.266	285.09	0	0	997.356	
Chris Holmes	545.823	430.47	0	0	976.293	
Cameron Holdoway	752.182	0	0	0	752.182	
Murray Smithson	640.731	100.59	0	0	741.321	

Index of Performance

Daniel Steenhart 1.72 2.11 second spread in Mono Matrix 1st
 Glen O'Donnell 2.48 5.82 second spread challenge 2 2nd
 Matt Gay 4.20 9.37 second spread in Mono Matrix 3rd

Mono Matrix

Daniel Steenhart 661.14 1st
 Matt Gay 596.96 2nd
 Bob Gay 545.77 3rd

Regatta Report- The 2009 Hamilton 100 Offshore, Round 1 June 22nd.

Driving to the Hamilton lake at 8:00 am on then Saturday morning, I was beginning to wonder if there was anyway we could change the days racing to a hydro fest. All the way down to the lake the air was still, the sun was shining and it wasn't looking like it would be a good day for those racing deep vees. As the morning wore on the wind arrived and created plenty of interesting water for the days racing.

18 Competitors from Napier, Taupo, Tauranga, Auckland and, of course Hamilton, turned up to compete in the first round of the 2009 series. Most were now familiar campaigners from last year's series. The really pleasant surprise was the, eventual, arrival of a very strong Tauranga contingent. The surprise was twofold, most of these guys who have come onto the scene in the last 12 months, but the big surprise was that they made it to Hamilton at all as most had got half way up the Kaimais to be faced with a road closed due to ice! Despite the various alternate routes some had to take they all arrived within an hour of Drivers brief, so fortunately not much time was lost.

Upon arrival all drivers were subjected to the familiar scrutineering including a radio and check and general run over the boat. It was also great to see most boats had fitted handles and tow ropes, which made rescue duties much easier. There were some interesting interpretations of the numbering and cockpit rules. Some were still manufacturing numbers out of Tape and marker pens after Scrutineering. Meanwhile, compliance with the cockpit rule was generally good, however some argued that a painted windscreen on an open cockpit boat was compliant. Let it be known, if your boat has an open cockpit, painted windscreen or not then it must have drivers. Only enclosed cockpits may have painted windscreens.

As per last year the contestants were divided into two groups one largely consisting of Nitro boats and the other largely Class 1 Petrol boats. There's no other reason for this than it just seems to be a convenient way to split up the large field.

A new feature for this years racing was the organisation of the pit area, we had a white line dividing the launching and retrieval areas. This of course made launching and retrieving of boats during the races much easier and less hazardous for all concerned.

The course was interesting boats came into the bay for added spectator viewing then after a hard right headed out into the body of the lake to commence the long run down the back straight into the first of two right hand turns followed by the left turn passed the start buoy. This layout combined within a wind that prevailed mostly from sou-sou-west, made for some interesting driving conditions for the entirety of the course.

After 20 minutes of open water for each group to perform final tuning, it was time to start the first race of 20 minutes for group 1.

This first race was taken out easily by Steve Trott with the newly prepared "Random Kaos" class 2 boat, followed by defending series champion Andrew Meek and Leon Jacobs, with Goldrush and Outlaw respectively.

Heat 1 for group 2 was subsequently taken out by yours truly and the ever faithful "Big Red", followed by Ian Jacobs' "Lost" and one lap behind was Phil Walmsley's "Scott Electrical"

Heat two for Group 1 was won again by Steve Trott and "Random Kaos", but this time followed by Last Years Hamilton round winner, Tony Christiansen, followed by a strong showing from Kerry O'Reilly.

Heat 2 for Group 2 looked like rerun of the first heat until the final 3 minutes of the heat when Big Red suffered a dislocated receiver crystal, to be over taken by Ian Jacobs and Lost and Jae Taylor, Big Red ultimately was left with 3rd place.

Following the conclusion of Group 2's second heat, it was time to fire up the barby and have lunch.

It would have been nice to have had what has become the customary all in 1-hour final race. But the truth of the matter is that we still had 18 boats running after two heats and we just wouldn't have had enough pit people! So reluctantly, the decision was made to proceed with two x 1 hour final races for each group. I say reluctantly, because a 1-hour race is an awful long time to drive a model boat and an even longer time to watch one!

But race for 2 x 1 hours we did and Steve Trott's oh so reliable "Random Kaos" made a hat trick of the third race and subsequently took out the Hamilton 100 with 103 laps in total for the day. First equal for race three was Birmy Korving who had experienced a few miserable problems in the first two races but came through for the big one. Tony Christiansen brought home 2nd place for race three and went on to place 3rd for the day with 95 laps overall. For third place in race 3 Gordon made his first showing for the day with 36 laps and beat his previous offshore record of 22 laps.

Race three for Group 2 looked like a repeat of races 1 and 2, but Big Red blew the receiver crystal of all things at about the half way mark. Jae Taylor emerged from the pack to take out Race three with 61 laps and was followed by Ian Jacobs for second place with 53 laps and Dean Harris in 3rd place with 41 laps.

So in summary, the 2009 Hamilton 100 Trophy winner is Steve Trott with an aggregate of 103 laps, followed by, "Mr Consistent" Ian Jacobs with 100 Laps, and rounding out 3rd place for the day with an aggregate of 95 laps was Last years Hamilton 100 champ Tony Christiansen. Yes, in case you hadn't noticed, a clean sweep by the Tauranga boys!

Overall it was another brilliant day of offshore racing. Thanks to the guys in the Hamilton club for all their efforts into the organisation of this event, thanks to those who helped with Rescue craft, Lap counting and other jobs over the day, and a special thanks to everybody for coming.

The coolest thing was the improvement in both Driver ability and boat reliability that has occurred over the last 12 months. A stark example of this is last years event had 16 entrants but only 7 boats started the final race. This year we had 18 entrants and 16 started the final race. As further evidence, last year the average total of completed laps was 39 laps. This year the average increased to almost 56 laps. The sport has come along way over the last couple of years, let's keep the momentum going.

The next round of the series is due to be held in Taupo on August 29th. If this event was anything to go by, Taupo looks to be bigger than Elvis!

Offshore Series Scores after Round 1

		1	2	3	4	5	6		Total
Tony Kockott	P2/1		2		0		0		2
Dave Crane	P2/1		3		0		0		3
Dale Hopkins				0		6			6
Graeme DePina	P2/1	3		5		21			29
Phillip Walmsley	P2/1		20		6		7		33
Gordon White	C2/1	7		0		36			43

Damian Baker	P2/1		13		9		29		51
Anthony Iskeep	P2/1		12		5		37		54
Leon Jacobs	C1/2	15		15		25			55
Kerry O'Reilly	C2/1	9		16		34			59
Dean Harris	P2/1		10		13		41		64
Birmy Korving	C2/1	1		4		61			66
Andrew Meek	C1/2	18		12		46			76
Bob Gutsell	P2/1		29		22		28		79
Jae Taylor	P2/1		0		23		61		84
Tony Christiansen	P2/1	14		23		58			95
Ian Jacobs	P2/1		21		26		53		100
Steve Trott	C1/2	23		19		61			103

Wellington Offshore Round 3

2nd August 2009

It was one of those days that no-one was really sure what the weather would do, it would either stay overcast and breezy or get worse.....guess what ☹

There was the usual pre-race activity including taking the mickey out of each other, marker buoys being set, shelters erected and sound systems wired up, and chatter as friends caught up at another race day.

It was time for the drivers' brief and practice/tune ups, I threw my newly painted C2 cat into the river and it stopped after only a couple of meters. Further inspection showed that a piece of main bearing cage had let go and worked its way up past the piston, so I spent the day in the rescue boat.....

Being in the rescue boat all day meant I had a great on the view of the racing, but did miss out on the on shore banter.

We had a challenging course set out, a modified M with the right hand end changed to a hairpin .

15 boats entered, 2 no shows and with mine and Jeremy's suffering bearing failure in practice we were down to 11. The fist two heats with 4 boats and the 3rd heat with 3.

The heats had been arranged with similar skill levels in mind and worked well as the boats challenged by not only the weather but each other.

In the 1st heat it had The Picton Terror (Matt Gay), John Belworthy, Tony Rutledge, Darrel Hansen. Racing was.... umm shall we say "fierce" with Matt and Darryl getting dubious awards for their driving style. Johns boat had no choice at one stage but to do a very spectacular James Bond style leap out of the water using Matts boat to launch from. (is on video too).



Left: Tony and PT in the 1st heat. Tony broke a crank in the final placing him down. Right: Wayne's Melonhead before a broken manifold ended the days racing.

2nd heat had Wayne Mc, Pieter Lokum, Binzy and Peter Collier who opted to race his new Cat for a more exciting challenge (and got it) ☺.

Again some terrific skills shown in the fluctuating conditions, with some close racing and Peter C showing the Black Panther competitive even in the rough. Peter Lokim had a great outing with some good consistant laps, and could have placed better if he too wasn't blown to the river bank in the final.



Peters C's skills in these trying conditions were great to watch with the wind getting the better of Peter's Cat a couple of times.

The 3rd heat (I should have been in ☹️) had Leigh Marsden , Wilber Dennison and Ian Godfrey.

Ian's P1 performed solidly all day and proved that consistency is a key part to a successful day. Leigh had a great event and placed well with smooth driving all day, and some BBQ aided repairs on the flexi shaft!!!.

Wilbur's entry struggled to start with but some TLC during the day finished strongly.



Wilbur's boat handling the conditions quite well.

And

Ian's P1, had a good solid outing.



Binzy's yellow submarine !! and John's Dynoman "parked up" in the later part of the finals

Conditions toward the end of the day were getting extreme as some were just plain blown off course and into the flotsam and jetsam on the riverbank.

Others took unexpected "detours" but had enough water to straighten out again. Handling the rescue boat was trying all day with no chance of hearing anyone on shore as to where craft needed picking up. I had to just count rooster tails at the start of each round and go looking for a boat in need when the numbers didn't match, thanks to my son Lucas who assisted with the rescues.

Was great to see the out of town entries, thanks PT for effort of getting up from the mainland, and to Leigh, Binzy and Wilbur for the trip down from Palmy. PT's effort to get here was rewarded with some top places and was never rescued all day, although some he came into contact with were !!!!!.

Thanks to all who assisted with the BBQ and all that go into making a day great.

Paul Bretherton



Wellington Model Power Boat Club offshore round 3 2009 results Sladden park venue.

Entrant name	Class	Heat 1	Heat 2	Heat 3	Best 2	Final	Total	
Matt Gay	C1	23	22	20		45	37	82
John Belworthy	C1	4	21	22		43	32	75
Wilbur Dennison	C1	0	9	13		22	17	39
Tony Rutledge	C1	24	21	18		45	10	55
Grant Binns	C1	8	19	6		27	25	52
Jeremy White	C2	Run Bearing in practice Nil Laps						
Peter Collier	C2	24	5	15		39	22	61
Paul Bretherton	C2	Run Bearing in practice Nil Laps						
Leigh Marsden	C2	15	19	0		34	4	38
Wayne McNaught	C2	5	21	4		26	0	26
Darrell Hansen	C2	25	24	21		49	33	82
Pieter Lokum	P1	25	16	17		42	16	58
Ian Godfrey	P1	11	17	5		28	0	28

Top 3 in heats 1,2 and 3

Darrel Hansen	1st	49 laps
Matt Gay	2nd =	45 laps
Tony Rutledge	2nd =	45 laps

Overall top three placings all classes

Darrell Hansen	1st =	82 laps
Matt Gay	1st=	82 laps
John Belworthy	3rd	75 laps

C1 Class top 3

Matt Gay	1st	82 laps
John Belworthy	2nd	75 laps
Tony Rutledge	3rd	55 laps

C2 Class top 3

Darrell Hansen	1st	82 laps
Peter Collier	2nd	61 laps
Leigh Marsden	3rd	38 laps

Petrol P1 Class

Pieter Lokum	1st	58 laps
Ian Godfrey	2nd	28 laps

Differential between heats and finals for 1st =

Darrell Hansen	heats 49 laps	Final 33 laps
Matt Gay	heats 45 laps	Final 37 laps

Bright Ideas –

Your ideas here? Tell us about them

Technical Talk

Following on from last issue of Propshaft 2009-1
Part 2: RUDDERS and TURN FINs and ~ ~ A LITTLE MORE

By Glenn Cupit glenncupit@msn.com © June, 2003 (up-dated 4-28-05)

HYDRO RUDDER PLACEMENT

OK – now we come to rudder placement on hydros. Inside or outside?

For years, the only choice was the intuitive one – the inside or right side of the transom.

However, in the model boats of the mid-seventies and some of the full-scale hydros of the eighties, we began to see outside rudder placement! This works very well for the following reasons:

Remember the earlier discussion about cross dynamics from the rudder with caster other than zero? A rudder on the outside with slight negative caster or kick-back, PLANTS THE INSIDE SPONSON AND FIN in the turn!

The only problem with this set-up, is the clockwise roll force thus imparted can aid the prop torque lift of the left sponson when shutting down on turn entry and the boat may fly and blow-over with a clockwise roll just into the turn. This can usually be dialed-in by reducing the negative caster slightly.

Too much negative caster also causes the prop to blow out in the turns and the boat will “hop” through the turn.

We are talking about fine adjustments with feeler gauge stock under the top or bottom of the rudder bracket and the transom. I made thin wedges of aluminum in $\frac{1}{2}^\circ$ increments from $\frac{1}{2}^\circ$ to 5° . Once the boat was dialed-in, I would mill the bracket on that angle and eliminate the shims. I don't ever remember going back and changing the caster once I felt it was dialed-in. We tuned the full-scale Shazam 7 litre hydro and the Unlimiteds exactly the same way. ***It does not take much caster!*** This was a closely guarded secret back then and I have never heard this discussed publicly.

OUTDRIVES AND STEERABLE STRUTS

Outdrives and steerable struts are “rudders with thrust”, and should be included in this discussion.

Caster also applies to outdrives, but the caster dynamics are opposite that of rudders.

Because these “rudders” are thrusting instead of dragging, positive and negative caster of outdrives causes boat roll OPPOSITE that of rudders discussed above.

The dynamic is the same, just opposite effect.

Negative outdrive caster, unlike negative rudder caster, causes the nose to lift in the turn (to either direction). Positive outdrive caster applies down pressure to the nose of the boat in a turn.

Since outdrives are in the center of the transom, no diagonal dynamic is transferred to the front corners as with a castered rudder. The roll effect comes from the up or down thrust angle in the turn and the natural tendency of a mono to bank into the turn.

Don't confuse outdrive caster with thrust angle straight ahead. You can have whatever outdrive thrust angle you wish. Caster is independent of straight ahead thrust. Remember, caster refers to the PIVOT angle of the outdrive and has nothing to do with the straight ahead thrust angle of the prop shaft. Caster ONLY has effect in a turn.

Outdrives have not proven effective on hydros because there is no rudder blade area, only a small fin under the prop. The rudder blade area in the water of a hydro is necessary to keep the transom tracking with the boat centerline in the straightaway.

PROP WALK

A surfacing prop is trying to “walk” across the water as the lower portion of the blade enters the water. In a model, this “walk” force is to the left and forces the transom left causing the boat to pull right, requiring left rudder to keep the boat straight.

High pitch, high lift, high rake and inefficient props, prop walk more noticeably.

Machine “polishing” the face (rear) of a prop blade will remove the sharp leading edge causing a convex surface where the blade enters the water. This will cause severe prop walk and a hard right pull! Try changing props first.

Usually, prop walk can be controlled and kept to a minimum by using a deeper rudder. It takes a lot of side force to “drag” a rudder sideways through the water on the straightaway.

Surface props must be razor sharp and have equal pitch and contour on all blades.

So, without rudders, surfacing outdrives will tend to propwalk if used on hydros.

SLIGHTLY OFF THE SUBJECT

This has nothing to do with rudders and fins, but since we were discussing propwalk and straightaway "pull", I thought I would mention hydro "asymmetry".

Asymmetry is when the hydro is not symmetrical, right and left of the centerline of the center section.

Most asymmetry is an attempt to eliminate prop walk pull and keep the inside sponson down in the turn.

This asymmetry involves offset sponsons, different sponson angles right to left, engine offset, angled and/or offset drive shaft or strut, weighted right sponson, etc.

I'll stop here and let you ponder the effects of the above asymmetry, the effects of which you may not have realized about your boat.

ABOUT HYDRO TURN FINS

I think that a turn fin should ideally be vertical with the water. I say this admitting that I ran bent or angled fins in model boats and canted fins in full-scale hydros.

I didn't completely understand all that goes on with turn fins and rudder dynamics when I was running model boats. I came to gain a better understanding only after earlier experience with model boats and then full-scale hydros in the '80's and '90's.

I now feel that bent turn fins are just another easy tuning crutch. It's an important crutch in that it can quickly correct unhooking turn fins in high G turns, by minor alignment changes.

Bent, canted or angled (same thing) turn fins **MUST** be very accurately aligned or they will lift or dig-in and slow down the boat drastically in the turns. They must have some means of adjustment and be able to remain rigid at the forces applied to it in the turn.

The fin should be of a material that will be rigid with the thinnest material, even if it must be heavier! Going to a lighter, but thicker material is kidding yourself. The very slight weight saving is far overshadowed by the increased drag of the thicker material!

I now feel that 1/16, 5/64, 3/32 or 1/8 hardenable tool steel is probably the best. Ed Kalfus knew this 40 years ago. All his rudders and fins were hardened & blued tool steel, very thin - - and WE thought we knew better!

The neat thing about angled turn fins is that you can tweak them by pivoting them on one mounting hole, the other one slotted, to make the boat turn lighter or heavier on the right sponson. But, all you are doing is inducing drag (lift or dig-in), which can be usually dialed-in with other adjustments, one of which is rudder caster.

However, angled **turn fins are aligned optimally at only ONE angle of attack**. That means if it is dialed-in in the turns when the transom is lowered; then in the straights as the prop lifts the transom to the maximum, it is NOT dialed-in and is either lifting or digging-in.

I suggest that you don't follow the pack and try for yourself a straight or SLIGHTLY canted fin along with a left rudder with a little negative caster. Start with a vertical fin. Don't angle it unless it blows out. If it blows out, decrease the rudder caster until you feel the increased rudder drag has gone too far. THEN, cant the turn fin, A LITTLE!

Optimum fore-aft turn fin location will vary slightly for different hydros. If you make provision for easily adjusting the fin location when building your hull, you will be pleased you did so when optimizing your racing set-up during testing.

Never run a bent turn fin on a timed straightaway run. Put on a shallow, vertical fin. You may have to run a deeper rudder because the straightaway prop will usually want to prop walk more than an oval prop.

Remember, my comments about turn fin spray. Design the placement and bracketry so that no spray induced lift occurs.

Outrigger turn fin placement usually necessitates bolting the fin to the inside of the right sponson, trailing the fin back and down to get it close to the boat CG. If you trim the top of the fin down close to the water line, it makes it more subject to twisting in the turn. If you leave it tall all the way back, the spray off the inside bottom of the sponson causes more unwanted drag on the outside of the fin. A happy medium compromise must be determined between flexing and drag. Again, a rigid material fin will really help with the flexing here.

To check if your fin is strong enough, consider this: If your boat weighs 8 pounds, and negotiates a turn between 3 and 4G's (I think this is a good guesstimate. Let's hear from the engineers.), then the force on the fin is 24 to 32 pounds, if it is on or close to the CG.

Make a block of wood to bolt your fin to just like it is mounted on your sponson. Mount the block in a vise with the fin horizontal. Mark the waterline on the fin. Mount a wire pointer to indicate the vertical position of the fin in the fixture. Place a 24 pound weight on the portion of the fin below the water line. It

may be easier to make a wood clamp for the fin from which to hang the weight. I bet you will be surprised at the deflection of your stainless steel fin! Now, try a 30 pound weight! These weights may be incorrect. Maybe our engineers will suggest appropriate weights, if I am off the mark. Also, consider the force on the fin if your boat weighs 10 pounds!

I think you will find that your bent, stainless fin is bending severely in the turns. That's why the stainless fins must be bent so much; because they flex and if not bent severely, become less than vertical under the above G forces.

If the above proves true for you, go make a straight hardened carbon steel fin, sharpen, polish and test it as above. If it is thick enough, it will be rigid. Now have it plated and mount it slightly canted.

ALIGNING THE FIN

A straight edge, parallel to the water line, held against the sides of a non-wedge fin, should be parallel to the boat centerline as viewed from the top. To properly align a wedge turn fin, the wedge angle must be bisected and the resulting centerline aligned with the boat centerline. A wedge shim, $\frac{1}{2}$ the angle of the included angle of the wedge fin can be made as an alignment tool. This shim is then held between the straight edge and the fin when aligning as above.

Of course, with a bent or canted fin, the portion of the fin to be aligned is all portions in the water. You never want to purposely misalign a fin. More drag. You only need ONE rudder!

You should not need to cant or angle a straight fin more than a degree or so more than the dihedral angle of the sponson.

Again, vertical or slightly canted, straight fins are much easier to align and do not induce as much drag as do severely bent fins, when the running attitude changes from the turns to the straights.

CONCLUSION

My intent here was to stimulate your thoughts and open your mind to possible alternate approaches to tuning your boat.

Most boat racers don't think about some of the concepts discussed above.

If I have contributed one "Ah-Ha" to your understanding of rudder, fin and spray dynamics - - I am very happy.

If none of this works for you, I am sad.

NOTE:

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I will be happy to send this article upon request as an e-mail attachment, for ease of printing.

Glenn Cupit - P O Box 113 - Wilson, LA 70789 glenncupit@msn.com © June, 2003

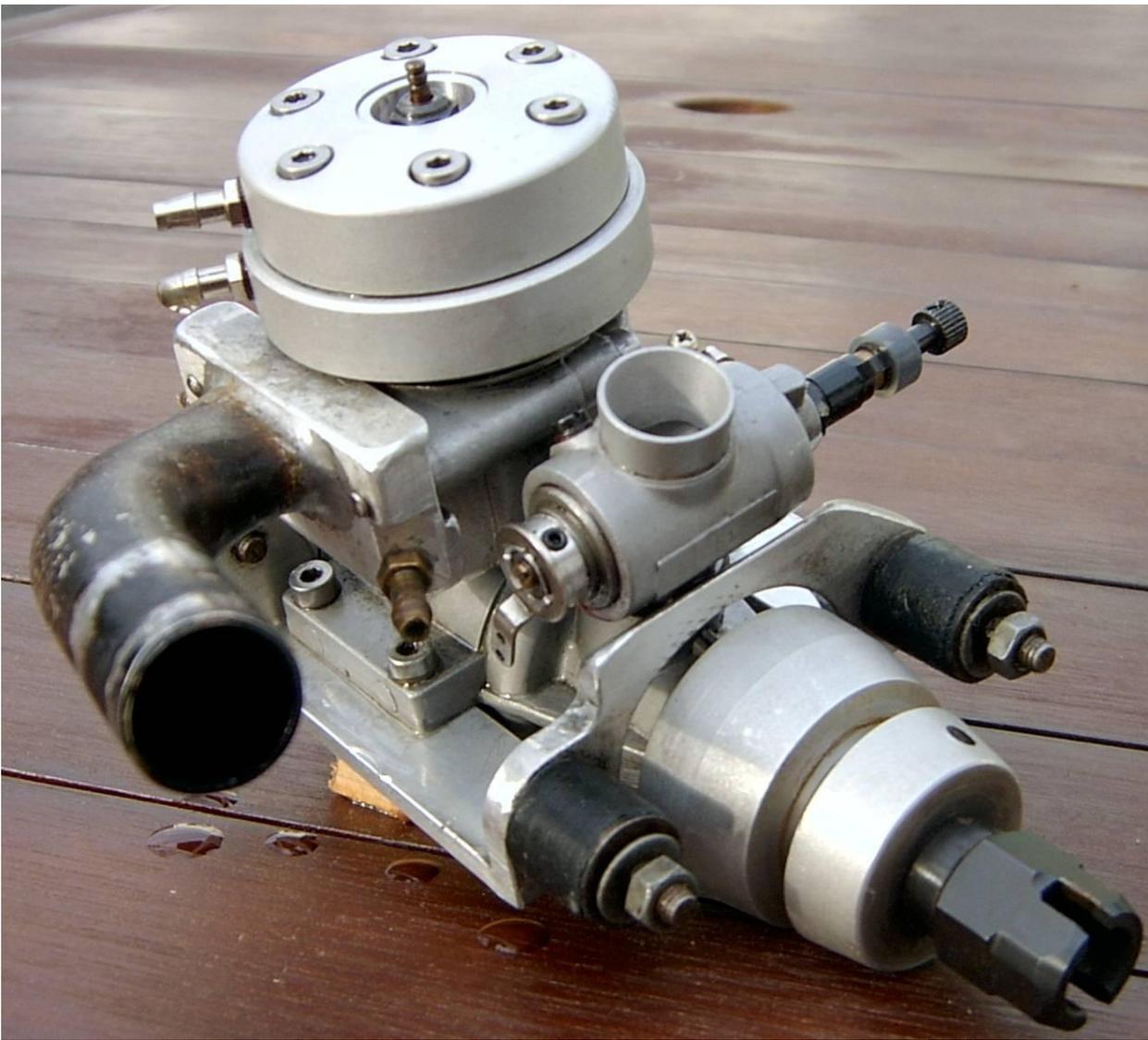
Up-dated 4-

28-05

My ASP61 Motor by John Belworthy

These marine motors are low cost copies of the OS60/61 engine from OS of Japan. Unfortunately ASP have stopped producing the marine version now. The only way now is to purchase the aircraft version and marinise them as we used to way back.

The modifications I have carried out on my motor were to make it reliable and maybe a bit more power. I have achieved both I believe and on the power side more than expected. I have not altered any liner timings at all!



My mods are as follows:

- Open the crank intake on the closing side to a total of 200 degrees duration.
- Epoxy filled (flowed) the start of the crankshaft port (brown micro balloons/epoxy)
- Flowed the crank outlet port in the crank web (see picture of crankshaft)



- Lightened piston with 8mm hole (boost port side – see picture)

- Smoothed big end of conrod with 600 grit wet & dry paper. Removed sharp edges.



- Lightened carb barrel with aluminium plug
- Built up with wound cotton thread under the idle needle 'O' ring
- Silicon tube over carb main mixture needle ratchet bar
- Made own trumpet shaped head for 4:1 fuel



- Changed head bolts to stainless steel.

In my Deepvee boat I use a copy of a Mac 67 pipe but have made a pipe from Pete Colliers calcs for my C1 mono.

This motor is very tolerant of props and just seems to keep pulling larger and larger ones. The Deepvee gets unstable with too large a prop but seems happiest with around 2.5 – 3.0" pitch.

Use the standard head if you want to run some nitro.

Standard fuel head dimensions are:	Base diameter (at glowplug)	6.8mm
	Bowl diameter	13.5mm
	Head depth	5.9mm
	Squish has 3 degree taper for half its width	
	Squish clearance of 0.4mm (.016")	

Happy boating, Harry

Club News

BOP Model Powerboat Club Report.

The Bay of Plenty army of boaters has been increasing steadily over the last 12 months, we have gotten together formally now and created a legitimate club. At this point we have approx 16 members on paper of which most have been showing up to club fun / race days that we run on the first Sunday then the third Saturday of each month.

There is a great cross section of glow and gas powered boats that provides plenty of entertainment for all. We currently run in the main lake at "The Lakes" subdivision which to be fair is a little small but the best we have at present, in April next year we should be moving into another new man-made lake in the same area which will accommodate a full 100m oval course easily, with room to burn, we will even fit a speed course.

Once we are there we plan on really ramping up our promotional effort and getting lots more new people involved.

If you are ever in the area on those weekends as mentioned, bring a boat and join in, we have an absolutely mad time !!

Regards,
Steve Trott,
President.
BOPMPBC

Wellington Model Powerboat Club Report.

The club has been holding regular monthly club days on the Hutt river attended by about 10 members actively boating each day. The September meeting was again attended by Leigh Marsden by now a regular visitor from Palmerston North and on the last visit he brought Craig Oram along, good to see him after an absence from the scene of about 8 years. A small but growing band are running electric formula boats based on a smaller outrunner aero motor on the flatter water in the dead arm off the main river.

Notable events have been two offshore regattas, the last one reported elsewhere in this issue. Hardly ever is the weather suitable for anything other than offshore style racing, perhaps one day we will be able to run hydros again. A visiting aero modeler Ryan Groves has been providing some different entertainment with a Seamaster seaplane making low level passes over the racing boats, all a great crowd pleaser.

Peter Collier

Your club report? Hint hint.

Classifieds

Wanted

OS 61/65 VRM motors parts anything considered
Contact: Peter Collier ppspeter@ihug.co.nz, 04 565 0790

NZMPBA 2009 Calendar of Events

Date	Event	Venue
October 3	Picton Offshore	Picton Entry form
October 4	Speed Runs	Blenheim, Diversion
October 24-26	Central Challenge	Huntly Entry Form
November 7 & 8	Diamond Cup Round 2 SUHA	Taranaki
November 21	Tauranga Offshore	Tauranga
December 13	Comm meeting	TBC
February 20 & 21	World Cup Round 3 SUHA	Hamilton, Lake Hakanoa
May 22 and 23	Seafair Trophy Round 4 SUHA	Auckland

See Website for entry form downloads as they become available.

The following Notices regarding SUHA were first published in Propshaft in 2008. They are being reprinted to inform members (new) of current co-operation.

S.U.H.A.

Scale Unlimited Hydroplane Association Inc

SUHA was established 23 years ago as a Scale Unlimited Hydroplane Club based on the real Unlimited Hydroplanes as raced in the USA. We run to Rules similar to that of Roger Newton's 1/8th Hydroplane Club in the USA. (RCU)

The Sole purpose of SUHA is to Promote and Race 1/8th Scale Hydroplanes in New Zealand and our Members are a group of keen enthusiasts that have the same interests in building and racing 1/8th Scale Hydroplanes.

Our support classes are Scale 45 Hydro, Petrol Semi Scale Hydro, Restricted "P" Electric Hydro and Electric Limited Spec Hydro (LSH)

You are more than welcome to join SUHA and compete with us.
For more info on our Classes and Rules please look at the SUHA Racing Rules on www.rcboats.co.nz/forum

Contact are;

Jason Lester mac67@xtra.co.nz ph (09) 298-5725
Merv Sowden info@electronicwarehouse.co.nz ph (09) 267-0885

Looking forward to seeing some new and old faces at the upcoming events

Regards,

Jason Lester
S.U.H.A. President

NZMPBA and SUHA.

Important notice to all members.

For some time there had been a level of animosity between the two organizations, it had been a negative and destructive situation which needed fixing.

For quite some time I negotiated with SUHA, in particular Graham Doggett, now immediate past President, where a cooperative way forward was identified.
My sincerest thanks to Graham and others who helped pull this together.

I put this forward as a proposal to the NZMPBA committee for approval, in the end, after a lot of vigorous discussion, support was unanimous, the basis of this is as follows.

The proposal is that, the **"NZMPBA accepts SUHA in its fullness, as the recognized and recommended organization to belong to and participate within for 1/8th Scale Hydro racing,"** (SUHA will also make available various support classes as advertised on SUHA Entry Forms. Eg C scale hydro, Sport 45 hydro, Semi scale petrol hydro, Offshore etc.)

This replaces the individual NZMPBA Scale Hydro Hi Points Series that had been running independently till recently.

(An area still to cover is how to manage the South Island members that may want to take part)

SUHA runs their own Hi Point Trophy Series and would welcome members of the NZMPBA to participate at SUHA events.

This is based on the following criteria for the time being but always open to communication on variations or modifications as the hobby and infrastructure develops.

10 Key Points.

- That while SUHA members are encouraged to be financial members of the NZMPBA, it is not compulsory, it is accepted that sole membership to SUHA is acceptable.
- That SUHA carries its own Public Liability insurance for all its financial members.
- That if SUHA individual members want to compete at the **NZMPBA National Championships**, then they will need to be financial members of the NZMPBA.
- That if SUHA individual members want to compete at other regional club regattas, we recommend to those host clubs that they accept SUHA member entries as SUHA Public Liability Insurance covers them.
- That NZMPBA members must become SUHA members to take part at SUHA events and abide by the various requirements and specifications that SUHA promotes.
- That SUHA and NZMPBA will initially continue with their independent Hull registers but it is anticipated that in the future this will be combined to 1 Master register. For the time being SUHA members are encouraged to register their boats on the NZMPBA register and identified as SUHA boats.(To avoid duplication of boats)
- That SUHA is afforded the same level of support and resources that the NZMPBA offers its recognized regional clubs.
- That both organizations continue to foster new comers to the hobby without prejudice.
- That SUHA will provide its yearly schedule of events to be included in the NZMPBA event calendar and developed in such a way that there are no event overlaps.
- That SUHA will provide written event and results reports that can be published in Propshaft, on the NZMPBA web site and recorded by the NZMPBA for the purposes of membership and activity monitoring.

Following this, SUHA have also agreed to move forward with the proposal.

The key thing to remember in all this is that SUHA originally effectively came about as a group of NZMPBA members who simply wanted to have the ability to create individual funding for and to organize and run an independent series for 1/8 Unlimited Scale Hydro racing, simply because at the time the NZMPBA was not making enough events available to run Scale Hydros at.

I along with many others became involved in SUHA at this point.

In simple terms, forgetting all the interim issues, there is no real difference between that and where we are now.

The NZMPBA is not saying its members have to become members of SUHA, but simply recommends this as a good place to go for 1/8th Scale Hydro racing if that is what you desire.

The NZMPBA's focus is on supporting regional clubs to organize and run regattas and of course to provide an annual National Championship Regatta.

Of course the overall aim is to help increase participation and membership within regional clubs, which then flows, back to the NZMPBA.

There is nothing stopping individual Regional Clubs running events that include Scale hydro racing, even if it was exclusively for this class.

The positive benefits for both organizations and their members are;

- Cross over memberships increasing overall membership of each organization.
- Both organizations promoting and fostering R/C Model Powerboating.
- More events being available to Scale Hydro enthusiasts and those who take part in the support classes.
- More people in the support classes, helping these to grow, making other regional club regattas more viable.
- Higher entry level potential for regional club regattas.
- More venues available for R/C Boating events, not just scale hydro regattas.
- Sharing of information.
- A bigger collective of people with administrative drive.

An area still to consider further is that of events for the South island contingent of the membership. Again, there is nothing stopping any of the regional clubs there organizing and running events, these events simply need to be “sold” to the greater membership to get support. We have several times in the past and can again, organize and run Scale Hydro Regattas in the South island, it is up to some one there to take up the challenge and make it happen. I am sure there would be cooperative support from the North Island.

SUHA’s annual membership fee is \$20.00, the financial year revolves each May, so current subscriptions are due now.

Membership applications and fee should be sent to;

The Secretary
SUHA
PO Box 17053
Greenlane
Auckland 1051

SUHA future events...see the calendar

This initiative fills a void for those who are into Scale hydros, please take advantage of it and support the events where possible.

Regards, Steve Trott.

NZMPBA & SUHA.

After many months of communication with the Executive of SUHA, I am proposing the following out come in an effort to reinstate a cooperative situation for the overall good of RC Model Power Boating in NZ.

The proposal is that, the **“NZMPBA accepts SUHA in its fullness, as the recognized and recommended organization to belong to and participate within for 1/8th Scale Hydro racing,”** (SUHA will also make available various support classes as advertised on SUHA Entry Forms. Eg C scale hydro, Sport 45 hydro, Semi scale petrol hydro, Offshore etc.)

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Yours Faithfully,

Steve Trott
President
NZMPBA.



Application for New and Continuing Membership

NZMPBA #

Name:

Address:

Phone numbers

Home:

Work:

Mobile:

E-mail:

DOB / Age:

Occupation:

Signed.....Date:.....

<u>Subscription Fee Structure</u>	(Financial year starts 1 st January each year)
Senior Membership	Full Rate \$40.00
Family Membership	Full Rate for 1st Senior member, 50% of full rate for each other family member living at the same address.
Junior Membership	50% of full rate for upto 20 years of age.
Full Time Student	50% of full rate.
Senior Citizen	50% of full rate for 65 + years of age.

Only one set of mail will be sent to a family group membership but each member will have an individual registration / race number and have full voting rights.

First time / New memberships.

New membership subscriptions accepted on or after 1st July each year will only pay 50% of the applicable rate above.

New membership subscriptions accepted on or after 1st October each year would be at the full correct applicable rate BUT will also be valid to include the next full financial year.

Amount enclosed \$ (cheque, cash, direct credit) delete as required. **Please circle the membership type you are joining under.**

Return form and subs to:

NZMPBA Treasurer:

Kerry O'Reilly

253B Taharepa Road

Taupo

Ph 07 3767524

Fax 07 3767525

Email tanimoff@xtra.co.nz

Payment may be made by direct credit to BNZ 02 0600 0007986 00 instead of including with posted form or emailed form. Be sure to include your name and note you are a new member or if an existing member include NZMPBA race # to identify payee.

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