

N.Z.M.P.B.A.

(New Zealand Model Power Boat Association Inc.)



Members Handbook

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www.nzmpba.co.nz

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NZMPBA Constitution.pdf

General Rules.pdf

Class Racing rules.pdf

Guide to Racing.pdf

Nationals Championships.pdf

1. GENERAL RULES.

These are general rules and will apply to all types of model boat racing. Further rules which apply to the various types of racing and events, i.e. endurance, matrix, oval etc., are listed separately. Where a rule for a specific type of racing is at variance with these rules the specific rule will apply.

2. HULL DEFINITIONS

➤ Monoplane

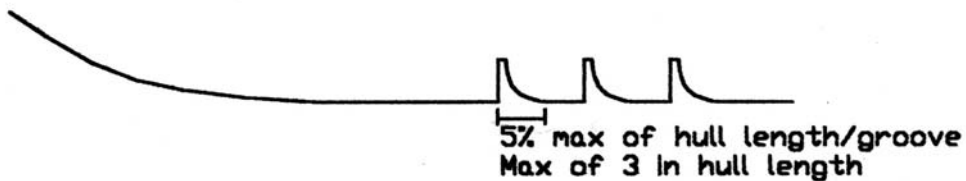
- A hull which has no surface or edge, level or lower than the keel line. I.e. No multi-hull or tunnel configurations as viewed from the transom.
- Aeration grooves, flat ride pads and torque wedges are permitted.
- Stepped hulls are not permitted. Refer to monoplane diagrams for clarification. The hull must be principally designed to run as one wetted surface (aeration grooves excluded.)

Mono Hull Sections



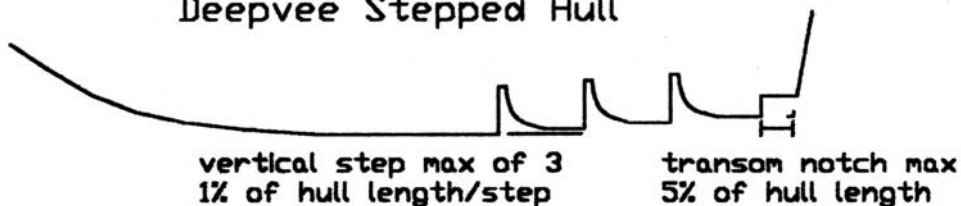
classed as a tunnel or multi-hull

Aeration Grooves - Mono & Deepvee



Deepvee Hull Sections

Deepvee Stepped Hull



notch alternatives viewed from transom

- **Deep Vee**
 - Is a monoplane hull where the angle of the `V' bottom must be 15 deg. minimum and 28 deg. maximum at transom from chine to keel.
 - Angle at bottom of keel line in the centre of the boat must be a `V' extending forward from transom to the bow with no flat pads allowed at keel line.
 - Steps, aeration grooves and a transom notch are permitted. (See diagram.) Aerodynamic aids are permitted (above the waterline) and must comply with rule 7 i.e. no dangerous projections etc.
- **Hydroplane**
 - Is a hull that rides on two or more wetted surfaces while under full plane.
- **Tunnel hull**
 - Is a hull that has its major ride surfaces spaced apart (more or less parallel with its centre line). Such ride surfaces forming more than 80 % of the hull length.

General Hull Information.

- Any external projections, lifting foils, exhaust pipes, etc., projecting beyond the sides of the hull proper which in the opinion of the Race Director may be liable to cause interference or damage to other boats shall not be permitted.
- All boats must be propelled by water reaction.
- The driver's national registration number must be prominently displayed on the boat in a minimum of two positions. 25mm minimum size.
- Only one hull per event may be entered.

3. SAFETY

- There will be no running by anybody in the pit areas.
- Covered footwear must be worn by all competitors and their pit crew at all times while they are in the controlled model boating area.
- Smoking is prohibited to all competitors and their pit crew at all times while they are in the controlled model boating area.
- The contest director or other appointed person **must** outline any site hazards to the competitors prior to the start. Items such as water depth, launching and tuning areas, rescue boat requirements etc will be covered.

4. CLASSES (ELECTRIC CLASSES ARE SPECIFIED IN THE ELECTRIC RULES)

Internal combustion engine classes shall be determined by engine swept volume measured in or parts of a cubic cm and shall be as described below.

- | | | |
|--------------|--|--|
| ➤ A class. | Up to 3.5 cc | Glow Fuel |
| ➤ B class. | 3.51 cc to 7.550 cc | Glow Fuel |
| ➤ C1 class | 7.51 cc - 10.00 cc | Engines must be front induction and side exhaust, Glow Fuel. Mono Hull ONLY. |
| ➤ C2 class. | 10.01 cc to 16.60 cc | Glow Fuel |
| ➤ P1 class. | Up to 23.00 cc | Petrol and oil only. (No other additives allowed) |
| ➤ P2 class. | 23.01 cc to 27.00 cc | Petrol and oil only. (No other additives allowed) |
| ➤ P3 class | 27.10cc to 52cc. | Petrol and oil only. (No other additives allowed) |
| ➤ Open class | 52.00 cc maximum Petrol or 36cc maximum Glow | |

Open Oval will be the **only** event **Open Class** powered craft can enter at NZMPBA national Championships.

These classes are to apply according to the following table. The contest director may verify the displacement of any motor according to the class entered at their discretion.

Hull	Mono	Tunnel	Hydro	C Scale	B Scale	Sport 45	Sport 20	Petrol Sport Hydro	T1 Thunder Boat	T2 Thunder Boat	Cracker Box	OffShore
Engine												
A	√	√	√				√					√
B	√	√	√		√	√						√
C1	√											√
C2	√	√	√	√ (67)								√
P1	√	√	√					√	√	√	√	√
P2	√	√	√					√	√	√		√
P3	√	√	√									√
OPEN	√	√	√									√

Petrol Class Safety Feature Recommendations.

1. Engine Kill Failsafe, servo based, should the boat get out of range. Add-on type or built in (digital servos, or Radio).
2. Solid state micro relay failsafe, one connected to the main coil of each motor or ignition source and RX circuit. Relay will kill the ignition at the motor if power is lost to the receiver.

These Safety Features are highly recommended by the NZMPBA.

MINIMUM ENTRY LEVEL

The minimum number of entries to form a legitimate race for any class is 4.

Where 4 entries are recorded, but upon the first heat there are withdrawals, the number of heats to be run will correspond with the following. 3 boats, 4 heats, 2 boats, 3 heats, 1 boat, 1 heat.

CLASS STEP UPS

At the time entries close for an event, if any class does not have the support of the minimum entry level, "Stepping Up" a class will be allowable providing the competitor/s concerned agrees to compete in the next class up. The result they compete for is for the class they have moved to, NOT the class they have come from.

Step Ups can only occur within the same power modes. I.e. glow to glow, petrol to petrol etc.

5. CERTIFICATE OF COMPLIANCE

This certificate is to be issued by the NZMPBA Committee or an appointed person or other organisation capable of performing the task on behalf of the NZMPBA Committee after a boat has been measured and viewed to confirm that it complies with the appropriate rules and specifications for a particular class, also that as SUHA (Scale Unlimited Hydroplane Association) have their own internal boat registration, specifications and compliance rules based on NAMBA rules, that because the NZMPBA recognizes this, it allows SUHA boats to run at sanctioned NZMPBA events without further enforcement of the requirements below.

- 1) All models may be issued with a certificate of compliance if requested by the owner.
- 2) A certificate of compliance is mandatory for all B and C Scale Hydroplanes and Sport 45 Hydroplanes.
- 3) Any structural modifications to the model will require the issue of a new certificate.
- 4) In certain circumstances the Committee may issue a certificate of compliance with an endorsement or endorsements.
- 5) The endorsement will cover a model that has been built or purchased in good faith but that doesn't comply with the rules in some way.
- 6) The non-compliance must be deemed by the committee to
 - Offer no competitive performance advantage.
 - Not detract from the intent or spirit of the class.
- 7) The endorsement can
 - Restrict the model in its present configuration to the current owner only.
 - It may require that hull modifications are made during an accident damage repair or within a certain time period
 - There can be some other requirement as deemed necessary by the Committee.

6. NOISE

- Noise levels shall be restricted to a maximum of 87 db at 10 m, measured 1 m above water level and at right angles to the direction of travel of the boat being tested.
- For 100 m speed events or where it is considered too dangerous to do a noise check at 10m, noise levels shall not exceed 81 db at a distance of 20 m.
- Any driver whose silencer unit becomes noisy due to damage or breakage of any kind shall immediately bring the boat into the pit area and shall repair it to the satisfaction of the Race Director before resuming the race.

7. SCRUTINEERING

Scrutineering may be carried out before each boat is run each day by a suitable person(s) appointed by the Regatta Director.

The items to be checked are:

1. Radio Frequency
2. Radio range (must extend 9m with the Tx aerial retracted).
3. Radio boxes should be free of condensation.
4. Rudder and turn fins should be kick up type where possible.
5. General overall mechanical condition, e.g., rudder post slop, linkage slop, throttle linkages, engine and radio box mounting etc.
6. Failsafe operation to be checked if fitted.

Any problems will be reported to the contest director who may carry out other types of checks and if not satisfied, the boat can be put off the water until a suitable repair is made.

A failed 9m radio test will require an aerial up test of 100m (paced) to verify control over the model.

8. RADIO

- Radio control units must be such that a driver has control over speed and direction of the boat.
- The channel separation shall be such that there is no interference between channels.
- Competitors using split frequencies maybe required to change crystals if a frequency clash occurs. This will be at the Contest Directors discretion.
- The use of 2.4GHz is permitted; no backup frequency is required when entering NZMPBA sanctioned and National events.
- When entering any event at any regatta sanctioned by the NZMPBA, an alternative frequency MUST accompany the preferred frequency. A maximum of 15 minutes will be allowed for a competitor to change crystals.
- **It is highly recommended that a throttle failsafe be fitted to all glow and petrol powered boats. If fitted the failsafe must close the throttle fully when loss of signal occurs.**
- The following radio frequencies are available for model boating in New Zealand.

27mhz band.

26.975 Black	26.995 Brown
27.025 Brown/Red	27.045 Red
27.075 Red/Orange	27.095 Orange
27.125 Orange/Yellow	27.145 Yellow
27.175 Yellow/Green	27.195 Green
27.225 Green/Blue	27.255 Blue

29Mhz band.

29.725	29.735	29.745	29.755
29.765	29.775	29.785	29.795
29.805	29.815	29.825	29.835
29.845	29.855	29.865	29.875
29.885	29.895	29.905	29.915
29.925	29.935	29.945	29.955
29.965	29.975	29.985	29.995

35Mhz band.

35.450	35.650	35.850
35.550	35.750	35.950

36Mhz band.

36.050	36.120	36.150	36.160
36.200	36.250	36.330	36.350
36.370	36.410	36.430	36.450
36.470	36.550		

40Mhz band.

40.670	40.690	40.810
40.830	40.850	NB. 40.790 is now Aircraft only frequency

The following frequency crystals are also available for use in HITEC FM dual conversion sets only: -

40.865	40.870	40.875	40.890
40.910	40.915	40.930	40.935
40.965	40.985		

IMPORTANT NOTE:

Entries to NZMPBA sanctioned regattas on the designated "AERONAUTICAL MODEL CONTROL ONLY" frequencies will be rejected.

THE DESIGNATED FREQUENCIES ARE ALL THOSE IN THE RANGES: -
40.500 ~ 40.660 AND 40.700 ~ 40.800

72Mhz band.

72.270	72.290	72.310	72.330
72.350	72.370	72.390	72.430
72.470			

9. PROTESTS

- Protests may be registered during a race and up to fifteen minutes after the conclusion of the race.
- A fee of five dollars must be deposited at the time of registration of the protest, this fee being refunded if the protest is upheld.
- Protests against warnings or disqualifications issued during a race will not be entertained. The decisions of judges will be final and binding and no correspondence will be entered into at any time.
- Protests will be heard by a committee comprising of the jetty marshal, contest director and one other senior member present, who will decide and order a re-run of a race (in the case of matrix or oval racing) or an award of time or laps lost during endurance racing, in which case the lap scorer concerned must have an accurate record of time lost.

10. RESCUE

- Drivers or pit crew are not to take rescue boat out under their own authority.
- Rescues will not take place during matrix or oval racing unless there is a danger of loss of boat or equipment through sinking. In this case the race will be stopped and re-run. Only boats running at the time of the stoppage can restart.
- Rescues will take place during endurance racing, in which case the rescue boat has the right of way at all times. The rescue boat must take the shortest route possible across the racing lanes of the course and should return the boat to either end of the pit area.
- In all cases the rescued boat will be returned to an area designated at either end of the pit area.
- No person may enter the water during a race.

11. DRIVER ASSISTANCE

- Each competitor must have one pit mechanic to assist at all times while his boat is on the water (including practice).
- Only the driver may operate the transmitter while the boat is on the water during a race. In the event of an emergency the pit mechanic may operate the transmitter to bring the boat back to the pit, but any such lap so completed will not score.

- No driver will leave the jetty at any time during a race or abandon his transmitter while his boat is still running on the water. If a driver leaves the jetty whilst a race is in progress without the permission of the judge he shall be considered to have finished racing in that event.

12. HEAT RACING POINTS SCORING SYSTEM

Mono Matrix heat racing starts with 200 points, Oval heat racing events start with 300 points for each heat. A DNF (did not finish) scores no points.

Points per heat: (mono)

200 points - Elapsed Time + Bonus Points for Place.

Bonus Points:	1st.	30 points
	2nd.	20 points
	3rd.	10 points

E.g. Elapsed time 65.2 sec and 2nd place.
Points = (200 - 65.2) + 20 = 154.8 points.

Penalties: 1 extra penalty lap per missed buoy, disqualification from heat for 3 penalties.
(Unless specific penalties are noted in class rules that override this)

Optional Alternative Heat Racing Points Scoring System.

(Integrated Regatta Management System)

Points per Place Based.

1st = 400

2nd = 300

3rd = 225

4th = 169

5th = 127

6th = 96

DNF = 25

DNS = 0

DSQ = 0

Penalties for this system as follows:

-50 point penalty for touching or cutting / missing per buoy, this includes mill time.
Disqualification from the heat for 3 penalties.

OTHER GENERAL PENALTIES

Penalties are as follows:

HITTING AN ANNOUNCED DEAD BOAT
HITTING RESCUE BOAT

DISQUALIFICATION FROM **HEAT**
DISQUALIFICATION FROM **EVENT**

Drivers and pitmen are encouraged to comment on reckless or inconsiderate driving at all times.

