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

(New Zealand Model Power Boat Association Inc.)

Members Handbook

Issue Date September 2018 Website
www.nzmpba.co.nz

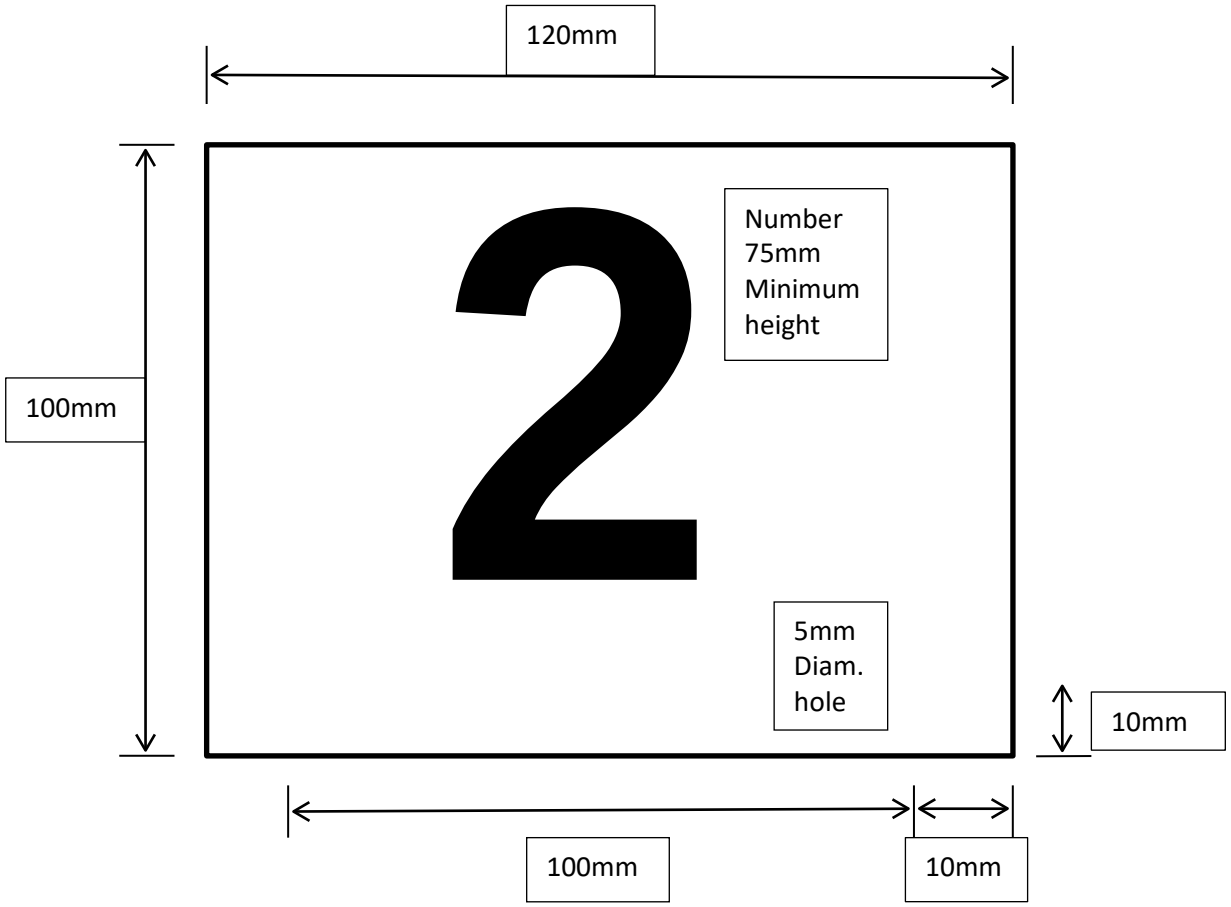
Downloads
NZMPBA Constitution.pdf
General Racing rules.pdf
Class Racing rules.pdf
Guide to Racing.pdf
Nationals Championships.pdf

MARATHON

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) General racing rules shall apply with regard to right of way.
5) 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. The Race Director or appointed Observer shall be the sole judge of the starting procedures and cutoff times for the launching of boats, and must announce immediately any boats that have broken the start. Their decision is final.
6) Once on the water a boat must mill the complete course..
7) The lap will not be counted if the start line is crossed early.
8) The event will comprise of up to two 20 minute heats. Each heat will be in a clockwise direction.
9) Most laps accumulated over the two heats determines the winner.
10) No limits on fuel capacity. Fuelling stops allowed.
11) All drivers must use the appropriate pit lanes when entering or leaving the pits. Failure to do so will incur a 1 lap penalty.
12) Boats must be driven at a greatly reduced speed in the pit lanes.
13) All buoys must be rounded. NO re-circling permitted.
14) A 1 lap penalty will apply if a buoy is missed.
15) Boats coming into the pits have that lap counted.
16) Any boat stopped on the course may be retrieved by the rescue boat.
17) 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.
18) A dangerous condition may stop the race, which may be restarted when the danger is clear.
19) The stoppage time is not counted as elapsed time.
20) Laps are counted by an appointed lap scorer and at least one observer. They shall keep an accurate record of the laps completed.
21) The lap scorer or observer may be called upon to give an account of any incident.
22) Mono and Tunnel hulls only are eligible for Marathon racing.
23) The Oval Race course will be used, 70m or 100m straights can be used as the venue can safely accommodate.
24) For lap scoring purposes each boat shall have 2 rubber fittings or holes 100mm apart 4mm in size to allow a number plate to be carried. In each race the competitor will be supplied with, or may use his own, a white vertical plate, with a size of 100mm x 120mm with 5mm holes in the bottom 100mm apart. On this shall be the competitor's pit number in black of a minimum height of 75mm. The number must be clearly visible to the lap scorers on the front straight. Should the plate become dislodged or broken during the race and/or be unreadable it will be the responsibility of the competitor to ensure that it is repaired or replaced immediately in order for the lap scorers,(who shall not be responsible for missed laps) to identify the boat. See illustration as below.

ILLUSTRATION OF NUMBER PLATE

(Common for Endurance and Marathon Events)

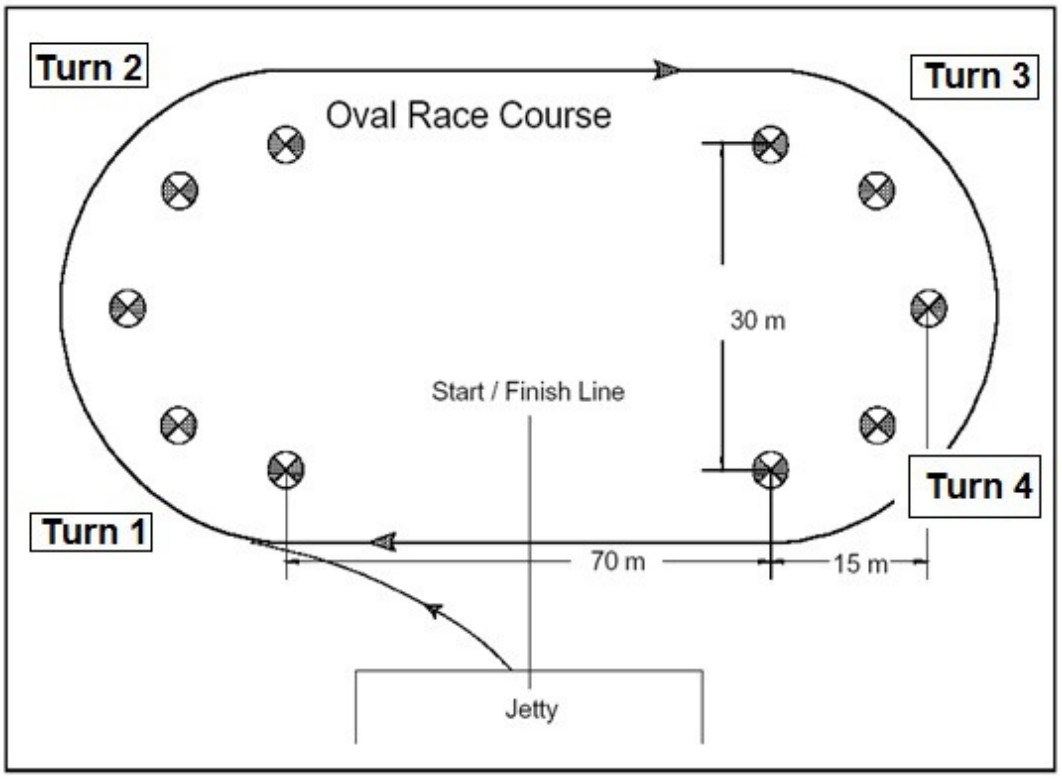


OFFSHORE

1) See separate rule book for Offshore High Points Series

OVAL SPRINT RACING

1) Each team shall consist of the driver and a pit person.
2) Oval events are comprised of four heats of six laps in a clockwise direction, or as another number of heats and laps at the discretion of the Contest Director.
3) The event can be hull and engine class based or as Open to all hull types and engine classes.
4) The 2 1/2 minute countdown system is used to start the race, no boats to be launched during or after the last 30 seconds of the countdown.
5) The Race Director or appointed Observer shall be the sole judge of the starting procedures and cutoff times for the launching of boats, and must announce immediately any boats that have broken the start. Their decision is final.
6) A mill start shall be used. Boats shall mill the whole course.
7) The appropriate penalty for touching, cutting or missing a buoy during mill time and race proper will apply
8) A jumped start incurs a penalty of one extra lap.
9) Absolutely no re-circling of buoys missed.
10) The Heat Racing Points Scoring System will be used to determine the final placings for each class contested.
11) General racing rules shall apply where applicable.
12) The Oval Course is illustrated below, a course with 100m straights may be used at venues which can safely accommodate it.



ELECTRIC CLASS RACING RULES

All boats must conform to NZMPBA electric class specifications NZMPBA racing rules and guidelines will apply excepting the following.

a) All rules under "Oval Sprint Racing" will apply
b) Any boat that stops (thermally) during the race or Mill period and does not immediately resume and is deemed to be a Dead Boat (and will be called as 'Dead Boat') and must not be moved until so directed by the race controller.
c) Self righting boats if capsized cannot resume racing and is classed as stopped.

ELECTRIC CLASS SPECIFICATIONS
General Hull Class for Racing, Speed and 2 lap Records

Class	Mono	Hydro	Sport Hydro	Tunnel	Deep Vee	Sport Offshore
N2	Y	Y	Y	Y	Y	Y
P	Y	Y	Y	Y	Y	Y
Q	Y	Y	Y	Y	Y	Y
S	Y	Y	Y	Y	Y	Y
T	Y	Y	Y	Y	Y	Y

N2 SPORT HYDRO 2 cell LIPO Brushless Class

a). Motor and Controller is open
b). 2S 7.4Volts Lithium Polymer (Lipo) Batteries 6000mah max.
c). All boats to resemble Hydroplanes from the past or present, Fictitious teams maybe created within the Spirit of the past and present Hydroplanes. The word "resemble" shall be loosely interpreted and as long as the boat is configured in the spirit of a real 3-point full-bodied hydro, it shall be deemed legal.
d). Outriggers, modified outriggers or tunnels are not allowed.
e). All boats must be inboard motor powered with an effort made to conceal the motor with fake engine or cowling.
f). Safety Loops and isolating switches are mandatory.
g). No gear boxes allowed
h). NZMPBA oval sprint racing rules will apply
i). Minimum hull length 20 inches. (508 mm)

N2 SPORT OFFSHORE 2 cell LIPO Brushless Class

a). Motor and Controller is open
b). 2S 7.4Volts Lithium Polymer (Lipo) Batteries 6000mah max.
c). Offshore hulls must be a Deep-Vee (16 to 28 degree "V" angle) or an Offshore Catamaran type hull. The windshield or cockpit will be located no further forward than 65% of the hull's length when measured from the transom.
d). Freeboard, as measured at the tallest point on the side of the hull, will not be less than 25mm.
e). Stepped hulls and flat keel ride pads will be allowed on both Deep Vee and Catamaran type hulls.
f). Closed cockpits must have windshields. Windshields can either be clear, tinted or colour. Open cockpits must have drivers.
g). All efforts should be made to colour and number hulls in the spirit of real offshore racing. However, this class is intended to be standoff scale class.
h). Safety Loops and isolating switches are mandatory.

i). No gear boxes allowed
j). NZMPBA oval sprint racing rules will apply
k). Minimum hull length 20 inches. (508 mm)

P SPORT HYDRO 4 cell LIPO Brushless Class

a) 4s 14.8 Volt Lithium Polymer (Lipo) 6000mah max
b) Motor and speed controller open
c) All boats to resemble Hydroplanes from the past or present.
d) Fictitious teams may be created within the Spirit and shall at least resemble boats of the past and present Hydroplanes. The word "resemble" shall be loosely interpreted and as long as the boat is configured in the spirit of a real 3-point full-bodied hydro, it shall be deemed legal.
e) Outriggers, modified outriggers or tunnels are not allowed.
f) All boats must be inboard motor powered with an effort made to conceal the motor with fake engine or cowling.
g) Safety Loops and isolating switches are mandatory.
h) NZMPBA oval sprint racing rules will apply
i) Minimum hull length 24 inches (610 mm)

P OFFSHORE CLASS 4 cell LIPO Brushless Class

a) 4s 14.8 Volt Lithium Polymer (Lipo) 6000mah max
b) Motor and speed controller open
c) Offshore hulls must be a Deep-Vee (16 to 28 degree “V” angle), Offshore Catamaran type hull.
d) Freeboard, as measured at the tallest point on the side of the hull, will not be less than 25mm.
e) Stepped hulls and flat keel ride pads will be allowed on both Deep Vee and Catamaran type hulls.
f) Closed cockpits must have windshields. Windshields can either be clear, tinted or coloured.
g) Open cockpits must have drivers.
h) All efforts should be made to colour and number hulls in the spirit of real offshore racing.
i) However, this class is intended to be stand-off scale class.
j) Safety Loops and isolating switches are
k) Mandatory.
l) NZMPBA oval sprint racing rules will apply
m) Minimum hull length 24 inches. (610 mm)

Q OFFSHORE CLASS 6 cell LIPO Brushless Class

a).6s 22.2Volt li-polymer batteries (Lipos) 6000mah max.
b). Motor and speed controller open
d). Offshore hulls must be a Deep-Vee (16 to 28 degree “V” angle), Offshore Catamaran type hull.
e). Freeboard, as measured at the tallest point on the side of the hull, will not be less than 25mm.
f). Stepped hulls and flat keel ride pads will be allowed on both Deep Vee and Catamaran type hulls.
g). Closed cockpits must have windshields. Windshields can either be clear, tinted or coloured. Open cockpits must have drivers.
h). All efforts should be made to colour and number hulls in the spirit of real offshore racing. However, this class is intended to be stand-off scale class.
i). Safety Loops and isolating switches are mandatory.
j). NZMPBA oval sprint racing rules will apply
k). Minimum hull length 34 inches. (865 mm)

Q SPORT HYDRO 6 cell LIPO Brushless Class

a). 6s 22.2Volt li-polymer batteries (Lipos) 6000mah max.
b). Motor and speed controller open
d). All boats to resemble Hydroplanes from the past or present.
e). Fictitious teams may be created within the Spirit and shall at least resemble boats of the past and present Hydroplanes. The word "resemble" shall be loosely interpreted and as long as the boat is configured in the spirit of a real 3-point full-bodied hydro, it
shall be deemed legal.
f). Outriggers, modified outriggers or tunnels are not allowed.
g). All boats must be inboard motor powered with an effort made to conceal the motor with fake engine or cowling.
h). Safety Loops and isolating switches are mandatory.
i). NZMPBA oval sprint racing rules will apply
j). Minimum hull length 34 inches (865 mm)

BATTERY RULES

N2 CLASSES

a) 2S Lipo Maximum

b) Maximum pack voltage 8.46 volts

c) 6000mah max capacity. To be confirmed from manufacturers labels.

P CLASSES

a) 4S Lipo Maximum

b) Maximum pack voltage 16.92 volts

c) 6000mah max capacity. To be confirmed from manufacturers labels.

Q CLASSES

a) 6S Lipo Maximum

b) Maximum pack voltage 25.38 volts

c) 6000mah max capacity. To be confirmed from manufacturers labels.

S Classes

a) 8S Lipo Maximum
b) Maximum pack voltage 33.84volts
c) 12000 mah Max. Capacity. To be confirmed from manufacturers label.

T Classes

a) 10S-12S Lipo Maximum
b) Maximum pack voltage 50.76 volts
c) 12000 mah Max. Capacity. To be confirmed from manufacturers label.

Pack voltage maximum to be checked where the Race Director deems necessary prior

To the running of any heat (or run in the case of SAW events).

1/8th SCALE ELECTRIC HYDRO

a) Hulls to conform to SUHA/NZMPBA 1/8th scale racing rules (except motor)
b) Li-polymer batteries (Lipos) 12S1P or 12S2P 44.4Volts.12000Mah max Capacity
c) Safety Loops and isolating switches are mandatory.
d) NZMPBA electric class racing rules apply
e) Motor and speed controller open
f) All boats must be inboard motor powered with an effort made to conceal the motor with fake engine or cowling.

PETROL OUTRIGGER HYDROPLANE

GENERAL DESCRIPTION - Freelance Open Design Outrigger Hydroplane Class. All boats will be three (3) point outrigger hydroplanes, no Thunder-boats, Sport Petrol Hydro's or Canards.

HULL SPECIFICATION

1) Boats may be wood or fiberglass/composite type construction.
2) Hull length shall be a maximum of 56 inches, minimum of 42 inches.
3) General hull configuration shall consist of two (2) forward sponsons connected to the tub by booms.
4) Rear sponsons, shoes, ride pads and lift plates are allowed. Engine belly pans are allowed. Engine belly pans may not extend beyond the engine compartment.
5) Nothing may extend more than 5 ¼ inches beyond the transom.

ENGINE SPECIFICATION

1) Any 2 stroke petrol engine can be used up to 27cc, standard or modified and any configuration. Electronic or magneto ignition allowed.
2) Any carburetor may be used.
3) Any exhaust system allowed provided that it meets current NZMPBA noise rules (87db @ 10 meters)

PETROL SPORT HYDRO

GENERAL DESCRIPTION – Freelance Sports Styled Unlimited Light and Unlimited hydroplane Class. All boats will be three (3) point hydroplanes, no canards or outriggers.

HULL SPECIFICATION

1) Boats may be wood or fiberglass/composite type construction.
2) Hull Length shall be a maximum of 56 inches, minimum of 42 inches.
3) Closed cockpit screen may be painted to simulate enclosed cockpit, open cockpit must have driver. No animal or cartoon characters.
4) All boats must have a sponsor name & logo. The Sponsor/Logo May be original or of your own choice.
5) Normal hull configuration shall be conventional round nose, shovel nose, dropped sponson or pickle fork design. The pickle fork shall not exceed 25% of the hull length.
6) No rear sponson, ride shoe or other riding surface allowed aft of the sponson transom, except for a lift plate (maximum 25mm wide) that can be attached to the shaft tube extending from where the tube penetrates the hull, and terminating at the strut
   Engine belly pans are allowed and may not extend beyond the engine compartment.
7) Nothing may extend more than 5 1/4 inches beyond the transom.

ENGINE SPECIFICATION

1) Any 2 stroke petrol engine can be used up to 27cc, standard or modified and any configuration. Electronic or magneto ignition allowed.
2) Any carburetor may be used.
3) Any exhaust system allowed. All boats must meet current NZMPBA noise rules (87db).

STOCK THUNDERBOAT (T1)

GENERAL DESCRIPTION – Semi scale or freelance models of the classic era Thunderboats (Pre cab-over Unlimited & Limited hydroplane) All boats will be three (3) point hydroplanes, no canards or outriggers.

HULL SPECIFICATIONS

1) Boats may be wood or fiberglass/composite type construction.
2) Hull Length shall be a maximum of 56 inches, minimum of 42 inches.
3) All boats shall be a rear cockpit configuration with a period appropriate driver. No animal or cartoon characters.
4) All boats shall have a period correct paint scheme and sponsor name & logo. The Sponsor/Logo May be original or of your own choice.
5) Normal hull configuration shall be conventional round nose, shovel nose, dropped sponson or pickle fork design. The pickle fork shall not exceed 10% of the hull length.
6) No rear sponson, ride shoe or other riding surface allowed aft of the sponson transom, except for a lift plate (maximum 25mm wide) that can be attached to the shaft tube extending from where the tube penetrates the hull, and terminating at the strut. Engine belly pans are allowed. Engine belly pans may not extend beyond the engine compartment.
7) Nothing may extend more than 5 1/4 inches beyond the transom.
8) The strut mounting is optional. Effort must be made to cover the engine with a cowling or period correct fake engine and pipe must be concealed within the hull and exit through the transom.

ENGINE SPECIFICATIONS

9) Engine Specifications as per Stock Zenoah class in General Rules.

MODIFIED THUNDERBOAT (T2)

GENERAL DESCRIPTION – Semi scale or freelance models of the classic era Thunderboats (Pre cab-over Unlimited & Limited hydroplane) All boats will be three (3) point hydroplanes, no canards or outriggers.

HULL SPECIFICATIONS

1) Boats may be wood or fiberglass/composite type construction.
2) Hull Length shall be a maximum of 56 inches, minimum of 42 inches.
3) All boats shall be a rear cockpit configuration with a period appropriate driver. No animal or cartoon characters.
4) All boats shall have a period correct paint scheme and sponsor name & logo. The Sponsor/Logo May be original or of your own choice.
5) Normal hull configuration shall be conventional round nose, shovel nose, dropped sponson or pickle fork design. The pickle fork shall not exceed 10% of the hull length.
6) No rear sponson, ride shoe or other riding surface allowed aft of the sponson transom, except for a lift plate (maximum 25mm wide) that can be attached to the shaft tube extending from where the tube penetrates the hull, and terminating at the strut. Engine belly pans are allowed and may not extend beyond the engine compartment.
7) Nothing may extend more than 5 1/4 inches beyond the transom.
8) The strut mounting is optional. Effort must be made to cover the engine with a cowling or period correct fake engine and pipe must be concealed within the hull and exit through the transom.

ENGINE SPECIFICATIONS

1) Any 2 stroke petrol engine can be used up to 27cc. Electronic or Magneto ignition is allowed.
2) Any exhaust system allowed. All boats must meet current NZMPBA noise rules (87db).

C SCALE HYDROPLANE

AIM: To duplicate the sport of full sized hydroplane racing as closely as possible, with model boats that are configured, painted and detailed like their full sized counterparts.

The class will consist of two types boats;
a) 1/8 scale Unlimited Hydroplanes.
b) True scale hydroplane models based on full sized racing hydroplanes, constructed to dimensions approved by the registrar.

1) A register of this class will be kept by a registrar, he/she will be appointed by the NZMPBA committee.

2) Requirements for registering a C Scale Hydroplane.
a) To register a boat the person registering must be a financial member of the NZMPBA and remain financial at all times to retain registration of the model.
b) Application must first be made to the registrar to confirm the availability of the boat being built. (This is to avoid duplication of boats). Any one hull that raced over several seasons with the same paint scheme shall be deemed to be the same boat, whether or not small cosmetic changes were made to the original design and paint scheme. (Salt water cowlings etc are deemed still as the same boat).
c) The builder must state their intention to build the model as a race boat or show boat only, at the time of registration. (Show boats can be duplicated in race boat form).
d) Once confirmation is approved, a colour photo or colour copy of a photo of the full sized boat must be sent to the registrar to be kept in the master register. (It then remains the property of the NZMPBA).
e) No individual may hold registration on more than one boat in development stages unless special approval is obtained from the NZMPBA.
f) A two year building time from date of registration will apply, an extension period may be granted at the registrar's discretion.
g) A colour photo or colour copy of a photo of the completed model must be sent to the registrar to be kept in the master register to prove completion. (It then remains the property of the NZMPBA).
h) Current owner registration details must be correct at the time the boat competes at any NZMPBA event.
i) Builders/Owners not conforming to the above criteria (A,D,G, & H) will not qualify to be entered at any NZMPBA sanctioned regatta.

3) Hull and Engine Requirements.
a) All hulls shall be C scales of past or present full sized qualified racing hydroplanes.
b) All models will have a minimum length of 1067 mm unless indicated otherwise by the APBA master hull roster.

1/8 scale unlimited hydroplanes shall satisfy the dimensions of the APBA master hull roster with the following tolerances to scale being allowed (excluding appendages):

Principle dimensions are:

LENGTH This is the overall length of the boat as measured from the forward most point of the basic hull to the rear most point of the basic hull.
(Note, tiplets and rear sponsons are not part of the basic hull)

Allowable tolerance is + - 25mm.

WIDTH This is the maximum overall width of the boat Allowable tolerance is + - 10 percent.

TUNNEL This is the tunnel width or sponson separation of the boat. Allowable tolerance is + - 10 percent.

AFTER PLANE LENGTH

This is the distance measured from the rear of the sponson to the rear most point of the basic hull. Allowable tolerance is + - 10 percent.

PICKLEFORK DEPTH

For pickle fork hulls only. Picklefork depth is not a principle dimension as listed in the rulebook. The dimension is listed here for reference only. This is the distance from the forward most point of the boat to the leading edge of the boat between the sponsons
Suggested allowable tolerance is + - 10 percent.

Non unlimited hydroplane models will have their dimensions approved by the registrar prior to construction. This will be done by submitting dimensions of the proposed model along with verified dimensions for the full sized boat. **THE OVERALL LENGTH DIMENSION (BOW TO TRANSOM)** will be used to calculate a scale for the model. The model will be constructed to this scale, subject to the above tolerances.

All models will be issued with an acceptance certificate from the Official Measurer once all registration details have been completed. The certificate will include size verification, paint details etc.

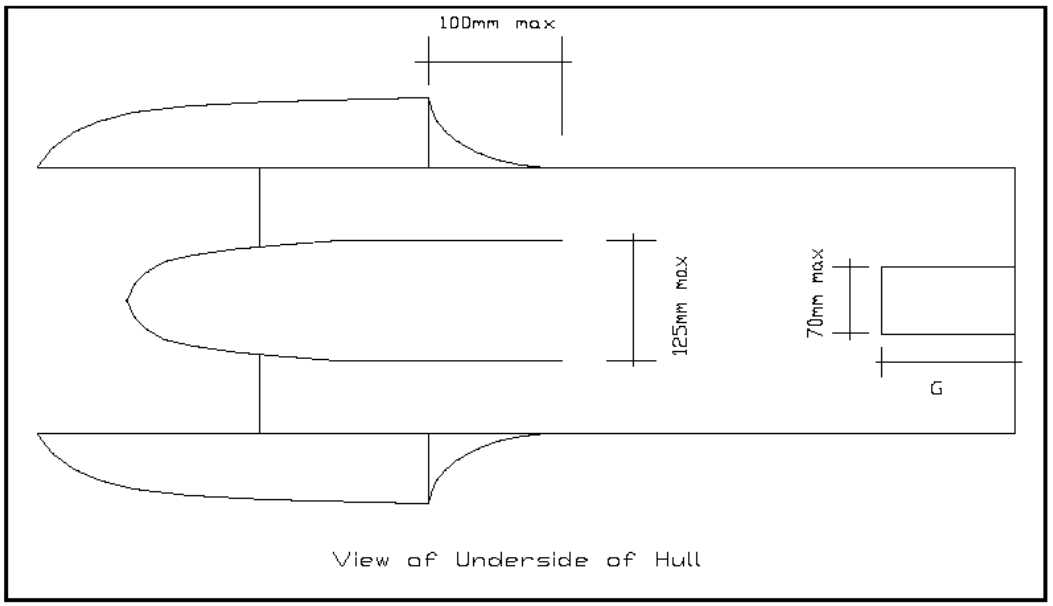
c) Maximum engine capacity shall be .67 cubic inches (10.9cc).
d) Ride surfaces do not have to duplicate the original full sized counterpart.
e) The engine and tuned pipe must be concealed.
f) Outdrive units are specifically prohibited and the forward-most part of the stock propeller drive dog shall not lie behind the transom plane. Unless scaled dimensions of the real boat can be proven.
g) Noise level shall be as per the NZMPBA rules (stated elsewhere).
h) Boats shall compete with scale drivers in cockpits and cowlings, including dummy engines, and turbine tubes. Scale appendages must be used unless damaged beyond repair during regatta race day. (Driver to be minimum shoulder and head height).
i) Hull or cowl offsets existing on the actual boat may be modeled in reverse (mirror image) if the correct dimensions are maintained.
j) A motor belly pan may be inserted, for motor and flywheel only, on the model, even if it was not on the full size hull configuration. The dimensions shall not exceed 90 mm in width, 190 mm in length, and 20 mm in depth. It must not exceed the depth of any ride surface, nor be constructed for the intent of a ride surface.

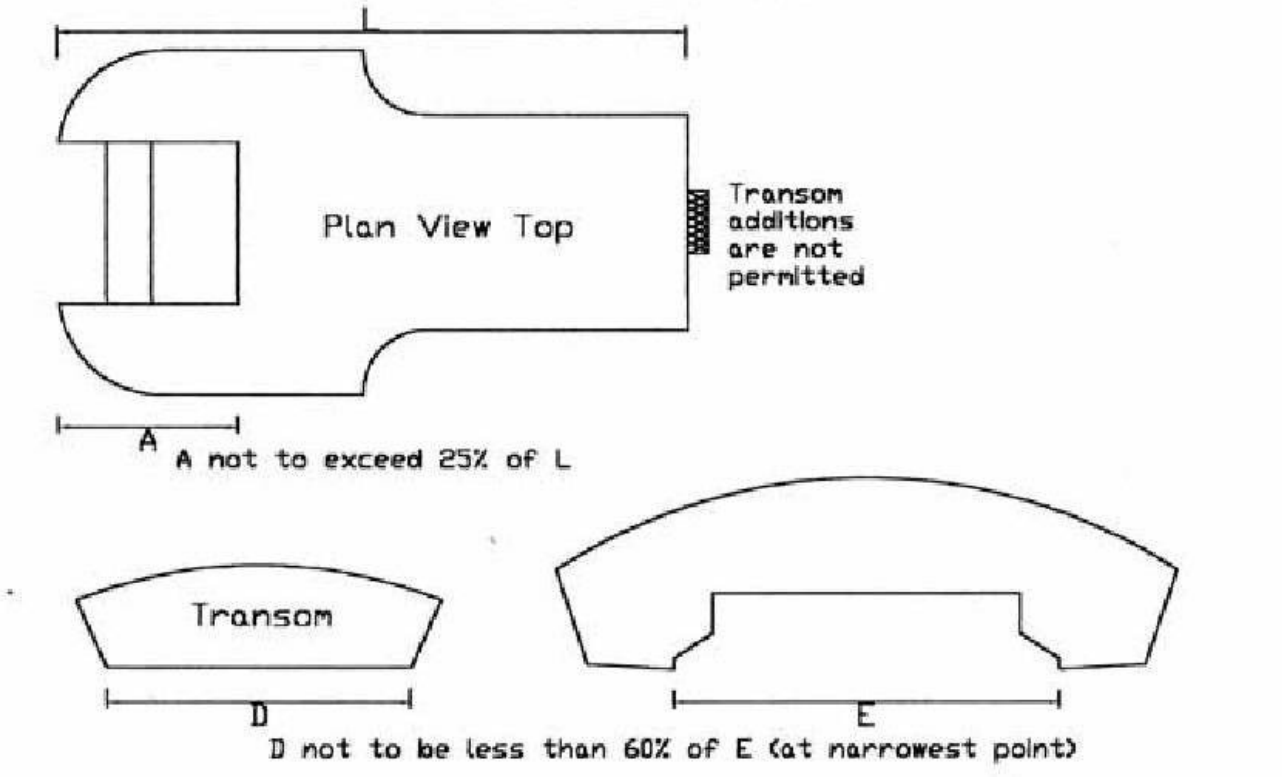
4) Regatta Format**.**
Boats shall be raced using the oval matrix format or other such format as may be advertised by the contest director.
Oval Sprint Racing racing rules will apply.

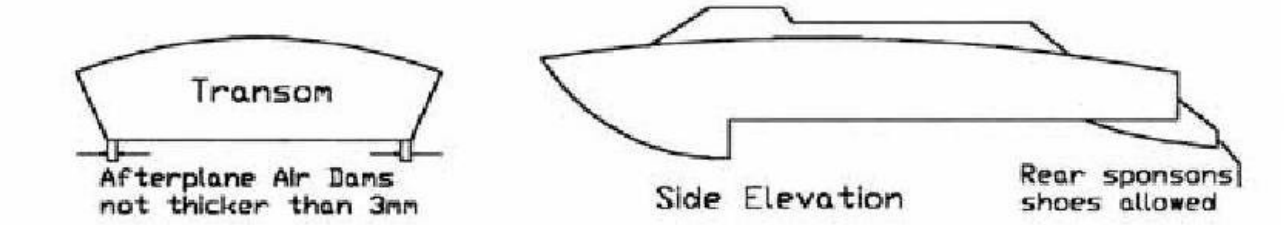
SPORT 45 HYDRO

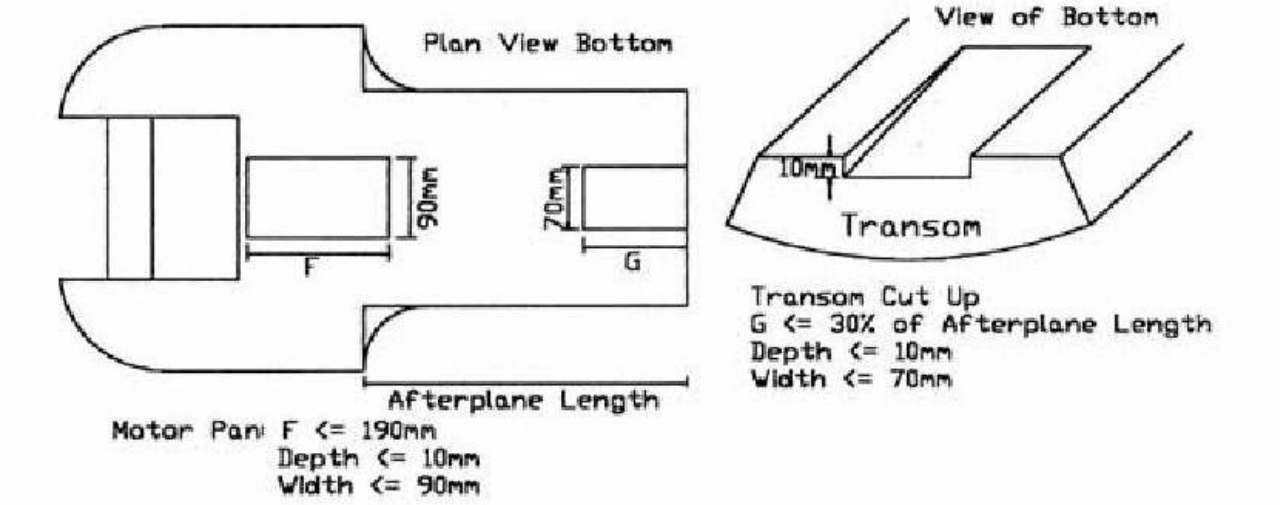
1) Hull must be of three (3) point hydroplane configuration.
2) Boats shall be freelance appearance and finished in a manner appropriate to a past or present limited or unlimited class hydroplane.
3) A name and / or the owners NZMPBA number must be displayed on the boat.
4) Open cockpit must be complete with a driver of scale like appearance. It must be at least shoulders and head height. Canopy type hydros must at least have a painted windscreen.
5) Maximum engine capacity must not exceed 7.550cc, inboard only. Gear boxes are not permitted.
6) The engine and tuned pipe must be concealed where possible.
7) Outrigger, modified outrigger, tunnel and canard hulls are not permitted.
8) The drive dog may extend beyond the transom, but no more than 50 mm to the front face of the drive dog.
9) Minimum hull length will be 890 mm.
10) The underside of the afterplane shall be a continuous flat surface across the hull with the exception of the allowable transom cutup and cockpit centre section. See drawings for allowable dimensions of cutup & engine pan.
11) Hull width at the transom's narrowest point shall not be less than 60% of the width of the hull between the inside edges of the front sponson ride surfaces.
12) For pickle fork hulls the front recess shall not be more than 25% of the total hull length. (A forward wing is considered part of the hull and is not included in 25% pickle fork recess).
13) Air Dams, ride plates and rear sponsons/shoes are permitted.
14) Multi Winged hulls are not permitted – See attached diagrams for clarification.
15. Boats shall be raced using the oval heat racing format or other such format as may be advertised by the contest director.
16. Oval Sprint Racing rules will apply.

Sport 45 Diagrams.




L
Plan View Top
Transom additions are not permitted
A
A not to exceed 25% of L
Transom
D
E
D not to be less than 60% of E (at narrowest point)


Transom
Afterplane Air Dams not thicker than 3mm
Side Elevation
Rear sponsons shoes allowed


Plan View Bottom
90mm
70mm
F
G
Afterplane Length
Motor Pan F <= 190mm
Depth <= 10mm
Width <= 90mm
View of Bottom
10mm
Transom
Transom Cut Up
G <= 30% of Afterplane Length
Depth <= 10mm
Width <= 70mm

B SCALE HYDROPLANE

Aim: To duplicate the sport of full sized hydroplane racing as closely as possible, with model boats that are configured, painted and detailed like their full sized counterparts.
The class will consist of two types of boats;

• True scale Unlimited Hydroplanes.
• True scale limited class racing hydroplanes.

1) A register of this class will be kept by a registrar.
• He/She will be appointed by the NZMPBA committee.

2) Requirements for registering a B Scale Hydroplane.
a) To register a boat the person registering must be a financial member of the NZMPBA and remain financial at all times to retain registration of the model.
b) Application must first be made to the registrar to confirm the availability of the boat being built. (This is to avoid duplication of boats). Any one hull that raced over several seasons with the same paint scheme shall be deemed to be the same boat, whether or not small cosmetic changes were made to the original design and paint scheme. (Salt water cowlings etc are deemed still as the same boat).
c) The builder must state their intention to build the model as a race boat or show boat only, at the time of registration. (Show boats can be duplicated in race boat form).
d) Once confirmation is approved, a colour photo or colour copy of a photo of the full sized boat must be sent to the registrar to be kept in the master register. (It then remains the property of the NZMPBA).
e) No individual may hold registration on more than one boat in development stages unless special approval is obtained from the NZMPBA.
f) A two year building time from date of registration will apply, an extension period may be granted at the registrar's discretion.
g) Current owner registration details must be correct at the time the boat competes at any NZMPBA event.
h) Builders/Owners not conforming to the above criteria will not qualify to be entered at any NZMPBA sanctioned regatta.

3) Hull and Engine Requirements.
a) All hulls shall be scales of past or present full sized qualified racing hydroplanes.
b) All models will have a minimum length of 890 mm, measured from bow to transom, excluding appendages.
c) B Scale hydroplane models will have their dimensions approved by the registrar prior to construction. This will be done by submitting dimensions of the proposed model along with verified dimensions for the full sized boat. The overall length dimension will be used to calculate a scale for the model. The model will be constructed to this scale, subject to the tolerances listed below.
1. Length overall + or - 20 mm b. Beam + or - 10%
2. Pickle fork Depth + or - 10%
3. Afterplane length (3 pt) + or - 10%
4. Tunnel width + or - 10%

4) All models will be issued with an acceptance certificate from the Official Measurer once all registration details have been completed. The certificate will include size verification, paint details etc.

5) Maximum engine capacity shall be 7.550cc.

6) Gear Boxes are not permitted.

7) Ride surfaces do not have to duplicate the original full sized counterpart.

8) The engine and tuned pipe must be concealed where possible.

8) The drive dog may extend beyond the transom, but no more than 50 mm to the front face of the drive dog.

9) Noise level shall be as per the NZMPBA rules (stated elsewhere).

10) Boats shall compete with scale drivers in cockpits and cowlings, including dummy engines, and turbine tubes. Scale appendages must be used unless damaged beyond repair during regatta race day. (Driver to be minimum shoulder and head height).

11) Hull or cowl offsets existing on the actual boat may be modeled in reverse (mirror image) If the correct dimensions are maintained.

12) Air Dams and ride plates are permitted.

13) A motor belly pan may be inserted, for motor and flywheel only, on the model, even if it was not on the full size hull configuration. The dimensions shall not exceed 90 mm in width, 190 mm in length, and 10 mm in depth. It must not exceed the depth of any ride surface, nor be constructed for the intent of a ride surface.

14)

Regatta Format.

- Boats shall be raced using the oval matrix format or other such format as may be advertised by the contest director.
- Oval Sprint Racing rules will apply.

15)

B scale boats are eligible to race in the Sport 45 hydro class

SPORT 20 SCALE HYDRO

1) Hulls can be accurate scales of past or present full size race boats or they can be designed for the purpose of competing in the Sport 20 class. Stand off scale circuit racing tunnels will be eligible to race providing the engine has a scale cowling over it.

2) Scale hulls must be registered with the Scale Hydro Register to avoid duplication.

3) Current owner registration details must be correct at the time the boat competes at any NZMPBA event.

4) Finish to be appropriate to a full size hydroplane.

5) A name, scale or fictional, must appear on the boat.

6) The boat must compete with scale driver.

7) For 3 point inboard hydros, the drive dog must not project beyond the transom.

8) Air dams and ride plates are permitted.

9) Maximum engine capacity shall not exceed 3.5 cc.

10) Tuned pipes and engines should be concealed if possible on boats registered after the 30th March 1986.

11) The course shall be the standard Oval course.

12) Oval Sprint Racing rules will apply.

13) The Heat Racing points system will be used to determine a winner.

RECORDS

The N.Z.M.P.B.A. (Inc.) shall recognize course records made on courses standardized by the Association and at sanctioned regattas of the Association or at affiliated club meets.
A record attempt form is available from the NZMPBA secretary and the completed form must be returned to the Secretary within 14 days of the attempt being made.
Applications for records must include all pertinent data including the time of all watches used and the signature of the Official Observer.
Application for endurance records must include all pertinent data, lap counters signature and the Official Observers signature.
NOTE :- Open Class records for SAW speed and 2 lap oval classes will no longer be recognized as a legitimate class after 31/08/2017. Current records held for those classes shall remain in force for archive purposes only.
The N.Z.M.P.B.A. shall issue certificates of recognition to individuals successful in the record attempt.
The Official Observer must be a NZMPBA committee member, or another member of the NZMPBA that is nominated by the committee to carry out this duty on their behalf.
The contestant must be a financial member of the Association to claim a record. Current speed records will be listed on the NZMPBA web site.
Straight Line Speed - Shall be a surveyed 100m length. The secretary of the NZMPBA must receive a letter from the person responsible for setting out the course and sight poles etc with the first claim on that course. This letter will include the date, persons name, experience or qualification to carry out this operation, detail of the equipment used and the actual length measured and confirmed.

TIMING

Timing can be carried out electronically or by stop watches.

For Stop watch timing

All sighting stakes must be at least 5 m apart.
The Official Observer must confirm the stakes are vertical by plumb bob or spirit level.
Timing will be carried out by two stop watches at each end of the course and must agree within two tenths of a second. The average of both watches will be taken.
All records claimed must be substantiated by a second backup run which is no more than 2.5 % slower than the new record claimed. For those hulls eligible for records in more than one class, only ONE record can be claimed for each backed up run.
To claim a record in another class with the same hull, a SECOND backed up run must be completed.
There is no set time frame to complete a back up run for a record claim other than it must be completed during the host clubs organized event / session that the first time/speed is recorded in.
Speed patches are exempt from the 2.5 % backup rule. However, speed patches cannot be claimed for the next 10 k bracket above the existing record.

For electronic timing

Records shall be accepted on courses approved by the NZMPBA Committee where survey data has been provided for beam set-up
A completed run shall consist of a successive 2 way pass in each direction thru the beams.
The 2passes shall be averaged to find the true speed for that 2 way pass.
Time can be recorded manually direct off the time equipment or electronically on a computer using suitable software that allows this to be done.
It is advisable however, (but Not compulsory) to record a hard copy of the times as a back up should the computer malfunction and lose the data.

Sight poles and stop watches are not required

The 2.5 % back up rule shall not apply for electronic timing
All other rules pertaining to record claims remain in force

Endurance - The dimensions of the endurance course may be altered to suit the available water provided the total course length remains the same.
The course must be approved by the Official Observer.
Laps shall be recorded by an officially designated lap scorer.
Naviga - The course dimensions must be certified by the official observer. Timing is carried out by two stopwatches at the start/finish line.
Applications for Naviga records must meet the straight line speed criteria regarding times and signatures.

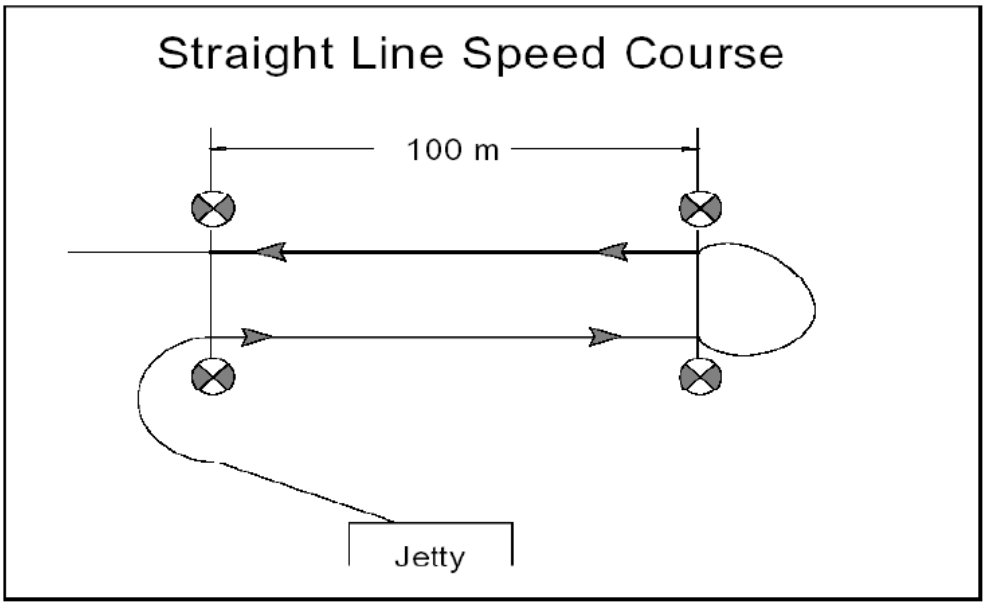
General

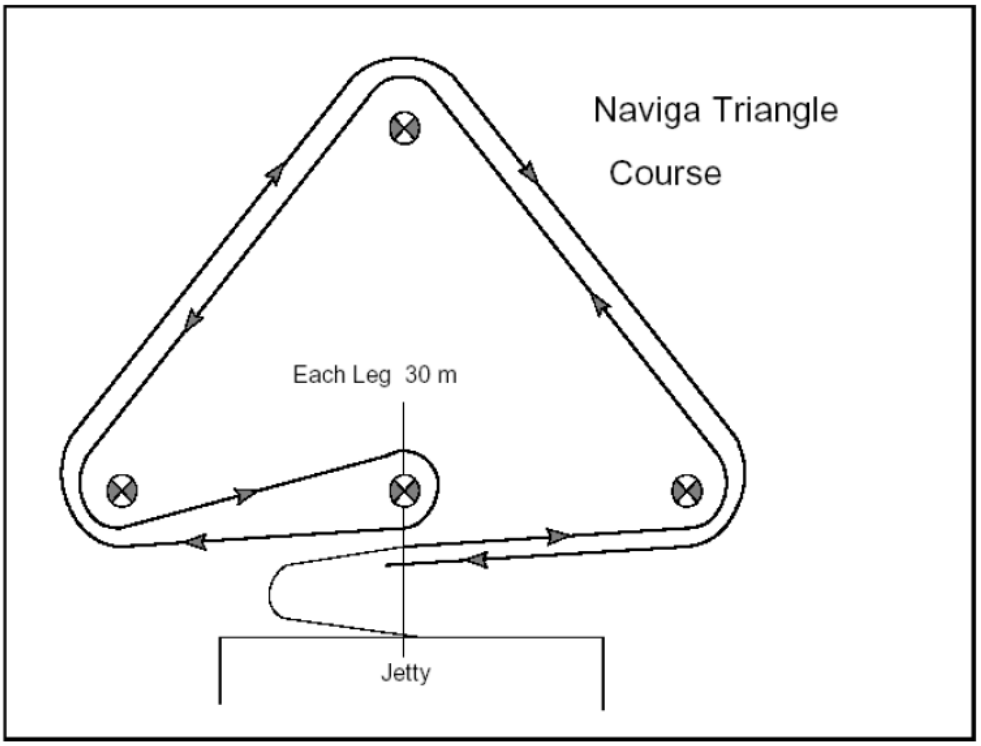
The official observer must verify the displacement of the motor according to the class entered should a controversial situation arise.
No competitor can run a borrowed boat for records or speed patches.
All boats must comply with noise regulations and will be tested before a record attempt.

The Event (Speed / Naviga)

1) The event will comprise two starts, each comprising of a timed run both ways over the Prescribed Course.
2) A 2 1/2 minute start time will be used during which the boat can be run and tuned, but an attempt must be made within that time and signaled by the competitor by raising his hand. Failure to start within this time will disqualify that start.
3) Racing rules will apply where applicable

The Course is illustrated below;





RECORDS AVAILABLE.

Engine Hull	A	B	C1	C2	X	Stock	P1	P2	P3	PX	Electric				
											N2	P	Q	S	T
Mono	y	y	y	y	y		y	y	y	y	y	y	y	y	y

Deep Vee	y	y	y	y	y		y	y	y	y	y	y	y	y	y
Tunnel	y	y	y	y	y		y	y	y	y	y	y	y	y	y
Hydro	y	y	y	y	y		y	y	y	y	y	y	y	y	y
OB Mono	y	y		y											
OB Tunnel	y	y		y											
OB Hydro	y	y		y											
Sport 20 Hydro	y														
Sport 45 Hydro		y													
B Scale Hydro		y													
C Scale Hydro				Y											
T1 Thunderboat						y									
T2 Thunderboat								y							
Sport Petrol Hydro								y							
Outrigger Petrol Hydro								y							
Crackerbox						y									
N2 Offshore											y				
N2 Spt Hydro											y				
P Offshore												y			
P Spt Hydro												y			
Q Offshore													y		
Q Spt Hydro													Y		
S Offshore															
S Spt Hydro															
T Offshore															
T Spt Hydro													Y		

INTERNATIONAL SPEED

This event applies to **100-metre speed only.**

All criteria pertaining to STRAIGHT LINE SPEED listed above shall apply to this event.
All rules listed in the General rules section of this Handbook shall also apply to this event where applicable.
NOTE: the exception is **Rule 5-Noise,** in the GENERAL RACING RULES.
FOR THIS EVENT ONLY, It shall be amended to read: -
There shall be no set restrictions on the maximum noise level emitted from a boat.
Should a competitor wish to compete for a restricted noise record, he must clearly make his intentions known prior to his run.
In this case a noise check shall be mandatory to verify that the boat does comply with the current noise level requirements in force
NOTE: -
It is recommended that this class of racing be held only at venues, where the race site is sufficiently far enough away from populated areas so as not to cause a noise nuisance and therefore risk possible loss of the venue to model boating.
It shall therefore be the host clubs responsibility to notify competitors on their entry form whether their venue operates on a restricted noise level.
INTERNATIONAL SPEED RECORDS shall begin at those records set as at 01 January 2002 in the NZMPBA records book.

Two Lap Oval records

NOTE:-These rules are to be read in conjunction with the rules under Records in the NZMPBA Rule Book. **Where there is a conflict between rules**, then these event specific rules will take precedence.

THE EVENT

The NZMPBA shall recognize records set on the standard **100m X 30m** oval course ONLY as per the description and diagram in Class Racing Rules of the NZMPBA Rule book.
The Organizing Official / Host Club must get approval from the NZMPBA Secretary to run the event at least 1 calendar month in advance of the event so it can be advertised to the greater NZMPBA membership.
The event shall consist of timing a single boat over (2) consecutive laps of the prescribed course
At each event where there are multiple “records” set in the same class, then one record claim only for the best / fastest time of that class standing at the conclusion of the event will be submitted. If a competitor sets or breaks a record during an event but is not the best at the conclusion of the event then they are still entitled to claim Presidents Cup Points as set out below.
Each competitor can claim multiple records for the same class in a calendar year, however, for the purposes of Presidents Cup Points, each competitor will only gather the appropriate Presidents Cup points once per class, per calendar year.
The calendar year is deemed to run from NZMPBA National Championships through to the next NZMPBA National Championships.
If there is no current record for a class, a random draw will need to be undertaken to determine the running order for that class at an event. The draw will consist of all competitors attempting to break a record in that class during the event. The draw will take place in front of all competitors running in that class.

THE COMPETITOR
The competitor must be a financial member of the NZMPBA prior to their attempt. They must by familiar with, and abide by, all NZMPBA rules and regulations in force at that time.
THE COURSE
The minimum buoy arrangement shall be as shown under OVAL SPRINT RACING listed in the Class Racing Rules section of the NZMPBA Rule book. Additional buoys may be added to the straights to define the course better for the driver. The course must be certified by a competent person using either GPS or total station survey equipment to ensure the course is of the correct dimensions. A certificate of accuracy of the course must be provided by the Organizing Official with the first record claim for that venue. Should any of the (5) strategic buoys at each end of the course be dislodged from their correct position by a competitor, the accuracy of the replacement bouy position must be to the satisfaction of the Organizing Official.

CLASSES:

ENGINES:-
As listed in (4) CLASSES of the general rules in the NZMPBA rule book as well as Electric classes listed elsewhere in the rule book.
HULLS:-
As listed in (4) CLASSES of the general rules in the NZMPBA rule book as well as Deep Vee
GENERAL PROCEDURE
Each attempt shall be limited to a "**TOTAL TIME"** of (5) minutes subdivided into "pit time" and "run Time"
PIT TIME.
A maximum of 2 minute's and 30 seconds pit time shall be allowed to start and launch the competitor's boat. Failure to launch within the allotted time shall be deemed a DNS and the next competitor will be called up for his attempt.
RUN TIME.
Run time shall begin when the competitor's boat is launched and shall continue un-interrupted until the allotted (5) minutes "Total Time" has elapsed or the competitor waives the remainder of their allotted time. If they have started a run when the (5) minute 'Total Time" expires they will be allowed to complete that run.
TUNING.
Adjustments and tuning **can** be made any time during "Pit Time" and "Run Time" however no time extensions will be given for these adjustments. The competitor must advise the Official when he is about to start his attempted run. Timing will start when the boat crosses the start/finish line and will end when the boat has completed (2) clean laps
Note:- Touching, hitting or cutting any buoy will be deemed a DNF, watches reset, then the Official will advise the competitor to re-start. A competitor can make and complete as many timed runs as he wishes in his allotted "Run Time"

TIMING.
Timing can be recorded electronically or by stop watches.
For Stop watches
Timing is to be recorded using a minimum of (2) digital stop watches accurate to 1/100th of a second, or other timing equipment that may be available,(excluding radar) and pre-approved by the NZMPBA Committee. Times recorded by both watches on each timed run must agree within 20/100ths of a second, and the **average** of those (2) times then used to record the elapsed time for that attempt. Times will be recorded to 3 decimal places for record purposes.

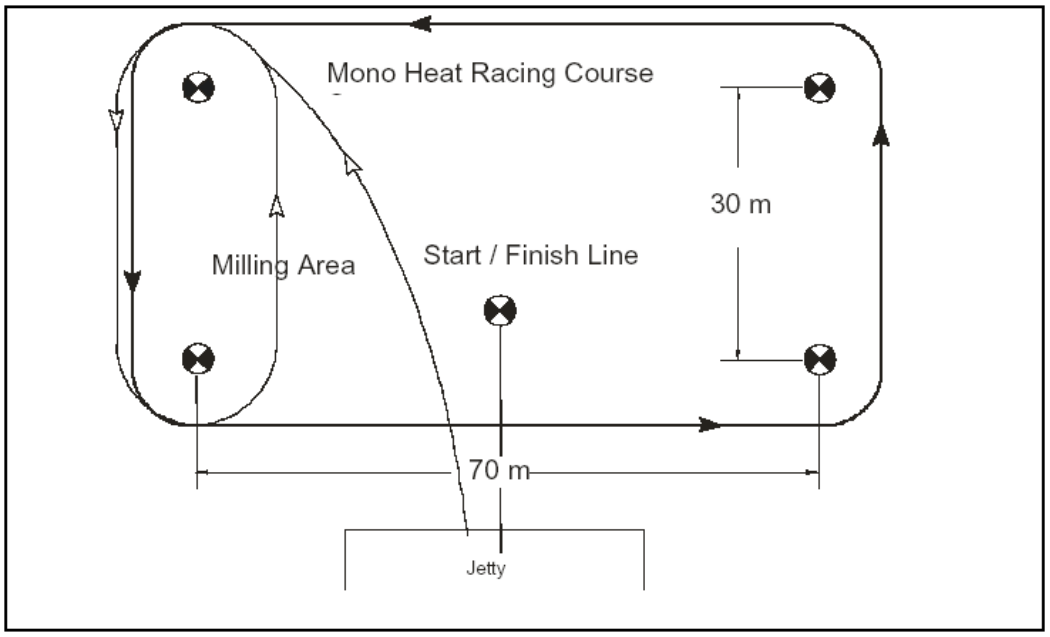
For Electronic Timing

The laser beam set up must be across one side of the oval in a way that the timer starts on the first pass thru the beam and stops the timer on the 3rd pass through the beam.
Time can be recorded manually direct off the time equipment or electronically on a computer using suitable software that allows this to be done.
It is advisable however, (but Not compulsory) to record a hard copy of the times as a back up should the computer malfunction and lose the data.

MONO HEAT RACING (Rectangle anti- clockwise course)

1) Each team shall consist of the driver and a pit person.
2) A mill start shall be used.
3) Boats must mill at a reduced speed.
4) Each heat will be 4 laps in an anti clockwise direction. A total of 4 heats will be run to complete the event or as another number of heats and laps at the discretion of the Contest director.
5) The 2 1/2 minute countdown system is used to start the race, no boats to be launched during or after the last 30 seconds of the countdown. The Race Director or appointed Observer shall be the sole judge of the starting procedures and cut-off times for the launching of boats, and must announce immediately any boats that have broken the start. Their decision is final**.**
6) Once on the water a boat must mill around the buoys at the left hand end of the course. See diagram.
7) A missed buoy can be recircled. If the buoy is not recircled the competitor must complete 1 extra lap for every buoy missed. Three missed buoys including an early start will result in a disqualification from the heat.
8) The Heat Racing Points scoring system will be used to determine the final placings for each class contested.
9) General racing rules shall apply where applicable.
10) Any driver that crosses the start line early must complete an extra lap.

The Mono Heat Racing course is illustrated in the diagram below.



(As at Feb 2009, until there is a nationally recognized movement back to this Mono Heat Racing event, all Mono Sprint Racing from now on will be on the Oval course)

NAVIGA

• Each team shall consist of the driver and a pit person.
• The event will comprise of two starts, each consisting of two circuits of the course.
• The boat may be tuned at each start but not touched between circuits.
• If a competitor believes he can not better his time he may waive the second start or further circuits.
• A 2 1/2 minute start time will be used during which the boat can be run and tuned, but a circuit attempt must be started within that 2 1/2 minutes and signaled by the competitor by raising his hand.
• Failure to start within this time will disqualify that start.
• Both starts to be completed within five minutes.
• Timing will be carried out by two stopwatches and must agree within two tenths of a second.
• The average of both watches will be taken.
• General racing rules will apply where applicable.

The course is drawn on page 18.

STOCK CLASS CRACKERBOX

1) All boats shall be models of the full size crackerbox class.
2) **DIMENSIONS**
   Hull length shall be minimum 1070mm (42 inches) and a maximum of 1245mm (49 inches)
   Minimum Beam shall be 380mm (15 inches)
   Hull depth to be 120mm (4.75 inches) minimum, at the thickest cross-section measured from the chine up to the highest point of deck line.
3) The bottom of the boat will be flat with no riding surfaces, pads or steps. The chine's may be radiused to reduce roll over. Maximum radius not to exceed 10mm. Dead rise must not exceed 6.5mm each side of the transom.
4) The deck and hatch must resemble that of the full sized crackerbox.
5) The hull may be manufactured of wood or fiber glass only. Definitely no exotic materials such as carbon fiber or Kevlar may be used to construct the hull.
6) Two drives of scale appearance must be used including helmets and life jackets. A steering wheel, instrument panel and other detailing is encouraged.
7) The letter P must precede or follow your NZMPBA number of each side of the hull. E.g. - P11 or 11P. Minimum size 75mm.
8) Engine and drive-train specifications:

* Stock 2 stroke Zenoah engine up to 25.4cc with piston port induction is allowable.* All engines must have spark ignition and recoil pull cord type starting system. No modification is allowed to the internal parts of the engine e.g. - bore size, port timing, barrel height etc.
* Carburetor must be a pump type Tillitson or Walbro. Any bore size is allowed. Definitely no pressure feed systems allowed in fuel system. Velocity stacks may be used or carburetor inlet
* Fuel must be pump type petrol only. No aviation or No 1 race fuel allowed.
* No additives other than 2 cycle oil may be used.
* Centrifugal clutches are not mandatory but may be used.
* Any type of exhaust system may be used as long as it meets the NZMPBA noise limit of 87 Db at 10 metres and is fully enclosed by the hull. A small exit pipe is allowed to protrude through the transom.
* In the case of a canister type muffler, internal modifications are allowed to exit the exhaust gases straight up out of the engine compartment.
*A flex cable or solid drive-shaft may be used. The drive dog must not extend further than 50mm behind the transom, the measurement is taken from the driving face of the drive dog. The rudder may be mounted behind the prop or to one side. Trim tabs are allowed and recommended. They may be servo operated or manually adjustable type.
* Gear boxes are allowed to correct engines with opposite rotation. Ratio must be 1:1 plus or minus one tooth on one gear only.

9) Minimum weight ready to run without fuel must be 15 lb (6.8 kilo).

*

PADDLEBOAT COMPETITION

A. INTENT AND DEFINITION

1. To encourage and promote social interaction, friendship and fun between the modelers, family members and friends at Regattas (or any other time). Membership in the NZMPBA is not required.

B. "MOTOR" SPECIFICATIONS

1. Any type and/or size of rubber band.
2. Rubber lubricant may be used to enhance performance.
3. Rubber band (s) shall be stretched across the transom between two nails or screws (see illustration).

C. "HULL" SPECIFICATIONS

1. The boat must be constructed from solid wood or solid plywood (no balsa wood or hollow cavities allowed). The shape may be of a builder's own design.
2. The boat hull must be at least 380mm long, 150mm wide amidships and 12mm thick for at least 50% keel line.

a. A keel fin, no deeper than 25mm may be added.
b. No other guidance system will be allowed.

3. The hull may not exceed the minimum dimensions by more than 20%.
4. The paddle must be constructed for wood and have no more than four blades. a. All blades shall be no thicker than 2.4mm.

b. All blades shall be 65mm long and 50mm wide.
c. No blade cupping or modification is allowed (see illustration).

5. No lubricant shall be permitted on the bottom of the boat.

D. RACE SPECIFICATIONS

1. The event will be run tournament style, double elimination, match racing (time permitting).
2. The object shall be to race to the opposite side of the pool before your opponent.

E. "COURSE" SPECIFICATIONS

1. A course length of approximately 7.5m is preferred.

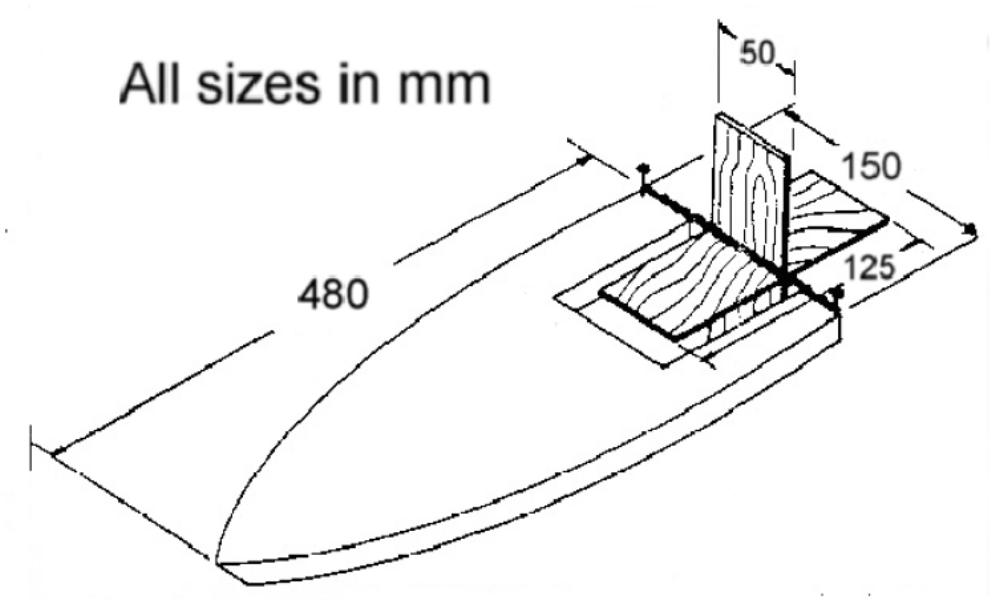
2. A rope may be stretched across the pool, as a finish line, at the proper distance.
3. The finish line shall be the same distance for all contestants (i.e. oval or freeform swimming pools shall utilise a roped 'finish line'.)
4. Re-runs or re-starts shall be allowed only at the discretion of the 'Contest Director', and such allowances shall be announced prior to the beginning of the event whenever possible and be consistent throughout the contest.
5. Proxy driving, Pit persons and Racing Teams are permissible and encouraged, to promote optimum participation, and fun.

F. "CONCOURSE" JUDGING SPECIFICATIONS

1. Builder is encouraged to paint, stain, decorate, or accessories their boats with their Club/Racing Team Colours, designs, numbers: or to attempt to duplicate the design of any full-size boat.

2. " Concourse" awards are recognition may be based on any of the following criteria:

a. Originality/Ingenuity b. Skill/Craftsmanship
c. Scale detailing
d. Humorous



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). There will be a five minute period before the start of the race when there will be a count down prior to a “Le Mans” type start, where all competing boats are situated in their respective pits with dead engines. The count down period and start procedure is as follows:

5 minutes to go: - Boats and radios checked. Radio’s on.
2 1/2 minutes to go: - Boats may be started and engines warmed up. Final adjustments may be made.
1 minute to go: - Dead Engines.

Countdown, 30 seconds prior to the start.

4) As an option 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. Any driver that crosses the start line early must complete an extra lap**.** The Race Director or appointed Observer shall be the sole judge of the starting procedures and cut-off times for the launching of boats, and must announce immediately any boats that have broken the start. Their decision is final.
5) General racing rules shall apply with regard to right of way.
6) The rescue boat must be avoided at all times. Any competitor whose boat collides with a rescue boat shall be disqualified. All boats must be seen to appreciably slow down when passing through the same section of the course as the rescue boat. This slowing must commence at a reasonable distance before reaching the rescue boat. Speed must not be increased until the rescue boat has been completely passed.
7) The event will comprise of two 20 minute heats. Each heat will be in an anti clockwise direction.
8) Most laps accumulated over the two heats determines the winner.
9) No limits on fuel capacity. Fuelling stops allowed.
10) All drivers must use the appropriate pit lanes when entering or leaving the pits. Failure to do so will incur a 1 lap penalty.
11) Boats must be driven at a greatly reduced speed in the pit lanes.
12) All buoys must be rounded.
13) Missed buoys can be re-circled but a 1 lap penalty will apply if a missed buoy is not re-circled.
14) Boats coming into the pits have that lap counted.
15) Any boat stopped on the course may be retrieved by the rescue boat.
16) 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.
17) A dangerous condition may stop the race, which may be restarted when the danger is clear.
18) The stoppage time is not counted as elapsed time.
19) Laps are counted by an appointed lap scorer and at least one observer. They shall keep an accurate record of the laps completed.
20) The lap scorer or observer may be called upon to give an account of any incident.
21) Any hull type is eligible for Endurance racing.

22) For lap scoring purposes each boat shall have 2 rubber fittings or holes 100mm apart 4mm in size to allow a number plate to be carried. In each race the competitor will be supplied with, or may use his own, a white vertical plate, with a size of 100mm x 120mm with 5mm holes in the bottom 100mm apart. On this shall be the competitor's pit number in black of a minimum height of 75mm. The number must be clearly visible to the lap scorers on the front straight. Should the plate become dislodged or broken during the race and/or be unreadable it will be the responsibility of the competitor to ensure that it is repaired or replaced immediately in order for the lap scorers,(who shall not be responsible for missed laps) to identify the boat. See illustration as below.

NOTE:- (As passed at April 2012 AGM,) until there is a nationally recognized movement back to this Endurance Racing event, all Endurance Racing from now on will be Marathon on the Oval course)

DIAGRAM OF THE ENDURANCE COURSE

Note; The course size can be adjusted to suit either the venue or coordinate more easily with other courses in use at the same regatta