

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

(New Zealand Model Power Boat Association Inc.)



Members Handbook

Issue Date April 2010 Website

www.nzmpba.co.nz

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General Racing rules.pdf

Class Racing rules.pdf

Guide to Racing.pdf

Nationals Championships.pdf

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.
 - 21/2 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 cutoff 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.

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.

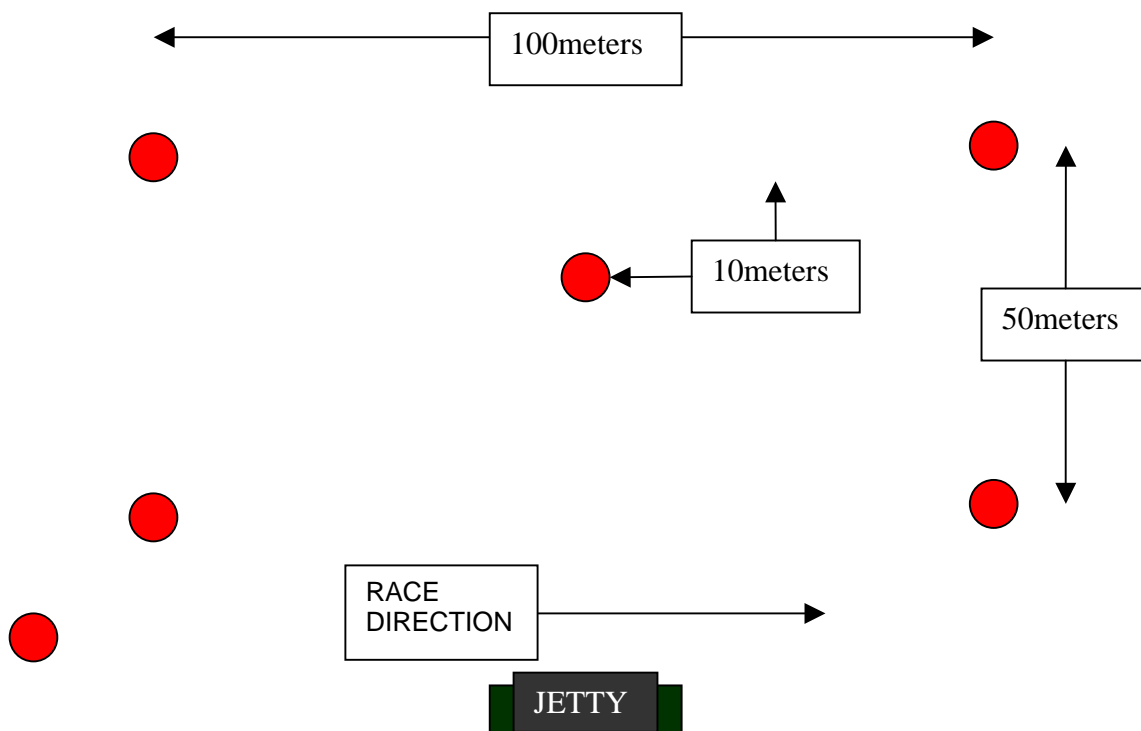
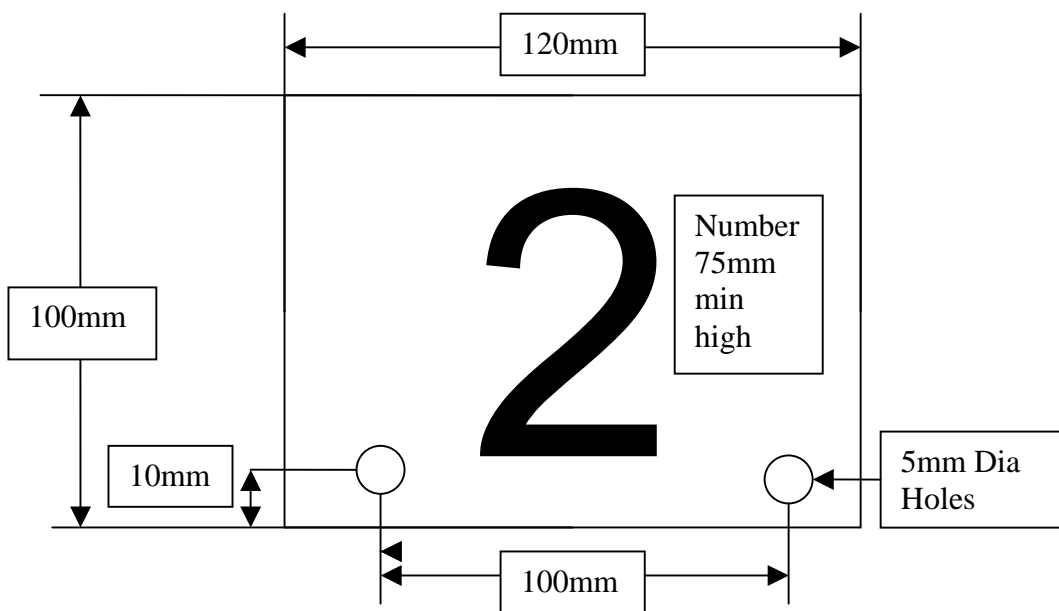


ILLUSTRATION OF NUMBER PLATE.

(Common for Endurance and Marathon Events)



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 upto 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 recircling 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 above.

OFFSHORE

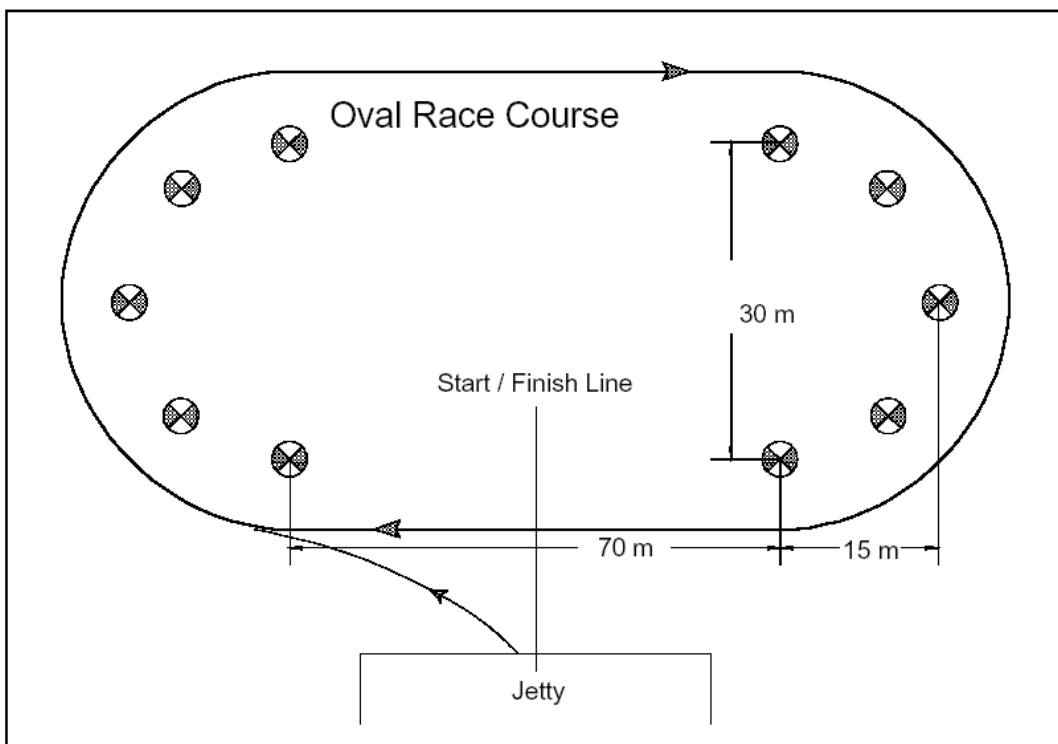
1. This racing is intended to simulate full size offshore racing where a number of boats race for a fixed time.
2. All boats shall have the appearance of full size offshore powerboats (Deep Vee or Catamaran) complete with appropriate colour schemes and detail (name), driver figure/s or a painted enclosed driving position, racing number.
3. The engine and tuned pipe shall be concealed if possible.
4. Normal racing rules and engine classes shall apply where applicable.
5. Monoplane hulls will conform to the deep vee definition.
6. Races may be run in either direction.
- 7 The course will be set out to suit the water available.

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.

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.

- 5) A mill start shall be used. Boats shall mill the whole course.
- 6) The appropriate penalty for touching, cutting or missing a buoy during mill time and race proper will apply
- 7) A jumped start incurs a penalty of one extra lap.
- 8) Absolutely no recircling of buoys missed.
- 9) The Heat Racing Points Scoring System will be used to determine the final placings for each class contested.
- 10) General racing rules shall apply where applicable.
- 11) 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) The race will be run over four laps on the oval course clockwise
- b) Start countdown will be one minute.
- c) Launching Time 30 to 11 seconds
 - i. The 'launch window' is when all boats must start running on the water before this time expires; the last 10 seconds of clock time is a no launch period to the start of the race.
 - ii. Failure for a boat to start running in this time period will result in a "Did not start".
 - iii. Milling will be a half lap mill pattern. The starting device must verbally count down the time in one-second increments
 - iv. Any boat that stops (thermaled) 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.
 - v. Self righting boats if capsized can not resume racing and is classed as stopped.

ELECTRIC CLASS SPECIFICATIONS

N2 LIMITED SPORT HYDRO (N2-LSH 7.4Volt Max)

MOTOR/CELL OPTIONS

- a). Brushless motor 5200kv's or under and "S" 540 can size motor (in-runner), e.g. Feigao 7S, 8S
Motors not allowed in class Neu, Hacker, Mega, Aveox, Lehner
Motor Controller is open
- b). 2S 7.4Volts Lithium Polyer (Lipo) Batteries or 6 cells Ni-chemistry 7.2Volts 1P or 2P 12000mah total 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 optional.
- g). No gear boxes allowed
- h). NZMPBA electric class racing rules will apply (4 Laps max)
- i). Minimum hull length 20 inches. (508 mm)

N2 LIMITED SPORT OFFSHORE (N2-LSO 7.4Volt Max)

MOTOR/CELL OPTIONS

- a). Brushless motor 5200kv's or under and "S" 540 can size motor (in-runner), e.g. Feigao 7S, 8S Motors not allowed in class Neu, Hacker, Mega, Aveox, Lehner
Motor Controller is open
- b). 2S 7.4Volts Lithium Polyer (Lipo) Batteries or 6 cells Ni-chemistry 7.2Volts 1P or 2P 12000mah total 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 optional.
- i). No gear boxes allowed
- j). NZMPBA electric class racing rules will apply (4 Laps max)
- k). Minimum hull length 20 inches. (508 mm)

LIMITED P CLASS HYDRO (14.8Volt Max)

MOTOR/CELL OPTIONS

- a). 12 cell Ni-Chemistry 14.4Volt or Li-polymer batteries (Lipos) 4S1P 12000mah max or 4S2P 12000mah 14.8Volts Max.
- b). Power in this Class will be brushless "L" or "XL" 540 can size motors (in-runner).
Motors not allowed in class Neu, Hacker, Mega, Aveox, Lehner
Motor Controller is open
- c). Ready to run boats (RTR) Aqua Craft UL-Superior and Pro Boat
- d). 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.
- 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 optional.
- h). No gear boxes allowed
- i). NZMPBA electric class racing rules will apply (4 laps max)
- j). Minimum hull length 24 inches. (610 mm)

LIMITED P CLASS OFFSHORE (14.8Volt Max)

MOTOR/CELL OPTIONS

- a). 12 cell Ni-Chemistry 14.4Volt or Li-polymer batteries (Lipos) 4S1P 12000mah max or 4S2P 12000mah 14.8Volts max.
- b). Power in this Class will be brushless "L" or "XL" 540 can size motors (in-runner). Motors not allowed in class Neu, Hacker, Mega, Aveox, Lehner Motor Controller is open
- c). Ready to run boats (RTR) Aqua Craft SV-27 and Pro Boat
- d). Offshore hulls must be a Deep-Vee (16 to 28 degree "V" angle), or 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 optional.
- j). No gear boxes allowed
- k). NZMPBA electric class racing rules will apply (4 laps max)
- l). Minimum hull length 24 inches. (610 mm)

OPEN ELECTRIC (44.4Volts Max)

MOTOR/CELL OPTIONS

- a) 36 cell Ni-Chemistry 43.2Volt or Li-polymer batteries (Lipos) 12S1P or 12S2P 44.4Volts max.
- b) Motor / speed controller type open
- c) Hulls can be Mono, Catamaran, Hydro, Tunnel or Rigger.
- d). Safety Loops and isolating switches are optional.
- e). NZMPBA electric class racing rules will apply (4 laps max)
- f). To be raced by hull type were sufficient entries are obtained

Future Classes Electric

P SPORT HYDRO Brushless Class (14.8Volt max)

- a). 12 cell Ni-Chemistry 14.4Volt or li-polymer batteries (Lipos) 4S1P 12000mah max or 4S2P 12000mah 14.8Volts 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 optional.
- i). NZMPBA electric class racing rules will apply
- j). Minimum hull length 28 inches (710 mm)

P OFFSHORE CLASS Brushless Class (14.8Volt max)

MOTOR/CELL OPTIONS

- a). 12 cell Ni-Chemistry 14.4Volt or li-polymer batteries (Lipos) 4S1P 12000mah max or 4S2P 12000mah 14.8Volts 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 optional.
- j). NZMPBA electric class racing rules will apply
- k). Minimum hull length 24 inches. (710 mm)

1/8th SCALE ELECTRIC HYDRO

- a). Hulls to conform to SUHA/NZMPBA 1/8th scale racing rules (except motor)
- b). 36 cell Ni-Chemistry 43.2Volt or Li-polymer batteries (Lipos) 12S1P or 12S2P 44.4Volts max.
- d). Safety Loops and isolating switches are optional.
- e). NZMPBA electric class racing rules apply
- f) Motor and speed controller open
- g). All boats must be inboard motor powered with an effort made to conceal the motor with fake engine or cowling.

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. Engine belly pans 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 (T-1)

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

1. Engine must be a Stock Standard 231 or 260 PUM Zenoah only. No internal modifications are allowed either by removing or adding material to the engine, with the exception of relieving the side of the piston at ring area to prevent seizing. The cylinder and head assembly must be a single unit (no removable heads and/or head buttons allowed).
2. Any factory issued standard carburetor may be used, WT-603, WT-644, but can be substituted with a stock WT-257 (no modifications).
3. Any exhaust system allowed. All boats must meet current NZMPBA noise rules (87db).
4. The engine must be equipped with a recoil starter and this starter must be the primary means of starting the engine or, belt starting as a secondary means of starting.

MODIFIED THUNDERBOAT (T-2)

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

1. Engine must be a 231 or 260 PUM Zenoah modified only. The Zenoah cylinder and head assembly must be a single unit (no removable heads and/or head buttons), crankcase, flywheel, and coils (grey & red) must be retained. Max engine capacity 27cc.
2. Any carburetor may be used.
3. Any exhaust system allowed. All boats must meet current NZMPBA noise rules (87db).
4. The engine must be equipped with a recoil starter and this starter must be the primary means of starting the engine or, belt starting as a secondary means of starting.

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 of 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, triplets 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 (10.9 cc).

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 driven 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 modelled 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.

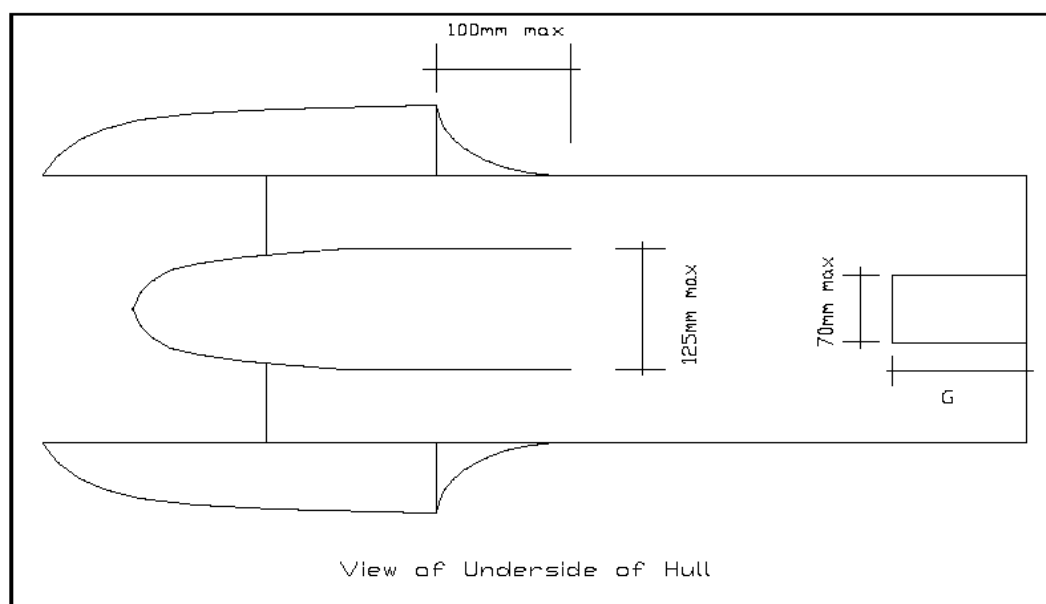
4. Regatta Format.

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.

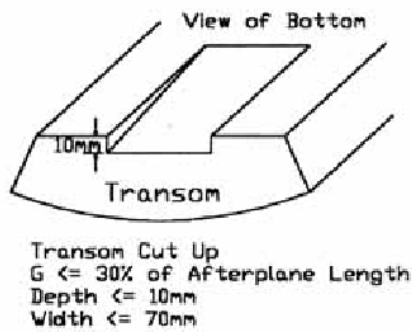
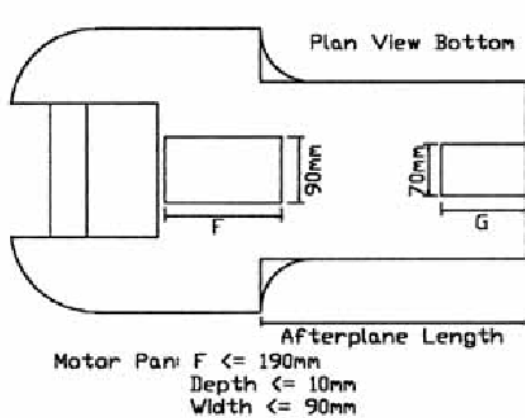
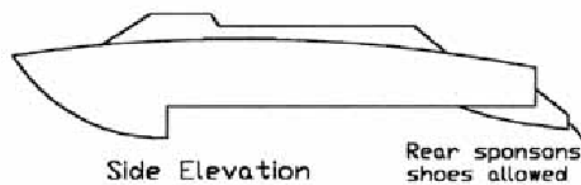
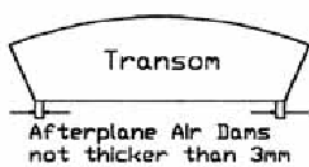
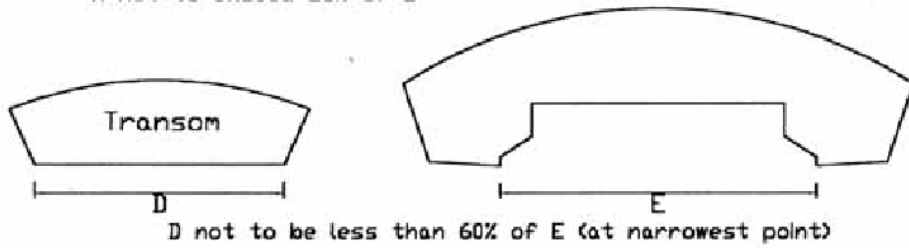
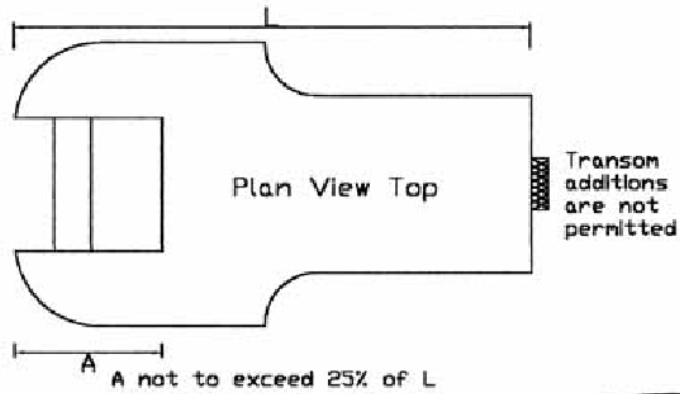
SPORT 45 HYDRO

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 picklefork 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% picklefork 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.

Sport 45 Drawings



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.

1. 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.
2. 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).
3. 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).
4. 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).
5. No individual may hold registration on more than one boat in development stages unless special approval is obtained from the NZMPBA.
6. A two year building time from date of registration will apply, an extension period may be granted at the registrar's discretion.
7. Current owner registration details must be correct at the time the boat competes at any NZMPBA event.
8. Builders/Owners not conforming to the above criteria will not qualify to be entered at any NZMPBA sanctioned regatta.

3 Hull and Engine Requirements.

1. All hulls shall be scales of past or present full sized qualified racing hydroplanes.
2. All models will have a minimum length of 890 mm, measured from bow to transom, excluding appendages.
3. 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.
 - a. Length overall + or - 20 mm
 - b. Beam + or - 10%
 - c. Picklefork Depth + or - 10%
 - d. Afterplane length (3 pt) + or - 10%
 - e. 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.
9. The drive dog may extend beyond the transom, but no more than 50 mm to the front face of the drive dog.
10. Noise level shall be as per the NZMPBA rules (stated elsewhere).
11. 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).
12. Hull or cowl offsets existing on the actual boat may be modeled in reverse (mirror image) if the correct dimensions are maintained.
13. Air Dams and ride plates are permitted.
14. 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.
15. 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.
16. 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 recognise 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.

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 published in PROPSHAFT once a year.

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.

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.

The record 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 organised event / session that the first time/speed is recorded in.

Note: Electric records are exempt from the 2.5 % backup rule.

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.

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.

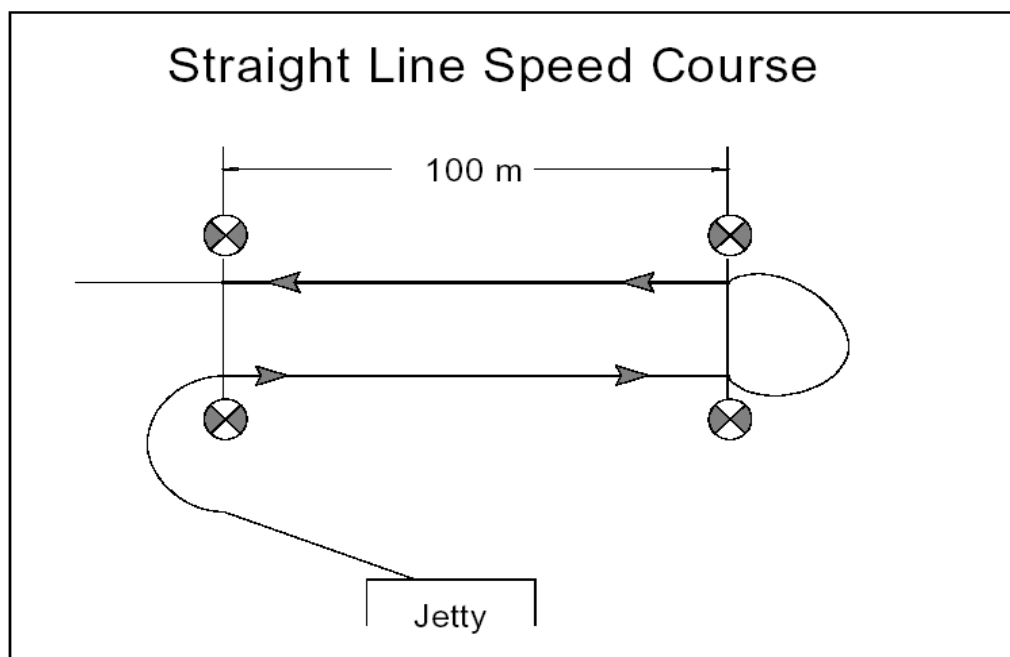
The Event (Speed / Naviga)

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:



SPEED RECORDS AVAILABLE.

	Engine									Electric Classes			
		A	B	C1	C2	P1	P2	P3	Open	LSH	LSO	LPCH	LPCO
Hull													
Mono		☆	☆	☆	☆	☆	☆	☆	☆		☆		☆
Tunnel		☆	☆	☆	☆	☆	☆	☆	☆		☆		☆
Hydro		☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	
OB Mono		☆	☆		☆				☆				
OB Tunnel		☆	☆		☆				☆				
OB Hydro		☆	☆		☆				☆				
Sport 20 Hydro		☆											
Sport 45 Hydro			☆										
B Scale Hydro			☆										
C Scale Hydro					☆ (67)								
Petrol Sport Hydro							☆						
Thunderboat T1							☆						
Thunderboat T2							☆						
Crakerbox						☆							

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.

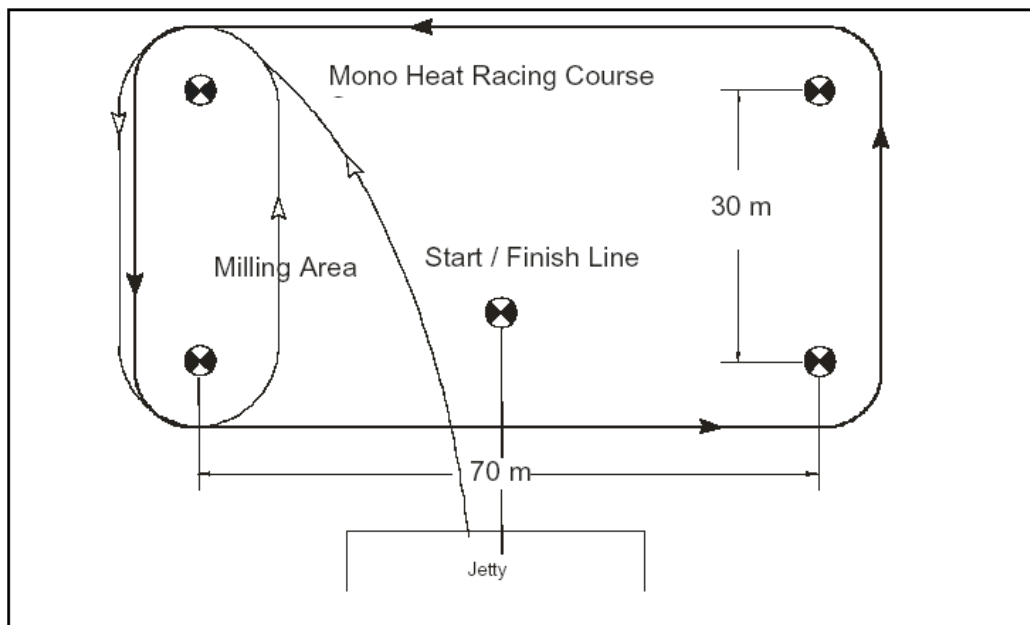
It shall therefore be the host clubs responsibility to notify competitors on their entry form whether their venue operates on a restricted noise level.

INTERNATIONAL SPEED RECORDS shall begin at those records set as at 01 January 2002 in the NZMPBA records book.

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.

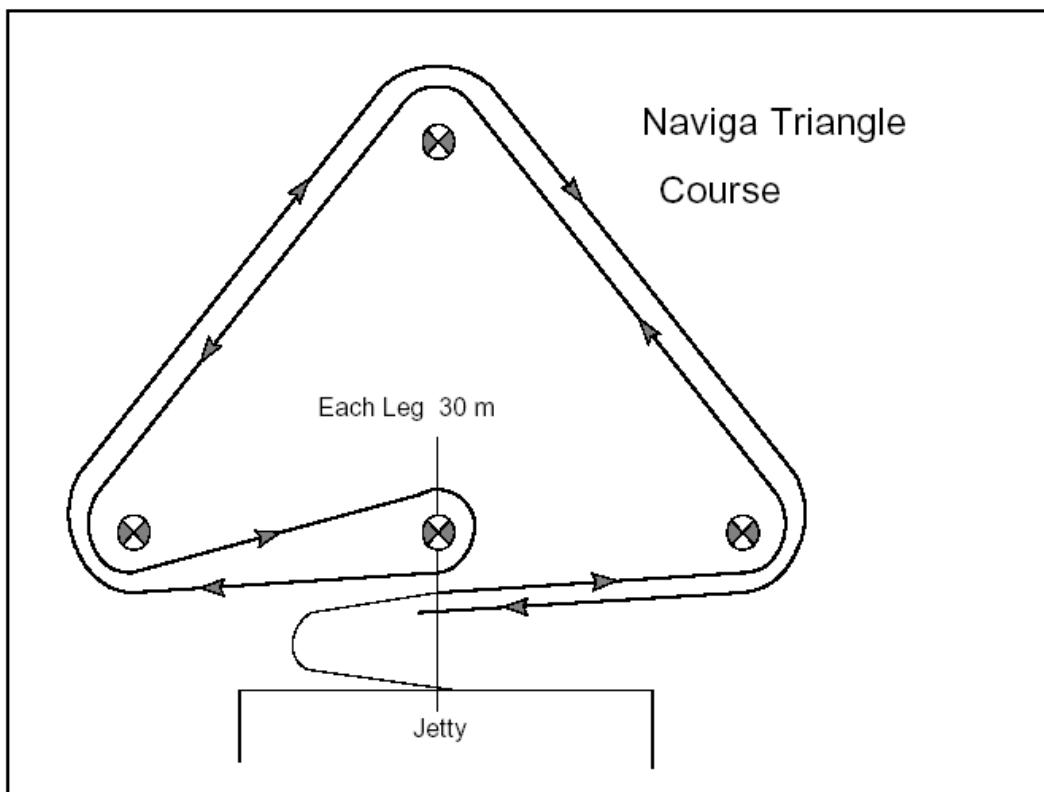


(As at Feb 2009, until there is a nationally recognized movement back to this Mono Heat Racing event, all Mono Sprint Racing from now on will be on the Oval course)

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 illustrated in the following diagram.



STOCK CLASS CRACKERBOX

1. All boats shall be models of the full size crackerbox class.
2. Hull length shall be 1220mm (48 inches) plus or minus 25mm (1 inch).
Beam shall be 432mm (17 inches) plus or minus 12mm (0.5 inch.).
Hull depth to be 120mm (4.75 inches) minimum, at the thickest cross-section measured from the chine up to the highest point of deckline.
3. The bottom of the boat will be flat with no riding surfaces, pads or steps. The chines may be radiused to reduce roll over. Maximum radius not to exceed 10mm. Deadrise 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 fiberglass only. Definitely no exotic materials such as carbon fibre 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 drivetrain specifications:
 - * Any commercially available 2 stroke engine with up to 23cc 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 91 to 96 octane 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 driveshaft 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 rubberband.
2. Rubber lubricant may be used to enhance performance.
3. Rubberband (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.

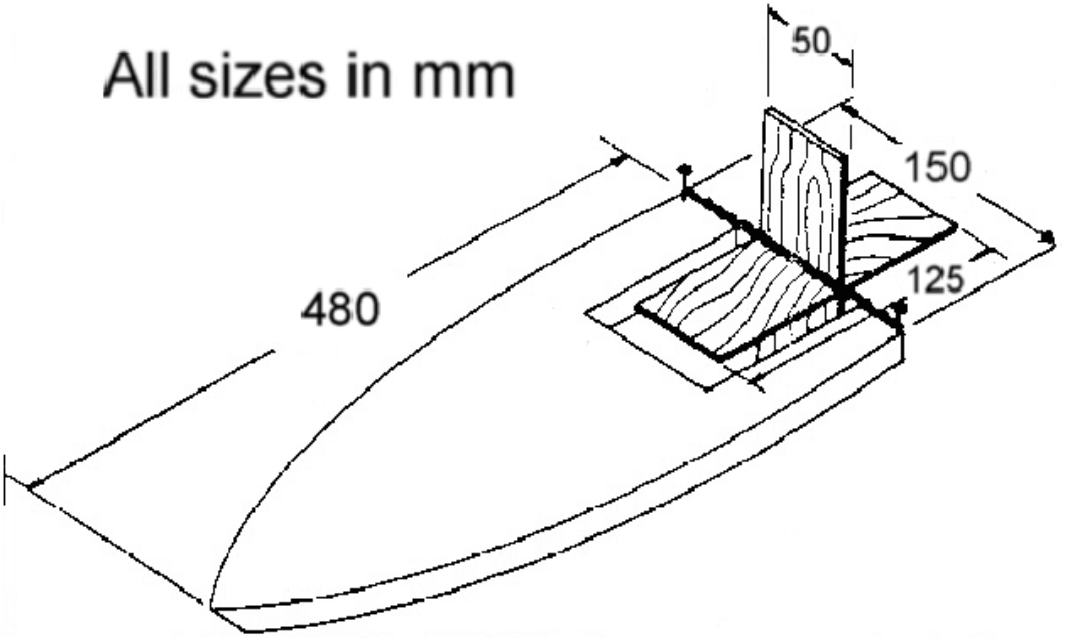
E. "COURSE" SPECIFICATIONS

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 fullsize 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



Paddleboat Diagram