	North American Model Boat Association	Update #	**2007-1**
	Official Rule Book – Update	Date	**2/28/07**

Enclosed you will find the latest Rule Book updates. To keep your Rule Book current and up to date, please make the page replacements listed below. If you feel that you have missed any updates please call the Executive Secretary to get an additional copy and/or for clarification of current revisions.

Section	**Summary of changes**
Table Of Contents Remove pages: v - vi *(dated 8/1/06)* Insert pages: v - vi *(dated 2/28/07)*	Reflect updates to sections listed below
7 - Rule Changes Remove pages: 1 - 2 *(dated 3/15/06)* Insert pages: 1 - 2 *(dated 2/28/07)*	Addition of new rule by the Board of Directors after A.2.d, that indicates proposals will be reviewed by the Board of Directors for proper wording and consistency prior to being sent to the membership for voting. Along with updating of the wording in the new rule A.2.f to flow better.
21 - Scale Unlimited Hydroplane Remove pages: 1 - 4 *(dated 3/15/06)* Insert pages: 1 - 4 *(dated 2/28/07)*	Updating by the Board of Directors of rules C.1 and E.3.a to no longer reference APBA, thus allowing those Unlimited Hydroplanes that have run since the split away from APBA to be run in this class.

(continued on next page)

	North American Model Boat Association	Update #	**2007-1**
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28 - Electric Remove pages: 1 - 17 *(dated 8/1/06)* Insert pages: 1 - 18 *(dated 2/28/07)*	Addition/updates of rules passed via proposals on 1/31/07: - Proposal #1: Change to Power and Class Specifications - Proposal #2: Restrictions on paralleling allowances for packs - Proposal #3: Restrictions on capacity allowances for packs - Proposal #4: Defining 1/8th Scale Unlimited power - Proposal #5: Addition of 1/6th mile course
B - Hall Of Fame Remove pages: 11 - 12 *(dated 3/15/06)* Insert pages: 11 - 12 *(dated 2/28/07)*	Addition of members inducted at the 2006 Nationals.

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A. RULE MODIFICATIONS

1. Non-Racing Rules and Safety Regulations

    a. May be amended by the Board of Directors as deemed necessary to provide for the smooth operation of NAMBA and for the safety of its members as well as compliance with current insurance guidelines.

    b. This action by the Board of Directors can be accomplished by a vote by phone, mail, or email, and may occur at any time during the year.

    c. All board members must be notified of any proposed changes prior to a vote, and must be given ample opportunity to cast their vote. Proposals will be approved by a simple majority of the Board.

    d. Should the Board decide that the change under contemplation has a significant effect on the day to day boating of the members, they may elect to place the item before the membership for a general vote.

2. Racing Rule Additions, Deletions, or Changes

    a. Proposed rule changes must be submitted to the District Director in the district in which the submitting member resides.

    b. Upon receipt of said proposal, the District Director will put the matter to a vote within his district. This vote can occur at any time during the year as deemed appropriate by the Director but should be handled in a timely manner. The exact method of said vote can be handled in whatever manner is normally followed for voting within that particular district.

    c. Upon successful passage of the proposal within the district, the district director will forward the proposal to the NAMBA office along with a statement by the District Director that the proposal has passed within his district and that the district desires to have the proposal sent to the general membership for voting.

    d. Proposals may be submitted to the NAMBA office at any time during the year as long as the previous three steps have been adhered to.

    e. After receipt of a proposal by the NAMBA office, it will be sent to the NAMBA Board of Directors. The Board will review the proposal to insure proper wording and consistency with other already existing rules.

f. After the Board of Directors has reviewed the proposal the NAMBA office will send out the proposal to the membership for voting. The proposal will normally be sent out with the next regular mailing of the newsletter, but special mailings may be utilized if deemed necessary. In addition, the proposals and ballots may be made available to the membership by publication on the NAMBA web page.

g. Members will be given adequate time to receive the ballot, consider the propositions, and cast their votes. Normally a period of 45 days from the date mailed would be considered ample time for this to take place.

h. Only members in good standing at the time of the vote will be permitted to vote. All classifications of members will permitted to vote, including adult members, family members, and junior members.

i. Members will be permitted to return their votes to the NAMBA office by mail, fax, or email as long as it is able to be adequately determined that the vote is coming from a member in good standing and as long as the vote is received by the voting deadline.

j. The NAMBA office will receive and compile the votes. The NAMBA office may designate another entity to receive and compile the votes should this be deemed necessary.

B. MEMBER NOTIFICATIONS

1. The NAMBA office will inform the membership of the result of the vote by publication in the next newsletter and by publication on the NAMBA web page.

2. Updated rules will be posted on the NAMBA web page and updated pages of the rule book will be sent as defined in Section 5 - rule A.2.

C. EFFECTIVE DATES

1. Proposals which have been approved will take effect immediately after they are published by NAMBA on the web page or in the Propwash, unless it is deemed by the Board of Directors that such immediate action will have an unfair effect on the members. In such cases, ample time will be given before implementation for the members to comply with the new requirements.

2. New classes will be eligible for inclusion in district and national events as soon as they have been approved by the membership and published by NAMBA. All categories of NAMBA records may be set in these new classes as soon as the rules have officially been implemented.

A. GENERAL RULES

1. Scale Unlimited Hydroplane racing rules are intended as a supplement to the general racing rules of NAMBA. In the case of a conflict, the Scale Unlimited Hydroplane racing rules will prevail.

2. The purpose of the class is to duplicate the unlimited class of hydroplanes as closely as possible.

3. The National Scale Unlimited Hydroplane Chairman will coordinate and communicate the business of Scale Unlimited Hydroplane competition with the individual district Scale Unlimited Hydroplane Chairmen.

4. The Scale Unlimited Hydroplane Contest Board will be made up of the National Scale Unlimited Hydroplane Chairman and a representative from each NAMBA district. The Scale Unlimited Hydroplane Contest Board reserves unto itself the power of decision in all matters of duplication or conflict.

B. RACE FORMAT

1. At the discretion of the Contest Director, races will be run either under the NAMBA Heat Racing format or the "love plan" which is run as follows:

    a. The event must consist of four preliminary rounds of heats and one final round of concluding heats. The concluding round of heats must consist of one final heat sometimes called the "main" and may include a maximum of two semi-final heats sometimes called the "semi-main" and/or "consolation/trophy" heats.

    b. The division of boats into heats for the four preliminary rounds will occur by random draw. The drawing of boats into heats for round one will occur immediately following the driver's meeting and before heat racing begins. A drawing of boats into heats for rounds two through four will occur in the presence of owners and drivers, if possible.

    c. The boats with the highest points after the four preliminary rounds will be eligible for the final heats. The number of boats eligible for the final heats is six. If a frequency conflict exists between two or more boats eligible for the final heats, preference goes to the boat that has accumulated the most points in the preliminary rounds, or to the boat with the fastest time should a tie in points occur. The other boat will have the option to change to any other available frequency.

d. After the final field has been set, the next lower boat will be designated as an alternate starter for the final heat should one of the boats in the final heat field fail to start.

e. After the final heat field has been set, the boats not qualified for the final heat will be used to fill the "semi-main" and/or "consolation/trophy" heat(s).

f. The outcome of any of the "semi-main" and/or "consolation/trophy" heats will not affect the overall standings or points for the day.

g. Final race standings will be determined by order of finish in the final.

C. HULL SPECIFICATIONS

1. All boats will be models of past or present Unlimited Hydroplanes that are listed on the Scale Unlimited Hydroplane Master Hull Roster.

2. Boats are to be built on a scale of 1½ inches equals 1 foot of the actual boat (1/8th Scale).

3. The true scale dimensions of any Scale Unlimited Hydroplane will be derived from the unlimited dimensions listed on the Scale Unlimited Hydroplane Master Hull Roster. Boats will measure within the following tolerances of the true scale size, excluding appendages.

   a. Overall Length …….. ± 1 inch

   b. Beam…….……± 10%

   c. Maximum Depth……...± 10%

   d. Afterplane Length (three point design)…..……± 10%

   e. Tunnel Width……± 10%

4. Boats will be painted, configured, and detailed like the actual unlimited as it ran on the water. The acquisition of documentation validating a paint scheme, cowling configuration, engine configuration, or other scale details will be the responsibility of the boat's owner. Photographs of the boat are an acceptable form of documentation.

5. Boats will enter competition complete with cowlings(s) and driver(s). If any of the removable parts fall off the boat during competition, except as a result of a collision, that boat will be awarded no higher than sixth place points in that round upon completion of the heat. This penalization only affects the points that are awarded and not the finishing placement of the boat which incurred the infraction. The placement of and points awarded to other boats in the heat are not affected by this ruling.

6. The boat's engine will be concealed by either an engine cowl, fake engine (Allison, Rolls, etc.), or both.

7. Tuned pipes and mufflers must be concealed under the deck or cowl as well as possible.

8. The number of props and rudders will coincide with that of the original full sized unlimited hydroplane.

9. Outdrive units and outdrive engine(s) are prohibited unless the full sized boat after which the boat is being modeled had an outdrive or outdrive engine(s), in which case the model must be configured like the full sized boat.

10. The propeller drive dog may extend one drive dog length beyond the transom.

11. The boat bottom/sponson profile will be the same general appearance as that of the full sized unlimited hull it represents with the following exceptions:

    a. Sponson riding surfaces may be modified.

    b. Propeller shafts may be articulated.

    c. Rudders and skid fins may be configured and located as desired.

D. ENGINE SPECIFICATIONS

1. The engine must conform to NAMBA Class C specifications, see Section 10 – rule A.1.

E. MASTER HULL ROSTER

1. The Scale Unlimited Hydroplane Master Hull Roster will contain the name and details that identify each boat that may be built for Scale Unlimited Hydroplane competition. It will contain the principle dimensions of each boat that is listed, if known.

2. The National Scale Unlimited Hydroplane Chairman will be responsible for compiling, interpreting, updating, and distributing the official Scale Unlimited Hydroplane Master Hull Roster. The official Scale Unlimited Hydroplane Master Hull Roster may be purchased for $5 and must be signed and dated by the National Scale Unlimited Hydroplane Chairman. He will make an updated roster available by January 31st of each year. The updated Master Hull Roster will be posted on the NAMBA web page.

3. Boats must meet the following criteria to be placed on the Scale Unlimited Hydroplane Master Hull Roster:

    a. The full sized boat must have been registered with an unlimited hydroplane racing association.

    b. The registered boat must have made at least one verifiable test run in the water.

4. The Scale Unlimited Hydroplane Master Hull Roster will include the name, address, and telephone number of the National Scale Unlimited Hydroplane Chairman, all District Scale Unlimited Hydroplane Chairmen, and all known manufacturers, builders, photographers, plan makers, etc. which are helpful in building Scale Unlimited Hydroplanes.

F. SCALE CONCOURS JUDGING

1. All boats are to be judged from six feet off (stand off scale). A picture must be supplied to the contest director for each boat entered in the concours judging.

2. Any boat entering the concours judging must, at a minimum, start one heat of the race in order to be eligible for the concours award.

3. Judging will be based upon a point system as follows:

   a. Documentation

      i) 0-20 points - Photograph(s)/Presentation

      ii) General Appearance

      iii) 0-10 points - Workmanship

      iv) 0-10 points - Engine, exhaust, and radio gear concealment

   b. Detail

      i) 0-10 points - Engine/cowl detail

      ii) 0-10 points - Driver detail

      iii) 0-10 points - Cockpit detail

   c. Paint Job, Markings, Etc.

      i) 0-10 points - True colors

      ii) 0-10 points - Scale of markings, decals, lines, numbers

      iii) 0-10 points - Overall finish

A. GENERAL RULES

1. Electric racing rules are intended as a supplement to the general racing rules of NAMBA. In the case of a conflict, the Electric racing rules will prevail.

2. A positive method of speed control must be used. On/Off micro or variable speed controls are allowed.

3. The following battery chemistries will be considered official for electric racing in NAMBA:

    a) Ni-chemistry: maximum of Sub-C sized cells with nominal 1.2 volt per cell.

    b) Li-polymer chemistry: nominal 3.7 volts per cell.

    c) Li-ion chemistry: nominal 3.3 volts per cell.

    Racers wishing to run alternative chemistries to those listed will be required to provide data to the contest official to verify the chemistry's volts per cell and any special safety requirements. Allowing alternative chemistries will be at the discretion of the Contest Directory based on the data provided.

    For the purposes of determining maximum allowances, a "pack" will be considered any number of cells in series whose min/max nominal voltage falls within the allowed nominal voltage range for the designated class.

    Note: It is recognized that the high energy potential of modern cells can poses a potential for danger, both to racers and to their pit equipment. It is therefore required that each racer keep in their charging area the appropriate safety equipment at events where alternate battery chemistries are being used. This may include fire extinguishers, safe charging enclosures, sand buckets, etc. Additionally, the hosting clubs may provide additional equipment, charging procedures, and/ or charging areas as they see fit.

4. Hull Measurement Guidelines

    a) When a hull minimum or maximum length measurement is specified for any class, that hull will be measured by placing two vertical straight edges at the furthest points fore and aft of the bow and transom of the hull. The distance between those two vertical straight edges will be measured. Hardware will not be included in the measurement.

    b) The hull will be placed between those two vertical edges and situated in the same horizontal position in which the hull would ride on the water. Any flanges, "shoebox" overhangs or other parts of the hull that are part of the original manufacturing process will be included in the measurement.

c) A hull may be lengthened to comply, but material additions must become an integral part of the hull structure. If for instance, material is added to the transom, the entire transom must be lengthened and the addition must be blended in to the rest of the hull.

B. OFFICIAL COURSES

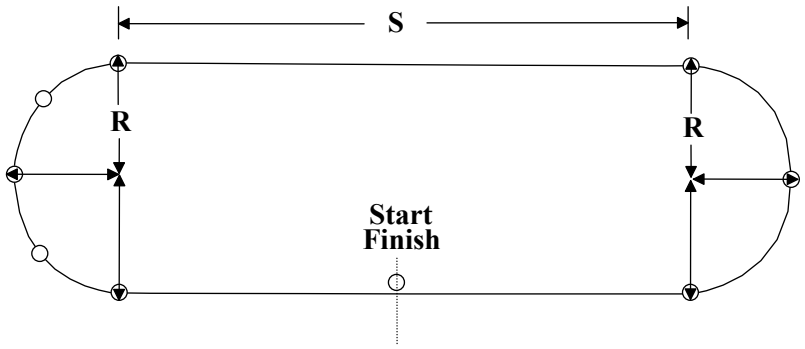
1. Oval

a) A minimum of three to a maximum of five buoys will be used to define the turns on both ends of each course.

b) Turn radius (R) will be measured to the outside of the buoys (Figure 1).

c) Straightaways (S) will be measured from the exit buoy at one end of the course to the entrance buoy at the other end of the course (Figure 1).

Figure 1 - Standard Oval Course



d) Standard oval course lengths are 1/10 Mile, 1/8 Mile, and 1/6 Mile, with specific straightaway and turn radius for each as shown in Table 1 below.

Table 1 – Course Measurements

Course	Straightaway (S)	Radius (R)	One lap distance	Sample Race Distances
1/10 Mile	170'	30'	528.5'	5 laps = 1/2 Mile 10 laps = 1 Mile
1/8 Mile	220'	35'	660'	4 laps = 1/2 Mile 5 laps = 5/8 Mile 8 laps = 1 Mile
1/6 Mile	330'	35'	880'	3 laps = 1/2 Mile 4 laps = 2/3 Mile 5 laps = 5/6 Mile 6 laps = 1 Mile

e) Separate NAMBA Fast Electric Heat Racing records on each course will be maintained for the following distances:

i) For N1 and Crackerbox, 5 laps on 1/10 mile oval, both 4 and 5 laps for the 1/8 mile oval, and 4 on the 1/6 mile oval.

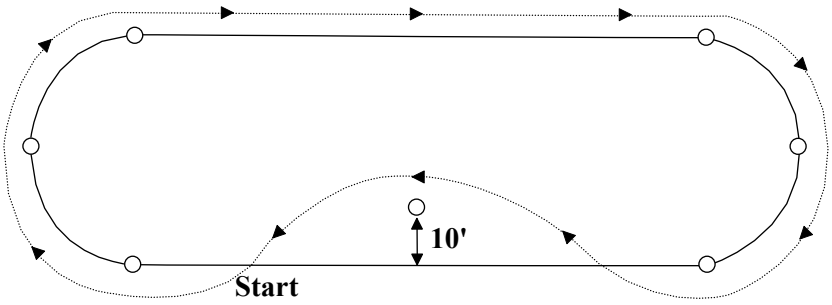
ii) For LSH and LSO (if run on an oval), the record distance will remain 1 mile on each course.

iii) For all other Hydro and Mono classes: 5 laps on the 1/10 mile oval, 5 laps on the 1/8 mile oval, and 4 laps on the 1/16 mile oval.

2. M Offshore

a) Course will be a standard oval with a left turn buoy which will be placed halfway down the middle of either the front or back straightaway and 10 feet inside the course (see diagram).

"M" Offshore Course

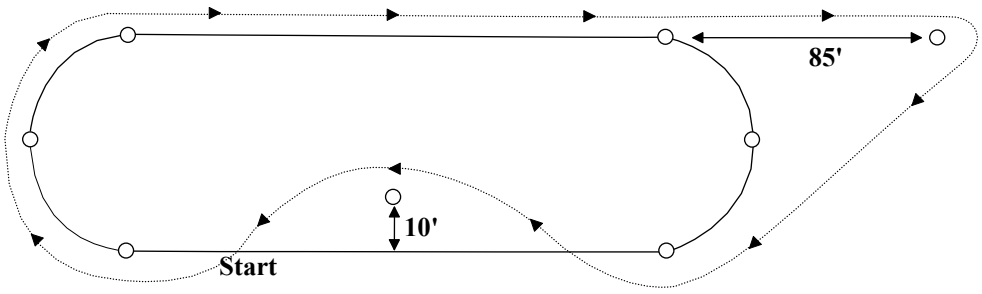


3. Offset Offshore

a) Same as the "M" course with the addition of an "Offset Buoy". The Offset Buoy will be positioned in line with either the front or back straightaway, and 85 ft. from any of the course's 4 outside turn buoys.

This diagram is provided as example and illustrates the right rear offset with the left turn buoy in the front straightaway.

Offset Offshore Course



4. Straight-line

    a) Racing will utilize the standard NAMBA 1/16 mile straight-line course.

5. Nationals Course Format

    a) The host club for the annual Fast Electric Nationals may choose any oval course for the Nationals. That choice of course must be specified on all entry information which is disseminated prior to the event.

    b) Race distances for the Nationals will be the same as the respective record distances indicated in rule B.1.c in this section. N1 and Crackerbox race lengths will be at the host club's discretion.

C. RACE FORMAT

1. Launches - Hand launching or dead-in-the-water launching will be at the driver's discretion.

2. Starts - Two types of starts will be permissible for heat racing. The choice of start format is up to the individual district or Contest Director.

    a) Flying Clock Start

        i) The clock system used may be a visual clock or an audio tape type clock.

        ii) An audible sound or statement will start the Pit Time. Pit Time will be one minute, and a horn or audible sound will signal the end of this time period.

iii) Clock Time (Mill Time) will commence immediately upon the expiration of Pit Time, and will last for 30 seconds. At 10 seconds, no more boats will be allowed to be launched. Any boat launched after this time will be ordered off the course and will receive a "Did Not Start" for that heat.

iv) All boats will leave the launch area and will go to the left of the start buoy and to the right of the buoys in the left end of the course. All boats will then utilize a 3/4 mill during Pit Time and during Clock Time.

v) The start of the race will be at the end of Clock Time when the countdown reaches zero. All stop watches will be started at this point, and will be stopped when the driver finishes the required laps.

vi) All boats coming from the right turn at the start of the race will adhere to the five second rule. All boats jumping the start will proceed around the complete course to the start line for a legal start. No boat may be stopped on the course for the purpose of waiting in order to better time the start. A disqualification will be given for this infraction.

b) LeMans Start

i) The official start of the heat will be a signal from the Contest Director.

ii) All stop watches will be started at the signal, and will be stopped when the driver finishes the required laps.

iii) All boats will race toward buoy one and two on the left end of the course, and will continue around the course to the start/finish line. This will constitute the completion of the first lap under power.

D. CLASS SPECIFICATIONS

1. POWER SPECIFICATIONS

a) The following motor and cell configurations will be considered official for electric racing in NAMBA:

M-2 A single .05 motor with brushes, any endbell, ferrite magnets. Power Limits: 1-4 Ni-chemistry cells are permitted.

N-1 Any ROAR-approved stock .05 motor as defined by current ROAR parameters. Power Limits: 1-6 Ni-chemistry cells are permitted.

N-2 Any single motor, any endbell, bearings, and magnets. Power Limits: 7.5 Volts maximum, any chemistry. Maximum of 2 packs in parallel. Maximum capacity of 10,000 mAh.

O Any amount and/or size of motors, any endbell, bearings, and magnets. Power Limits: 7.6 to 10 Volts nominal, any chemistry. Maximum of 2 packs in parallel. Maximum capacity of 10,000 mAh.

P Any amount and/or size of motors, any endbell, bearings, and magnets. Power Limits: 10.1 to 15 Volts nominal, any chemistry. Maximum of 2 packs in parallel. Maximum capacity of 10,000 mAh.

Q Any amount and/or size of motors, any endbell, bearings, and magnets. Power Limits: 15.1 to 22.5 Volts nominal, any chemistry. Maximum of 2 packs in parallel. Maximum capacity of 10,000 mAh.

S Any amount and/or size of motors, any endbell, bearings, and magnets. Power Limits: 22.6 to 30 Volts nominal, any chemistry. No limit on paralleling of packs. Maximum capacity of 12,000 mAh.

T Any amount and/or size of motors, any endbell, bearings, and magnets. Power Limits: 30.1 to 40 Volts nominal, any chemistry. No limit on paralleling of packs. Maximum capacity of 12,000 mAh.

b) All of the above classes may be further divided into various hull types. For specifications on these hull types see Section 11. Other specialty classes may be added from time to time.

2. SPORT HYDRO CLASSES

a) GENERAL RULES

i) This SPORT HYDROPLANE section as it pertains to the fast electric rules takes precedence over any other reference to sport or scale hydroplane specifications in any other areas of the NAMBA rulebook.

ii) Boats will be checked for rule compliance prior to racing.

iii) Any boat not passing the technical inspection or violating the spirit of the rule will be disqualified.

b) APPEARANCE AND INTENT

i) The intent of this class is to simulate or resemble the appearance of Unlimited and/or Limited three-point, full-bodied hydroplanes as raced full scale.

ii) Boats which do not resemble real full-scale designs (i.e. outriggers, modified outriggers, canards, tunnels or catamarans) will not be allowed to race as Sport Hydroplanes.

iii) Exceptions to paragraph 2b as well as the technical specifications of paragraph 3 will be allowed if a hull is a commercially available scale model or a model closely resembling a full scale hydroplane that raced for more than one season. Examples: Proboat Miss Budweiser, H&M Bud Twin Wing, BBY War Eagle, DPI and H&M T-Plus.

iv) The deck, cockpit, tail and/or fin configuration may be changed to keep the boats interesting. Fictitious teams may be created within the spirit of the past and present Limited and Unlimited Hydroplanes.

v) The boat shall have a painted driver figure in open cockpits, or a real or simulated windshield for enclosed cockpits.

vi) The boat must be painted in the spirit of Limited/Unlimited racing. Each boat must have a sponsor's name or logo affixed to the hull. This sponsor will be of the builder's choice and can be a fictitious entity. Each boat will also display race numbers of the driver's choice affixed to each side of the hull or deck.

vii) The boat must have the driver's NAMBA membership number displayed above the at-rest waterline on the hull in numbers a minimum of 1/4" tall in a manner so as to be visible to an onlooker.

viii) The boat may be purchased ready built, modified from an existing hull, or scratch built from any suitable material generally used in model boat construction.

c) HULL SPECIFICATIONS

i) There are no hull length limitations, unless specified under specific class rules.

ii) All riding surfaces (drive train and prop not included) must be in the front 50% of the total hull length.

iii) A single triangular (from side profile) stuffing box for the driveline will be allowed as long as its primary purpose is to house the driveline and dimensions don't unreasonably exceed that purpose.

iv) Ride pads and/or steps are allowed but must be an integral part of the sponson design.

v) Picklefork hulls shall not have open areas ahead of the aft edge of the sponson riding surface totaling more than 25% of the total hull length.

vi) No boat shall have an afterplane* greater than 60% of the total length of the boat. The afterplane will be measured from the back of the front sponson planing surface to the transom. Note: The afterplane is the entire main hull aft of the sponsons; i.e. the "fuselage".

vii) The width of the transom bottom shall be no less than 65% of the width between the inside edges of the front sponson planing surfaces. An exception to this will apply to scratch build scale designs of full sized boats that are full bodied 3 points hydroplanes but have an afterplane that tapers sharply at the transom. Example: Lauterbach shovelnoses.

d) DRIVE TRAIN

i) The drive train is entirely at the modeler's discretion, including location of the drive dog and strut, if used.

e) MOTOR SPECIFICATIONS

i) The model shall conform to the individual class rules for power parameters (see table below):

Class Name	Power Limits
N2 Sport	N2
O Sport	O
P Sport	P
Q Sport	Q
S Sport	S

f) Q & S SPORT SPECIAL RULES

i) Q and S Sport boats may compete together in heat racing until such time as the number of entrants warrants otherwise.

ii) Although Q and S may be run together, heat racing records will be maintained separately for Q Sport and S Sport.

iii) When running combined:

(a) They shall be considered a single class for trophies and points

(b) A competitor may enter only a single boat in the combined class

g) LIMITED SPORT HYDRO

i) General Rules

(a) This class will comply with the existing rules for Sport Hydro (see rule D.2 in this section) except as specified in the specific rules that follow.

ii) Hull Specifications

(a) Minimum hull length will be 24 inches.

iii) Motor Specifications

(a) Power in this class will be limited to a single motor commonly referred to as a "Speed 700 class" motor. Specifications for these motors are as follows:

(i) Can Length: 66 to 67 mm (2.598 to 2.638 inches).

(ii) Can Diameter: 42.2 mm (1.661 inches). This excludes option torque ring.

(iii) Fixed endbell

(iv) Fixed brushes

(v) Ball bearings and bushings are legal

(vi) No modifications may be made to the motor. Except for normal wear, it must be run as shipped from the manufacturer.

(b) Current motors known to conform to these specifications include Graupner 6306, Graupner 6316, Fine Design FD-EM 775, Robbe power 700 9.6, MPI ACC373 Promax 700, Hopf Viper 700 QC 9.6 Volt Neodym-Race 66mm, Hopf Viper 700 QC 12 Volt Neodym-Race 66mm, Hopf Viper 700 XLG 9.6 Volt 66mm

(c) Current motors known to be illegal because the can is too short include Hopf Viper 700 QC 9.6 Volt RS-Neodym 60mm and Hopf Viper 700 QC 12 Volt Neodym 60mm.

(d) Power is limited to 9-12 Ni-chemistry Sub-C cells (no cells larger or smaller will be permitted). Sub-C will be defined as 23mm diameter and 43 to 44 mm long.

iv) Race Format

(a) The standard NAMBA electric oval course will be used. In the absence of a legal course, any oval format may be used. However, records may not be set on such a course.

(b) Heats will consist of 10 laps.

(c) Experienced racers are strongly urged to consider the skill level of the opponents when running in this class, since the intent is to encourage less skilled racers to have success.

(d) The contest director is strongly urged to consider the experience level of the individual contestants when judging the race and to make calls accordingly.

3. OFFSHORE CLASSES

a) OFFSHORE

i) General Rules

(a) Electric Offshore racing rules are intended as a supplement to the general racing rules of NAMBA. In case of a conflict the Electric Offshore racing rules will prevail.

ii) Hull Specifications

(a) Offshore hulls must be a Deep-Vee (16 to 28 degree "V" angle) or 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.

If a hull is not a Deep Vee or a Catamaran, then there must be proof that the hull type it resembles actually did race as a full scale offshore boat. The boat must look like an authentic Offshore APBA / SBI / UIM hull from a distance of 10 ft. (See rule D.3.a.ii.c in this section below for guidelines.) Photographic proof will be the required as evidence that the hull complies with guidelines set forth in this paragraph.

(b) Stepped hulls and flat keel ride pads will be allowed on both Deep Vee and Catamaran type hulls.

(c) Closed cockpits must have windshields. Windshields can either be clear, tinted or colored. Open cockpits must have drivers. Boats are to be decorated with paint and or by graphic applications (decals) which must include at least two real or fictitious sponsors.

(d) All boats must have numbers printed or painted on the hulls above the waterline. They can be either fictitious race numbers or NAMBA membership numbers. They should be as clearly visible in relation to the size of the hull as they would be on a full-size race boat.

iii) Engine Specifications

(a) Power parameters for the five Offshore classes will be the same as those outlined in the class specifications for N2, P, Q, S, and T, rule D.1 in this section.

iv) Race Format

(a) The length of each heat will be in two minute increments. For NAMBA record purposes the standard length will be four minutes.

(b) A flying clock start as described in rule C.2.a in this section or Le Mans start as described in rule C.2.b in this section.

If a Le Mans start is the chosen method, all boats in the heat are to be lined up in the water, at the shore, pointed at the first buoy. The Contest Director will insure that all boats are equally spaced parallel to each other so that no boat has an advantage over another.

Each driver's pit person will keep a minimum of one hand on the boat until the CD starts the heat with a short verbal or recorded countdown. (3, 2, 1, Start!, for example.) The pit person will keep the boat stationary and is not allowed to generate ANY forward motion either before or after the official start.

(c) Driving will be in accordance with all NAMBA Rules of Racing.

v) Penalties

(a) Jump starts will incur a one lap penalty. One lap will be deducted from the total lap count of the offending racer.

(b) If a Le Mans start is used, any boat that is in forward motion and not manually restrained and kept stationary before the start will be accessed a one lap deduction from that boat's total lap count.

(c) If a boat passes another boat after the official time has expired, the pass will not count. The includes passes caused by any movement including drifting and/or coasting

vi) Race Courses

(a) Clubs and events may choose between two offshore courses:

(i) Offset Offshore Course - see rule B.3 in this section

(ii) M Offshore Course - see rule B.2 in this section

(b) Record Courses

(i) Records will be maintained for performances on both courses.

(ii) Records are awarded to the person with the lowest elapsed time after at the completion of the first 10 laps in a single four minute heat. The record setting boat must finish the full four minute heat for the record to be recognized.

(c) Awards

(i) Awards will be presented in each class based on the total number of laps accumulated in three heats.

(ii) Offshore points may be used for team points and high points awards at the discretion of the host club.

(iii)At the hosting club's discretion, Offshore Team Points may be awarded as follows:

a) Boats will be awarded points based on where the boat is positioned on the course when the official time expires. Points schedule will be as described in the Section 18 - rule J.1. The lead boat will receive 400 points, 2nd 300, 3rd 225, etc.

(iv) Also at the hosting club's discretion, an "Offshore Champion" award may be awarded to the individual racer with the most accumulated laps over all Offshore classes run. In the event there is a tie then it will be awarded based on point system for team points (rule D.3.a.vi.c.iii in this section).

b) LIMITED SPEC OFFSHORE (LSO)

i) General Rules

(a) The intent of this class is an attempt to create a fun and economical class in which participants of all skill levels have an enjoyable racing experience as well as a reasonable chance at success.

ii) Hull Specifications

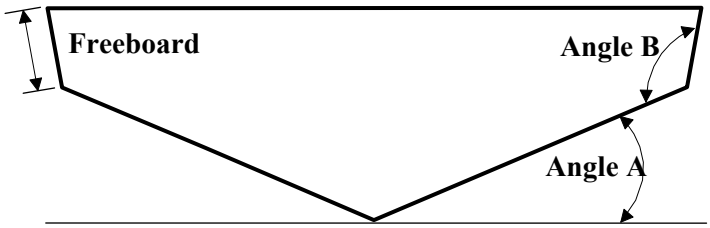
(a) LSO hulls must be a Deep-Vee or catamaran type hull.

(i) On a Deep Vee, the deadrise angle must be between 16 and 28 degrees as measured at the transom. (Angle A in hull drawing.)

(ii) The intersection of the bottom and the side at the chine must not exceed 125 degrees as measured at the transom. (Angle B)

(b) Minimum hull length is 25 inches.

(c) Freeboard, as measured at the tallest point on the side of the hull, will not be less than 1".



(d) Steps are allowed on both hull types.

(e) All efforts should be made to color and number hulls in the spirit of real offshore racing. However, this class is intended to be stand-off scale class. Fun and the inclusion of as many racers as possible are the primary objectives.

iii) Motor Specifications

(a) Power in this class will be limited to a single motor commonly referred to as a "700 series" motor. Specifications for these motors are as follows:

(i) Can Length: 66 to 67 mm (2.598 to 2.638 inches).

(ii) Can Diameter: 42.2 mm (1.661 inches). This excludes option torque ring.

(iii) Fixed endbell

(iv) Fixed brushes

(v) Ball bearings and bushings are legal

(b) No modifications may be made to the motor. Except for normal wear, it must be run as shipped from the manufacturer.

(c) Current motors known to conform to these specifications include Graupner 6306, Graupner 6316, Fine Design SS1, Fine Design FD-EM 775, Robbe power 700 9.6, MPI ACC373 Promax 700, Hopf Viper 700 QC 9.6 Volt Neodym-Race 66mm, Hopf Viper 700 QC 12 Volt Neodym-Race 66mm, Hopf Viper 700 XLG 9.6 Volt 66mm

(d) Current motors known to be illegal because the can is too short include Hopf Viper 700 QC 9.6 Volt RS-Neodym 60mm and Hopf Viper 700 QC 12 Volt Neodym 60mm.

(e) Power is limited to 9-12 Ni-chemistry Sub-C cells (no cells larger or smaller will be permitted). Sub-C will be defined as 23mm diameter and 43 to 44 mm long.

iv) Race Courses

(a) Clubs and events may choose between five courses

(i) 1/10 Mile Oval Course – see rule B.1 in this section

(ii) 1/8 Mile Oval Course - see rule B.1 in this section

(iii) 1/6 Mile Oval Course – see Rule B.1 in this section

(iv) M Offshore Course - see rule B.2 in this section

(v) Offset Offshore Course - see rule B.3 in this section

v) Race Format

(a) The length of each heat will be 10 laps for all three courses.

(b) Either a flying clock or Le Mans start, as described in rule C.2 of this section, may be used.

(c) Driving will be in accordance with all NAMBA racing rules.

vi) Penalties

(a) Jump starts will incur a one lap penalty.

vii) Records

(a) Records may be maintained for performances on all three courses.

viii) Awards

(a) Should an event award a "High Points Offshore Champion" or "Offshore Team Points" award, this class should not be included in the calculation for those awards.

4. SPECIALITY CLASSES

a) 1/10 SCALE CRACKERBOX

i) Purpose - To duplicate in 1/10 scale the American Power Boat Association Crackerbox One Design Runabout.

ii) Hull Specifications

(a) Hulls must be within 1/8 inch of the appropriate hull.

(b) The deck/hatch must resemble that of the full scale hull.

(c) The boat must be pained in the spirit of a racing scale model. Each boat will have the driver's NAMBA number preceded by the letter "P".

(d) Two drivers of scale-like appearance must be used in the driver/rider compartment. The driver must have orange colored helmets and live jackets.

(e) The dead rise of the transom will be 3/8 of an inch in total (3/16 of an inch per side), with a transom width of 6 3/8 inches.

(f) Drive Train

(i) A single motor will be coupled directly to a straight drive shaft. A flex shaft may be used in a straight tube.

(ii) The propeller may not extend beyond the back edge of the transom.

(iii) Steering will be by a rudder mounted under the hull or attached to the transom.

iii) Motor Specifications

(a) Power parameters for this class will comply with class "N-1" specifications.

iv) Race Format

(a) Heat racing format will be used.

(b) The Contest Director will determine the scoring format, i.e. total points or a "winner take all" final heat format.

b) P OPC TUNNEL

i) General Rules

(a) Electric Outboard Racing Rules are intended as a supplement to the general racing rules of NAMBA. In the case of conflict the Electric Outboard racing rules will prevail. Electric Outboard racing rules are not intended as a supplement to the NAMBA Outboard racing rules and as such must not comply with any of the rules therein.

ii) Hull Specifications

(a) Hull must be an outboard tunnel type hull.

iii) Motor Specifications

(a) All boats must have motor mounted outboard of the hull. No inboards will be allowed.

c) ECO

i) Purpose - to provide an "economical" electric class utilizing affordable and readily available 05 motors and economical hardware.

ii) General Rules

(a) These ECO Class electric racing rules are intended as a supplement to the general and Electric racing rules of NAMBA. In the case of a conflict, ECO class rules will prevail.

(b) This class will comply with the existing rules for electric Offshore with exceptions as specified below.

iii) Hull Specifications

(a) This class will comply with the existing rules NAVIGA ECO class.

(b) Boats must use a submerged drive with the rudder pivot forward of the transom.

(c) There is no minimum or maximum hull length.

iv) Motor Specifications

(a) A Limited Modified class utilizing any NORCA approved motor as defined by current NORCA 19T Limited Modified rules. 1-6 cells are permitted.

(b) Any ROAR-approved stock motor as defined by current ROAR parameters. 1-6 cells are permitted.

(c) Motors must be in accordance with current NORCA rules for 19T Limited Modified Motors, or with ROAR motor rules for stock motors. From 1 to 6 Sub-C cells only are permitted; any battery chemistry is allowed.

v) Official Courses

(a) The course size for records will be the standard electric Offshore course.

(b) In the absence of a legal Offshore course, the host club may use any oval format desired. Records may not be set on such a course.

(c) The host club may elect to use a NAVIGA Triangle course as defined in current NAVIGA rules.

(d) Straight-line racing will utilize the standard NAMBA 1/16 mile straight-line course. Straight-line records must be set using cells described above.

(e) Record Courses

(i) Must be a NAMBA 1/10 mile electric course.

(ii) The left turn entrance buoy is to be located 45 feet from each turn exit buoy.

(iii) The left turn exit buoy is to be located 45 feet from the left turn entrance buoy.

vi) Race Format

(a) The length of each heat will be in two minute increments (i.e. four, six, eight, etc). When time is called, boats will race to the Start/Finish line to determine the final positions.

(b) A flying clock start or a Le Mans type start may be used.

d) ELECTRIC SCALE UNLIMITED HYDROPLANE

i) General Rules

(a) Electric Scale Unlimited Hydroplane rules will follow the Scale Unlimited Hydroplane rules (see Section 21) with the exception of the following:

(b) Electric Scale Unlimited Hydroplane rules are intended as a supplement to the Electric general rules. In the case of a conflict with the Scale Unlimited Hydroplane rules (see Section 21), the Electric rules will prevail.

ii) Motor Specifications

(a) Power parameters for this class shall comply with class "T" specifications.

Jim Whitlatch - Inducted 2001
Jim began running tether hydroplanes in 1951. While living in the Los Angeles area, Jim was a member of the Modeleers. In 1966, Jim became a contributing editor of *RC Modeler Magazine*. writing technical articles and coverage of NAMBA/IMPBA Nationals. After relocating in the Bay Area in the 70's, Jim became a member of the Model Mariners. Jim has won numerous National championships and has set records in straight-line speed and oval competitions.

Al Waters - Inducted 2003
Al joined NAMBA in 1989. He served two terms as District 19 Director, is currently the NAMBA Scale Hydro Chairman, and was elected NAMBA Vice President in 2002. Al created the District 19 web page and still serves as webmaster. Al was the Co-Contest Director of the 25th Anniversary Nats that boasted almost 1000 entries. Al has been an ambassador for NAMBA, attending races in different districts and different organizations.

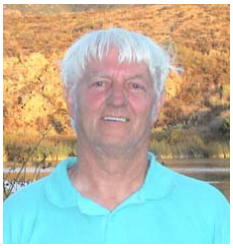
Mark Anderson - Inducted 2004
Mark started model boating in 1977 at the age of 12 and has been going strong ever since. He served as the Director for District Eight for several terms. One of Mark's true loves is the Sport Hydro class and he has previously served as the NAMBA Sport Hydro chairman. District Championships are numerous for Mark. In addition, he has won many championships at the Nationals. Mark served as the overall CD for the 1998 and 2002 Nationals. Mark is always willing to share his boating expertise and has helped many new boaters become competitive.

Charles Fondacaro - Inducted 2004
Chuck first joined NAMBA in 1970 in Southern California. In 1972 he was part of the committee that petitioned NAMBA to hold a large national event. This event became the first NAMBA Nationals and set the stage for many more to come. In 1993 he was part of the group that held the first NAMBA sanctioned gas race. Chuck won several district gas class championships as well as winning several national championships. Chuck has also served as the District 19 Gas Chairman.

Dave Rychalsky - Inducted 2005
Dave has served as the Director for District One and as the District One Outboard Chairman. He has also served as the Contest Director for the 1993 and 1999 NAMBA Nationals. He has won several district and national championships. Dave was recently appointed to the newly created post of Nationals Chairman. In this position he will lend his Nationals CD experience to districts hosting the Nats. Dave has also contributed many articles to the *Propwash*, and is probably best remembered for his series of humorous "My First…" articles.

Jim Wilson - Inducted 2005
Jim Wilson is a long time District Nine boater and member of the Model Mariners. He has served numerous stints as club Commodore and Contest Director. Jim has served as the District Nine Rule and Technical Chairman, and is looked to for his knowledge and understanding of our hobby. He has won numerous National Championships. He has also won over 40 district championships. He is always helpful to other boaters, doing what he can to make sure that they get on the water.

Tony Rhodes - Inducted 2006
Tony Rhodes started his model boating career in District 19 in 1990. Tony served as the District 19 Outboard Chairman for six years and as the District Director for two terms. He took on the job of NAMBA Vice President in 2006. Tony has always been competitive in any class that he entered, winning numerous district and Nationals championships. Not only has Tony attended many NAMBA Nationals, usually entering over15 classes, but he also was the Contest Director for the 2004 Nationals that were held at Legg Lake in Los Angeles.



Joe Monohan - Inducted 2006
Joe has been racing in District 19 for over 30 years. While he is mostly known as an outboard racer, he has also had forays into the inboard and scale classes. Joe recognized the need for custom boat parts, especially for the outboards, and created 707 Specialties. His parts have helped many model boaters become more competitive. He also was active in R&D work with K&B in the development of various outboard engines. Joe has been the longtime President of the Prop Nuts Model Boat Club and has hosted many District 19 races over the years.