

# **OFFICIAL RULE BOOK**



**North American Model Boat  
Association International,  
Incorporated.**

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**1-10      NAME**

This association shall be known as the **NORTH AMERICAN MODEL BOAT ASSOCIATION INTERNATIONAL, INCORPORATED;** hereinafter called "**NAMBA INTERNATIONAL.**"

**2-10      DEDICATION**

NAMBA shall be dedicated to the progress and expansion of model boating through fellowship, sportsmanship, and competition, and shall be dedicated to the aid and development of youth and youth activities.

**3-10      MEMBERSHIP**

The membership shall consist of Clubs and individuals interested in the advancement of model boating.

3-12      District lines may be altered by the Executive Board after due notice to the members in said Districts.

3-13      Each member shall automatically become a member of the District in which he resides.

3-14      A District must have at least 1 (one) Club before it can have its Director seated on the Board of Directors.

3-15      Every contestant entering a NAMBA competition must show written evidence of current NAMBA membership.

3-16      NAMBA members must wear their NAMBA numbers on their backs and have their NAMBA numbers on their boat(s) for easy identification. Minimum number sizes shall be 1 - 1/2" on the back, and 1" on the boat (Exception: Scale and Offshore, which may use 1/4" numbers).

**4-10      OFFICERS**

Any member in good standing, except those of minor age (17 or under), may hold an elected office.

4-30      The President, Vice President, and Directors shall be elected on October 25 by letter ballot postmarked no later than October 25. A majority of all votes cast shall be necessary to be elected.

4-40      An elected officer's term of office shall begin November 1, following the election.



- 4-50 The members of each District may vote for and elect only the Director from their District, the President, and Vice President.
- 4-60 The President and Vice-President shall hold office for a term of 2 years, and must have been a District Director for at least 1 (one) year prior, but not necessarily immediately thereto, before taking office.
- 4-61 In the event of the incapacity of the President to act in his office, the Vice President shall act as President Pro Tem for the remainder of the term. In event of the incapacity of the President and Vice President to act in their offices, the Executive Board, comprised of the Directors, shall elect 1 (one) of their members to act as President Pro Tem until an election can be held to fill one or both vacancies.
- 4-70 A Director's term of office shall be 2 years. District Director of odd-numbered Districts are to be elected in odd-numbered years, and Directors of even-numbered Districts are to be elected in even-numbered years.

**5-10 APPOINTED OFFICES**

The President may establish any committee and appoint the members thereon to serve during his term of office as may be required. All persons so appointed must be members of NAMBA in good standing.

**6-10 EXECUTIVE SECRETARY**

The Executive Secretary shall be appointed by the Executive Board.

**7-10 NOMINATIONS**

The Executive Secretary shall receive the nominations for all elected offices no less than 55 (fifty - five) days prior to the elections.

- 7-11 Nominations of any elected officer shall be accompanied by a petition signed by 10 (ten) members in good standing and a declaration of acceptance by the nominee. Closing date for nominations shall be September 1.

- 7-12 In the event there are not 10 (ten) members in a District who can sign the nomination papers, a proportionate number of signatures from that District will be required.

**9-10 BOARD MEETINGS**

The President may call Executive Board meetings at any time deemed necessary or 1/3 (one third) of the Board members may request a special meeting. If necessary, such business may be conducted by mail or conference telephone call. If conducted by mail, all members of the Board must receive exact copies of all correspondence.

- 9-11 All proposals voted on must be submitted in accordance with the procedures set forth in Section 10-10.
- 9-12 The annual meeting of the Board of Directors shall be held during the NAMBA Nationals.
- 10-10 AMENDMENTS**
- The Constitution, By-Laws, and Rules of Competition shall be amended in the following manner by a simple majority.
- 10-11 Proposed rule changes must be submitted to the District Director. The District Director must submit the proposal to all Clubs in his District. Only upon the majority of votes cast by the polled Clubs, can the District Director submit the Rule Change to the NAMBA Office for vote by the general membership.
- 10-12 Upon successful clearance of proposals, the Director will then send 500 (five hundred) typewritten copies of the proposal with a \$5 filing fee to the Executive Secretary for distribution in the monthly newsletter.
- 10-13 NO proposals will be submitted for the next calendar year after the September newsletter is published. All proposals shall take affect on January 1 of the following year.
- 10-14 The Board of Directors will have until the 25th of the second month following publication in which to vote. A simple majority shall decide the question. The President shall decide all tie votes. The vote will be published in the second monthly newsletter following publication.
- 11-10 MONTHLY NEWSLETTER**
- 11-11 The official newsletter shall be published monthly insofar as possible and shall be distributed to the membership as follows:
- 1 copy to all NAMBA International officials;
  - 1 copy to each registered Club.
- Individual subscriptions shall then be made available at a nominal cost.
- 11-12 NAMBA Corporate Officers shall be composed of 9 officers: President, Vice President, Executive Secretary, (all of whom are members in good standing of over 10 years). The remainder to be selected from the general membership.

NAMBA Corporate Consultants include John Brodbeck and Don C. Coad.

- 11-13 Official NAMBA information published in said newsletter such as records, amendments, etc., shall be considered official notification to the general membership.

**12-10 DISTRIBUTION**

The official NAMBA Rule Book shall be distributed every odd year in January to all members.

- 12-11 All up-dates, corrections, and additions shall be sent to all Clubs in January of even years. These changes will become an official part of the Rule Book as provided for elsewhere.

- 12-12 Conflict of Interest - No NAMBA District Director or National Chairman shall also be a Director or National Chairman of another boat organization.

**20-10      MEMBERSHIP**

Membership in NAMBA shall be obtained in the following manner:

- 20-11      A person wishing membership in NAMBA may do so upon application either through his NAMBA Club or direct to the Executive Secretary.
- 20-20      A Club's request for membership renewal should be accompanied by a list of its members, their addresses, previous NAMBA numbers, primary running site, list of officers, and the mailing address of the Club's secretary. The Secretary and the President of a NAMBA Club must be members of NAMBA.
- 20-21      A Club may register at a rate of \$15 per year or become a chartered NAMBA Club by having all of its members join NAMBA and paying a fee of \$10.
- 20-30      Dues shall include insurance under the auspices of WAM, Inc.
- 20-31      Total dues shall be contingent upon the insurance premium. Changes in dues shall be included in renewal notices each year and shall not necessitate a constitutional amendment.
- 20-32      In order to retain your same NAMBA number each year, you must register before January 1 of every year. After January 1, all numbers are declared open and re-issued.
- 20-33      Membership in NAMBA is a proof of right to enter any NAMBA Sanctioned Contest.
- 20-34      Junior members must belong to a NAMBA Club.
- 20-35      NAMBA individual memberships shall be available for an extra nominal cost that will include a copy of the official publication.
- 20-36      The current membership fee shall be paid per calendar year per Club and/or individual, and will not be prorated for a portion of a year.

**21-10      DUTIES OF THE OFFICERS**

The duties of NAMBA Officers shall be as follows:

**21-20      PRESIDENT**

The President shall be the presiding member of the Executive Board. The Vice President shall assist the President in his executive duties.

21-21      The President shall call Executive Board meetings as required by Section 9-10.

21-22      The President shall be allowed up to \$400 per year, and the Vice President up to \$200 per year, to make telephone calls for official NAMBA business, which will be paid from the General Fund upon presentation of telephone bills.

**21-30      DISTRICT DIRECTORS**

21-31      Shall have a working knowledge of all Clubs in his District.

21-32      Shall have a personal knowledge of all Secretaries of Clubs in his District.

21-33      Shall act as coordinator of all activities in his District.

21-34      Shall review all contest date requests and resolve conflicting dates within his District.

21-35      Shall have the power to suspend or revoke sanctions at a contest for safety violations, and may reinstate same when the situation is rectified within his District.

21-36      Shall submit a complete report in writing to the President on all such threatened or actual action at a contest.

21-37      Shall develop and institute a continuous recruitment program for members and Clubs, and provide advice for new Clubs.

21-38      Shall appoint an Assistant Director to assist him or to act on his behalf at a contest he cannot attend.

21-39      Any Assistant Director so appointed shall have the same powers as the District Director.

21-40      Shall call at least 1 (one) meeting per calendar year of all delegates in his District.

**21-50      EXECUTIVE SECRETARY**

The Executive Secretary shall receive all correspondence directed to NAMBA and route to the proper NAMBA officials.

21-51      Shall issue memberships, sanctions, insurance, accept dues, keep records, and issue certificates of recognition.

- 21-52 The distribution of all dues and monies received shall be a financial report given quarterly.
- 21-53 A copy of the "Declaration" (summary) page(s) of the NAMBA insurance policy signed by the insurance company, shall be provided to the President and the District Directors each year.
- 21-72 It is the duty of the Executive Board to withdraw membership from anyone guilty of ungentlemanly or unsportsmanlike conduct.
- 21-73 Voting power of the Executive Board shall be limited to 1 (one) vote per member. A majority vote shall constitute an Executive Board decision unless otherwise set out in the Constitution and By-Laws.
- 21-80 NATIONAL CHAIRMAN**
- The President shall appoint all National Chairman to serve during his/her term.
- 21-82 The National Chairman have no vote on the Board of Directors, but shall provide facts, attitudes, and advice to the President and Board in order to inform our elected officials of "grass roots" desired from the members who actually take part in the area of question.
- 21-83 The Chairmen are encouraged to attend the Annual Board Meeting at the NAMBA Nationals to offer specific input prior to voting. The President shall consider the Chairman as the link between our elected officials and those interested in the subject in the advisory capacity.
- 21-84 District Directors shall appoint District Chairmen from within the District to link the National Chairman to the various Districts.
- 22-10 VACANCY**
- In the event that the President and/or Director resigns, the unexpired portion of the term shall be filled by the procedures set up in Section 7-10.
- 22-20 IMPEACHMENT**
- 22-21 In the event no nominations are received from an expiring elective office, the incumbent shall retain office until such time as 1 (one) nomination can be obtained and an election held or one is appointed by President. An elected office may be removed from office in the following manner:

A petition for impeachment must be signed by at least 20 (twenty) NAMBA members in good standing (only 1 signature per family). The petition shall be filed with the Executive Secretary. The petition must list the reasons, problems, or other violations involved. The petition is then forwarded to the NAMBA Executive Board. If the Executive Board agrees with the reasons for impeachment, they will authorize the Executive Secretary to conduct a vote, as per the following procedures:

- 1) The Executive Secretary mails ballots to all members involved voting signatures shall be from members of only that District). If it applies to a National Office, then ballots will be mailed to all NAMBA members in good standing.
- 2) Ballots returned to Executive Secretary for counting.
- 3) Ballots will then be sent to the NAMBA Executive Board for verification.
- 4) In case of a majority vote for dismissal of the Officer, the Officer will be informed of the results of the vote by the Executive Secretary.
- 5) If this applies to a District Officer, a replacement will be appointed by the NAMBA President to fill the balance of his/her term.
- 6) The dismissed Officer shall turn over to the newly-appointed Officer all funds and accounting statement of funds received and expended, plus any paraphernalia such as hats, patches, etc., that may be in his/her possession.

22-22 In case of vacancy by impeachment, the President Pro Tem shall instruct the Executive Secretary to set up new elections for that office at the earliest possible time.

22-23 In the event no nominations are received for an expiring elective office, the incumbent shall retain his office until such time as 1 (one) nomination can be obtained and an election held or 1 (one) is appointed by the President.

22-24 If any elective office is so filled, the term shall expire at the same time it normally would have had the office been filled in the normal manner.

**23-10 PARLIAMENTARY LAW**

Parliamentary Law shall be in accordance with Roberts Rules of Order. The Constitution and By-Laws of NAMBA will supersede any such parliamentary law.

**24-10      DISTRICT ORGANIZATION**

24-11      Each Club, having a minimum insured membership of 5 (five) or more, shall have 2 (two) votes at a District Meeting, to be cast by the Club's Secretary and/or Delegate in person. A representative can only represent 1 (one) Club, and cannot be counted as a member of other Clubs for membership representation.

24-12      Nothing in this document shall prohibit any District from raising and maintaining their own funds.

24-13      Fee schedule for events shall be set by the District and shall be uniform throughout the District.

24-14      At the District Meeting, agenda items will take precedence over business from the floor.

**24-15      MEETINGS**

Each District shall hold, but not limit to, 1 (one) annual meeting of its members per year, for the purpose of transacting business pertaining to its District and/or NAMBA organization.

**25-10      COMMUNICATIONS**

All official communication to NAMBA shall be through the Club's Secretary or elected delegate. Communications from NAMBA shall be to the Secretary for presentation to the proper Club Officials or directly to individual members or through Section 10-11.

25-20      All forms submitted must be properly executed and accompanied by the appropriate fees.

**26-10      DISTRICT CHAMPIONSHIP CONTEST**

26-11      Sanctions shall be limited to 1 (one) per year, per Club, for races for championship points with dates spaced to ensure optimum attendance.

26-12      Points received at Championship Races shall be doubled when applied to a District Championship Race.

26-13      No 2 (two) championship races are to be held on the same weekend.

26-14      Classes and events shall be approved at the Annual District Meeting held the prior year.

26-15      Contest sanctions shall be granted only for holidays or weekends, so that others may have a chance to attend.



**27-20      ANNUAL NAMBA NATIONAL CHAMPIONSHIPS**

There shall be a NAMBA Nationals held each calendar year. It shall be a minimum 7-day meet, with a guarantee of 4 (four) heats per class. No sanction is to be issued during the Nationals of the week before.

27-21      Overall CD, Assistant CD, and all individual event CDs shall meet the minimum requirements for a CD as set forth in Section A.1) of the Power Boat Rules, whenever possible. In addition, the District Director for the Club holding the annual Nationals shall certify that these persons are capable of performing the required duties.

27-22      Bids for the annual Nationals shall be in the hands of the President at least 13 months in advance.

27-23      Clubs bidding for the annual Nationals which have never had the National Championship Meet before, shall receive preferential consideration.

27-24      The next NAMBA National Championship shall be announced at the Annual Awards Banquet concluding the current National Meet.

**27-25      EVENTS DEFINED**

27-26      To be classified as a Nationals, all NAMBA events should be offered.

27-27      National events, programs, etc., shall be approved by the NAMBA President and Board of Directors. Milling procedure shall be advertised on the entry form and shall be anything less than a full course type.

27-28      In case of any controversy involving the Nationals, the President or Contest Director will have the final authority in its disposition.

27-29      All events, etc. associated with the NAMBA Nationals shall meet all NAMBA requirements.

**27-30      DISTRICT CLUB TEAM**

Teams shall be limited to a minimum of 2 (two) and a maximum of 8 (eight) members. They must all be from the same District. They must be registered as a Team before the beginning of the first race. Entry fee for the team shall be \$2 per member. NAMBA will present the District Club Team Patch to each member of the winning Team. Clubs may enter as many teams as they wish.

**28-10      SANCTIONS**

A sanction is a protection to the contestants and an assurance that the rules and regulations of NAMBA will be impartially enforced.

- 28-11 The Contest Director must be a NAMBA member in good standing.
- 28-20 A sanction is an authorization or approval of a certain event which binds the holders of the event to comply with NAMBA Rules and Regulations, and guarantees that the result of said event will be recognized as official.
- 28-30 It shall be customary to protect Clubs who have fulfilled all sanction obligations of the corresponding dates in subsequent years within each District.
- 28-33 Sanctions will not be granted on the same dates for events within such distance of each other that the sanctioning officials have reason to believe that the success of either contest or race might be jeopardized. Sanctioned Championship Point Contests will take precedence over all others.
- 28-34 Sanctions will be granted when approved and signed by the District Director and sent to the NAMBA office not less than 90 days prior to a contest. Sanctions for Championship Points Contest must be applied for prior to January 1 of the year in which it is to be held. Sanction for Record Trial only will be granted by the Executive Secretary with not less than 30 days prior to application.
- 28-35 Sanctions must be accompanied by the prescribed fees and be on proper forms.
- 28-36 AWARDS**
- The members of clubs affiliated with NAMBA shall be allowed to accept merchandise, trophies and cash to be used for competitive awards.
- Any NAMBA member shall receive earned Racing Awards. However, the awarding of District Points shall be left to the discretion of the District in which the race is held.
- 28-37 Sanctioned Club Contests shall be defined as a race or series of races where prizes or awards are given to competitors for participation in a race in accordance with NAMBA Rules of Competition.

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# **SAFETY REGULATIONS**

## **GENERAL SAFETY REGULATIONS**

1. NAMBA members must have their NAMBA numbers on their boats and their backs for easy identification. R/C combat ships do not require numbers on boats or members. Every contestant entering NAMBA competition must show proper evidence of current NAMBA membership.
2. Every driver must have a pit person at all times, whether in practice or during a contest, who is also a NAMBA member and who is aware of all course conditions and NAMBA regulations. R/C combat ships do not require a pit person or separate observer.
3. Only NAMBA members are allowed in the pit area. No persons other than those running a boat, those assisting with the running of a boat, or contest officials shall be permitted in the pit area. For R/C combat the pit defined as the shoreline of the pond/lake. Other specific crowd control requirements are contained in the specific R/C Combat rules listed below.
4. All persons in the pit area, those driving a boat, or those launching or retrieving a boat, must at all times wear shoes which cover the entire foot.
5. No alcoholic beverage consumption or illegal drug use is permitted while a NAMBA member is operating or assisting in the operation of a model boat, whether in practice or during a contest. Use of these substances by contest officials is also strictly prohibited.
6. Reasonable and proper provisions shall be made for crowd control and for the safety of other members and spectators. Model boats shall not be operated when anyone is in the water, except for those members who may be in the water near the pit area to launch or retrieve a boat. R/C Combat members may be in the water under certain circumstances. See specific rules regarding this in the specific R/C Combat rules listed below.
7. No buoys shall be set on the course closer than 50 feet to any shoreline. This may be reduced to 30 feet when the adjacent shoreline is such that a boat cannot travel more than its own length out of the water. This rule does not apply to R/C Combat.
8. A retrieve boat may not be in the water at any time when a model boat is running in the water. For R/C Combat, all other combat ships must stop and/or clear the area while another ship is being retrieved. They do not need to be removed from the water.
9. All rules, laws, ordinances, and regulations of any federal, state, county, and/or municipality shall be observed at all times.
10. Member is not covered under NAMBA insurance when participating in an event which is sanctioned by another organization which also provides liability and property damage insurance for its members. This restriction applies whether this other insurance is of a primary or secondary nature.

## **BOAT/RADIO OPERATION SAFETY REGULATIONS**

1. No boat which has been run aground shall be permitted to re-enter the water until the driver has demonstrated to the contest officials that the boat has not been damaged to the point where it might not operate safely. This rule does not apply to R/C Combat.
2. No boats shall be started on tables or in the working pits with prop attached, unless it is properly shrouded and protected from accidental contact. No boats shall be started in the working pits and then carried to the launching area.
3. Method of propulsion shall be of the type that functions by propeller contact with the water or air. Air prop driven boats shall be limited to "A" class engines only. Boats propelled with air props must have the prop shrouded, and must have an under water rudder or skeg of at least one inch square. Inertia reaction devices such as rockets or jets are prohibited.
4. A positive means of engine shut-off and/or positive throttle control is required of all boats.
5. Radio on/off switches shall be positioned in such a manner as to prevent accidental shut off if bumped during handling, launching, or running.
6. Boats shall have some means of positive buoyancy when open compartments are filled with water. Boats should only be retrieved by means of a retrieve boat or use of a retrieve ball. Under no circumstances should a person swim or dive to retrieve a boat. R/C combat boats are designed to sink and must not have positive buoyancy. All other combat boats must stop and/or clear the area while a R/C combat boat is retrieved.
7. The maximum size of boat shall be 60". R/C combat ships are not restricted in size.
8. Transmitters of all contestants shall be impounded upon arrival at a contest. An impound area shall be furnished by the sponsoring club, and shall be properly shaded and adequately protected. All transmitters shall be identified by having the owner's name, address, and frequency thereon. Use of transmitters for checking boat operation shall be controlled by the contest officials. During practice running, members are responsible for the safe operation of their radio equipment, including checking for conflicting frequencies before turning on transmitters. A frequency board (or its equivalent must be used at R/C combat events to assure that the boats are on different frequencies.

## **R/C COMBAT SPECIFIC SAFETY REGULATIONS**

1. Safety shields and/or safety glasses are required for all combatants and guests.
2. Gun safety devices (such as barrel pins or shut-off valves/switches) to render the guns inoperative when they are in the pit area or otherwise not engaged in combat or combat preparation.

3. The primary (unregulated) CO2 supply vessel, whether refillable bottle or disposable cartridge, and any components between the CO2 supply and the regulator, as well as the regulator that controls the pressure from the primary CO2 supply vessel, must be commercially manufactured. In addition, if any part of the gas system after the regulator exceeds 200 psi, then those components must be commercially manufactured also.
4. The combat area (pond) and some area (dependant upon terrain features) around it should be sectioned off so that spectators can be controlled and kept within safe areas.
5. The bylaws and constitution of the specific club involved in the event may apply additional safety requirements as required.

**Disregard of these safety regulations can cause the loss of insurance eligibility for the member should an accident occur. Disregard of these safety regulations can also result in the member being ejected from an event by the contest officials, or can cause the member to lose use of a particular racing site.**

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## **GENERAL POWER BOAT RULES OF COMPETITION**

### **A. OFFICIALS AND DUTIES**

- 1) Event/Contest Director is the primary official of an event or contest. His duties and responsibilities include, but are not limited to, the following:
  - a) fair and expeditious progress of the event;
  - b) smooth and efficient pit operations;
  - c) accurate entry and result tabulations and accounting;
  - d) resolving arbitration arising over the interpretation of rules, starts, retrieval of boats, and assessments of penalties and/or disqualification's. During the course of a race when the number of boats in any scheduled heat has been reduced to 1 (one) or 2 (two) boats, the Contest Director may move the remaining boats to another heat barring frequency conflict; and
  - e) ensuring that all contestants understand the event by conducting a Driver's Meeting 15 minutes prior to the start of the event/contest.
- 2) The Assistant Event/Contest Director is the alternate to the Event/Contest Director. In addition, he shall be responsible for the following:
  - a) constant monitoring of the orderly and timely progression of the contestants and/or races in the Pit Area;
  - b) ruling on the start and finish of each run/race; and
  - c) starting Pit Time and starting clock on signal from the Pit Manager.
- 3) The Pit Manager is responsible for the overall management of the pits. He shall have competed in the event/contest he is to manage before being qualified for this position wherever possible. His duties shall include, but not limited to:



- a) maintaining a checklist of contestants in the designated pits and to inform the Contest Officials of missing entries;
  - b) ensuring that only drivers and their helpers / pit crews are in the Starting Pit;
  - c) calling for the Pit Time; and
  - d) constant monitoring of the boat traffic in the Pit Lane and ruling on infractions.
- 4) Course Judges/Referees shall be responsible for the constant monitoring of their assigned course area and note infractions of the rules and procedures. They shall have completed in the event / contest they are to judge / referee before being qualified for this position whenever possible. Their duties shall include, but not be limited to:
- a) noting the infraction, the lap number and boat(s) involved;
  - b) judging the severity of the infraction and assessing a just penalty, if necessary, under these rules;
  - c) informing the proper contest official of the infractions and the judgments at the end of the race, or sooner if possible; and
  - d) constant monitoring of his assigned part of the course for unnatural obstacles or hazards (i.e., cans, paper, sticks, plastic bags, etc.) and for alerting the proper official.

## **B. SCHEDULING OF RACE/HEATS**

- 1) Drawing for races will generally be done by random selection of compatible frequencies and with no regard to specific entries, contestants, and/or boats. Some types of racing, however, require special techniques which may be followed at the discretion of the Contest Officials.
- 2) During a race, the Contest Director may reschedule a heat in which only 1 (one) boat is remaining due to scratches, so that at least 2 (two) boats will be competing in the heat.

## **C. FREQUENCIES**

- 1) Contestants will be held responsible for the correct frequency of their entry and the Contest Officials will not be responsible for rescheduling, rearranging or juggling of scheduled heats due to incorrect frequency on entry forms, unless such rescheduling may be done easily at the discretion of the Contest Officials.

- 2) The following frequencies are legal for R/C boat operation:
  - a) 26.995, 27.045, 27.145, 27.095, 27.195, 27.255;
  - b) 75.41, 75.43, 75.45, 75.47, 75.49, 75.51, 75.53, 75.55, 75.57, 75.59, 75.61, 75.63, 75.65, 75.67, 75.69, 75.71, 75.73, 75.75, 75.77, 75.79, 75.81, 75.83, 75.85, 75.87, 75.89, 75.91, 75.93, 75.95, 75.97, 75.99.
  - c) The following require an FCC amateur license: 53.100, 53.200, 53.300, 53.400, 53.500, 53.600, 53.700, 53.800, 53.900
- 3) Frequency changes due to equipment failure will receive sympathetic treatment provided the proper contest official is notified immediately upon discovery of the necessity of a change and the frequency to which it will be changed and that the entry has not been called to a stand-by status.

#### **D. BACK TO BACK ENTRIES**

- 1) The contestant is responsible for notifying the contest officials for their event in case of back-to-back races involving his entry and shall receive a maximum of 5 (five) minutes for "get ready" purposes.

#### **E. BUOYS**

- 1) Buoys shall be any object non-injurious to boat hulls such as styrofoam or plastic that float at least 50% out of the water, is clearly visible, colored with fluorescent paint (red, orange, or yellow) and must be securely fastened to its position. In no event shall a buoy be less than 6 (six) inches or more than 12 (twelve) inches in diameter. Buoys must float a minimum of 5 (five) inches above the water.

#### **F. ENGINE CLASSIFICATION**

- 1) Internal Combustion:
 

0-3.509 (0 -0.21 cu. in.).....	Class A
3.51 - 7.509 (0.22 - 0.45 cu. in.) .....	Class B
7.51 - 11.009 (0.46 - 0.67 cu. in.).....	Class C
11.01 - 30.009 (0.68 - 1.80 cu. in.).....	Class X
- 2) Gas (See Gas Rules on page 75)
- 3) Electric (See Electric Rules on page 67)

## G) HULL CLASSIFICATION

### 1) General

- a) All hulls will be classed in one of two basic hull classifications: Monoplane or Hydroplane. Once a hull has been classed, no, non-permanent, modifications can be made to change its basic classification. Within each basic classification, specialty sub-classes may exist with specific design characteristics, limitations and additional rules (found elsewhere within the Rule Book). Examples of specialty classes are as follows:

#### MONOPLANE

Deep Vee  
Crackerbox

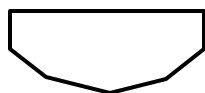
#### HYDROPLANE

Scale Unlimited  
Sport  
Tunnel

- b) Specialty classes may compete within their basic classification as well as their specialty class.
- c) The maximum hull length shall be 60 inches. Any reference in this section regarding hull length does not include hardware (i.e. strut, rudder/bracket, trim plates, turn fin, tuned pipe, stub shaft and propeller).
- d) Protests of hulls will be handled in accordance with NAMBA Heat Racing rules, paragraph L-1 through L-5, page 38-39.

### 2) Monoplane Hull

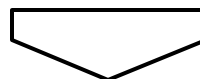
A monoplane hull is a hull that has a single riding surface at planing speeds (i.e. predominately rides on the keel line or surface). The riding surface cross section may be flat, "V" shaped, segmented, or round as long as it incorporates the following design characteristics and doesn't exceed any of the dimensional limitations.



**Segmented**



**Round**

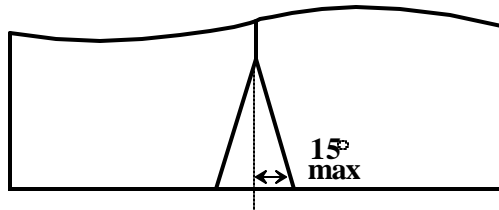


**"V" Shaped**



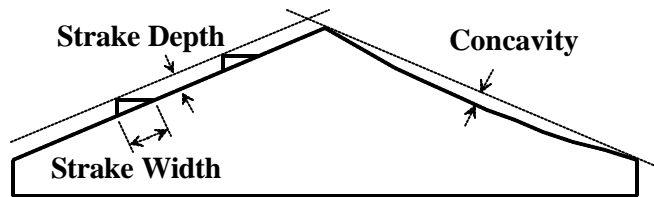
**Flat**

- a) A hull, which has no lateral side-to-side breaks, discontinuities or steps in the wetted surface running at more than a 15° angle with the keel (in bottom view).



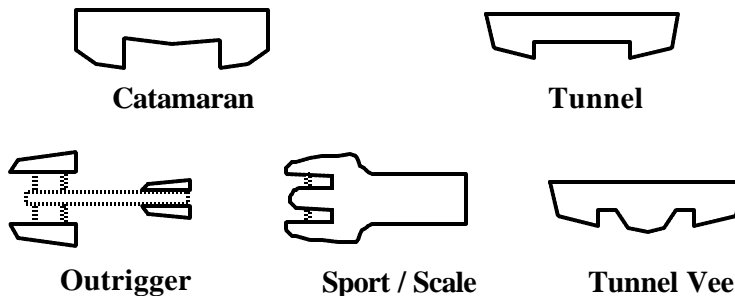
**Bottom View of Transom**

- b) No point on a hull cross section shall be below the keel line or surface. (Prop shaft logs, turn fins and ride plate fins, i.e. hardware, excepted)
- c) Concavity – When checked with a straight edge at right angles to the keel at any point between the transom and the mid-point of the hull length, no depression, step or concavity shall exceed the dimensional limits for strakes.
- d) Strakes - Regardless of the type or purpose, must conform to the following rules:
  - Strakes shall be no more than  $\frac{3}{4}$ " wide and  $\frac{5}{16}$ " deep. For hulls over 46" long and a beam width over 15", strakes shall be no more than  $\frac{3}{4}$ " wide and  $\frac{1}{2}$ " deep.
  - Strakes that extend into the area between the transom and the mid-point of the hull length must be parallel with the keel.



### 3) Hydroplane Hull

If a hull does not meet the requirements to be classed as a monoplane then it is automatically classed as a hydroplane. Examples of hydroplanes:



## **J. RADIO CLASSIFICATION**

- 1) There shall be no discrimination between types of radio control; single, multi and proportional will run in the same class. Due to characteristics, Super Regen will not be allowed in any NAMBA competition.

## **K. PROXY**

- 1) There shall be no proxy entries in R/C competition unless the contestant is physically handicapped or aged. No proxy driver may enter a heat in the competition in which he is proxying. Proxy Drivers must be members of NAMBA.

## **L. PIT CREW**

- 1) Each contestant **MUST HAVE** 1 (one) helper to assist in pit handling of a heat, unless otherwise noted.

## **M. CONTROL AREA**

- 1) Contestants must remain within the specified area when competing.

## **N. NUMBER OF ENTRIES**

- 1) Contestants in all **NAMBA** competitions shall be limited to 1 (one) boat per type/class in each event or competition.
- 2) Two or more entrants may not race the same hull in the same class.

## **O. PRACTICE RUNNING**

- 1) There shall be no "open water" periods during the contests as all practice running will be controlled by a contest official. Procedures for controlled practice and test operations will be left to the discretion of the sponsoring club, but the following procedures are recommended:
  - a) Water or course time will be limited by the contest officials.
  - b) Only boats of compatible speed and maneuverability shall be allowed on the water at one time.
  - c) All practice running will be in a clockwise direction around the course set on the water at that time, boats may utilize the water available provided each "pass" is on the proper side of the course.

- d) Boats that obviously do not need practice may, at the discretion of the contest official, not be allowed to run, (i.e., boats that have finished there event).
- e) During open water, all drivers must have a pit person to call hazards and ensure proper safety during operations of a model boat.

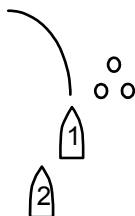
**P. DRIVERS' MEETING**

- 1) Driver's meeting will be held prior to each event or at any time the Contest Officials may deem necessary. It is the contestant's responsibility to attend these meetings.
- 2) A primary purpose of the Driver's Meeting is for interpretation and clarification of rules and procedures, and any questions regarding said rules should be asked at this time.
- 3) Once an event is underway, the Contest Officials should not be distracted from their duties by questions that could or should have been asked at the Driver's Meeting.

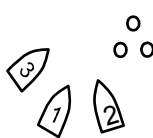
**Q. DRIVER SAFETY**

- 1) Driver safety shall be defined as the necessary techniques for running a race so that all boats may compete fairly with maximum assurance of finishing safely and without damage. Mastery and application of these techniques, even though the driver is separated from the boat, are the very essence of competitive skill (as in real racing) and will go far in increasing the pleasure and challenge of model racing competition. Driving a model boat should require the same care, precaution and consideration for safety as is necessary in driving a life sized boat, where lack of these factors should result in physical injury as well as boat damage.
- 2) The following techniques are illustrated and are either suggested or are mandatory techniques in racing as noted:
  - a) In using a lane of travel around the course, do not follow the wake of the boat ahead. If it's engine quits, the boat following will ram due to lack of coasting of a boat without power. This is a suggested rule and not grounds for a driver infraction.

- b) Never go left on the course unless on obvious grounds of acute emergency or directed by a Contest Official. Left corrections are necessary and may be required for as much as 30 - 45 degrees from the path of the course. A left turn into the course of more than 45 degrees is grounds for an infraction and any left turn endangering another boat will automatically draw an infraction.

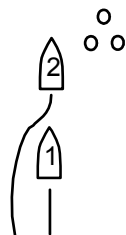


- c) Right - of - way is maintained by the driver closet to the course outline as in Rule R.2). Passing is permitted anywhere on the course with this in mind. See examples below:



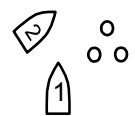
Driver #1 has the chute. Driver #2 and #3 are attempting to overtake improperly. Infraction.

Driver #3 is in trouble because, being within the course, he will have to block #1 to keep from touching a buoy.

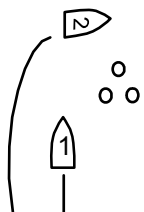


Driver #2 is overtaking properly.

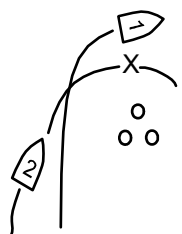
If a driver passes and stays in his lane and does not attempt to take over the next inner lane, he is acting properly.



These same procedures pertain to the turns: #2 is asking to be penalized. Note that #1 is being forced into the buoy to avoid possible collision.



#2 is clear. #1 is not being forced into the buoy.



In this instance, the driver in the chute (or any lane) abandons it by turning too wide allowing another driver to take over the lane on a pass with a shorter turn.

#2 at point x has the right of way.

- d) Launching or releasing a boat requires it to be released as much as in the direction of the course as possible, unless otherwise directed by the Contest Officials.

**R. RIGHT - OF - WAY**

- 1) A boat operating in a lane of travel around the course has the right to maintain that lane of travel without undue interference. Any boat desiring to pass in order to choose an occupied lane of travel must establish a reasonable safe interval before gaining that right.
- 2) In racing, the natural lane of choice is the lane nearest the course outline. This lane shall have the right - of - way over other lanes of travel and shall take precedence over Rule 2)c) above.
- 3) The above right - of - ways also apply at the turns.
- 4) Good driving techniques and sportsmanship decree that a relatively straight course be driven. Fishtailing, "s" turns, or other such tactics to prevent or hinder an overtaking boat will be ruled under 2)c).

Violations of right - of - way will draw a driver's infraction.

**S. DRIVER'S INFRACTIONS**

- 1) A driver's fault or infraction shall be called by the designated Contest Official, should any driver operate a boat in violation of the Racing Rules or in an unsafe manner as outlined under rules Q and R.
- 2) Driver infractions shall be penalized as follows:
  - a) Normally, an infraction shall draw a penalty of 1 (one) extra lap over those required to complete the heat.
  - b) Should the infraction be of a serious nature as to endanger others (boats, contestants, spectators), or a flagrant violation of these rules in the opinion of the Contest Official, the offender may be ordered off the course and disqualified from that event. Disqualification carries no points above a "Did Not Finish."
  - c) All infractions must be called within 1 (one) lap of their occurrence to have a penalty assessed against the driver.



## **T. BUOY INFRACTIONS**

- 1) A 1 (one) lap penalty shall be assessed when a boat cuts inside a course marker or when the boat jumps over or makes an obvious hit on a buoy. NO penalty shall be assessed for a boat that touches a buoy on the outside causing no damage or displacement.
- 2) A 1 (one) lap penalty occurs when 1 (one) or more buoys are cut on a turn or when a straight - away marker is cut. Offending boats must yield right - of - way to others on the course when re - entering.
- 3) Lap penalties will be assessed during Pit Time, Mill Time, and Race Time. If a buoy is cut after the boat finished its part of the race, then the boat will receive a 100 (one hundred) point reduction in earned points in the heat, but in no event shall the boat receive less than 50 (fifty) points.
- 4) Buoy infractions shall be called by a duly named official and any decision made be final.
- 5) A driver who accumulates 3 (three) "driver infractions" or "buoy infractions", shall be automatically ordered off the course and awarded a "Did Not Finish."

## **U. BOAT OPERATION**

- 1) Normally, drivers enter into a race with all systems operable and with firm control of their boats. Frequently, however, a driver, after launching or during a heat, will discover that he is having difficulties in steering due to fault with radio, servo, linkage, or other gear. In the past, such a driver would continue to try to complete the event even though his boat was showing obvious erratic behavior and random, rather than controlled, maneuvers. In some of these instances, other boats have been destroyed, caused to run ashore and otherwise damaged while the driver in question claimed justification because his boat was at fault and not his driving technique. such practices will not be tolerated in any NAMBA sanctioned event.
- 2) It shall be the driver's responsibility upon experiencing any sign of inability to control his boat while on the course, to immediately notify the Pit Manager and at the first opportunity, bring the boat to shore while any vestige of control exists. His first action will be to attempt to steer the boat away from the active part of the course, or if possible, to another part of the water. The Pit Manager will then warn other drivers and officials when possible.

- 3) Should a boat show erratic, random, or other behavior indicating possible control problems, a Contest Official will warn the driver. Should the behavior continue, the boat will be ordered off the course and given points for a "Did Not Finish."
- 4) Should a driver, after showing marked signs of control inability, and after being warned and given opportunity to leave the course, not comply with the order to cease operation, he shall be banned from participation in any further heats and be given 0 (zero) points for the heat in question.
- 5) A driver experiencing control problems shall not be allowed to enter another heat unless he can demonstrate that the problem has been corrected.
- 6) Should a driver re-enter a heat after establishing controllability and should he continue to show erratic operation, his aimless maneuvers shall be termed inability to drive properly and he shall be ordered from the course.

## **V. NAMBA INTERNATIONAL POWER BOAT RECORDS, GENERAL**

- 1) Records shall be established for each hull type and engine class in each approved event.
  - a) NAMBA shall recognize only records made at Sanctioned Record Trials and Sanctioned Racing Events.
  - b) NAMBA shall issue certificates of recognition to individuals establishing a NAMBA record.
  - c) To be eligible for record recognition, the contestant must have been a member in good standing for at least 30 days prior to the run.
  - d) NAMBA reserves the right to withhold or withdraw recognition for any record at any time, upon proof falsification or error.
  - e) Speed conversion of record times to equivalent statute miles per hour shall be the responsibility of the Contest Officials.
  - f) Application for recognition of records must be accompanied by the signature of 3 (three) judges, one of whom may be the Contest Director, and one of whom must be from a Club other than the sponsoring organization. All judges must be NAMBA members in good standing.
  - g) Any model boat applying for a NAMBA record will be subject to an engine displacement inspection following its record-breaking run. If the engine, or engines, are found to be out of the limits set forth in the NAMBA Rule Book for that Class, or if the record-breaking driver will not submit his engine for inspection, the new record will be disallowed.

- h) The device or devices used to time record runs shall be, in all cases, capable of measuring the run to the nearest 1/100th second. Devices capable of measuring runs to a small fraction of a second may also be accepted. But no device of any kind shall be accepted for record purposes unless it is listed by NAMBA as an approved timing device. All timing equipment must meet specifications set up by the Executive Committee, copies of which will be furnished upon request.

The device or devices used to time and record 1/16th mile straight-away record runs shall be automatic infrared equipment and shall be capable of timing to the nearest 1/100th second.

- i) For record purposes, a lake must have a minimum of 300 (three hundred) feet clear for shut off and for acceleration and must be certified.
- j) Timing equipment specifications must accompany first sanction application for record trials and/or racing competition.

## 2) Speed Awards

- a) Speed awards will be established in 10 MPH increments beginning at 15 MPH for Electric, 20 MPH for Monoplanes, and 30 MPH for Hydroplanes, up to 40 MPH. It will then go to 5 MPH increments. Awards are to be purchased by the member with proof of speed as set forth in Rule 3 below.

## 3) Application

- a) Any person whose boat sets a NAMBA record and/or qualifies for a NAMBA speed patch, will be given his signed record application and is responsible for sending it to the Executive Secretary accompanied by the designated fee within 2 (two) working days after the meet. It is the responsibility of the contestant to verify that the record application is correctly completed in ink or indelible pencil.

# **W. RECORDS - 1/16th MILE STRAIGHT RUNNING**

- 1) A 1/16th mile straight-away speed shall be a measured distance of 1/16th mile (330 feet) and shall consist of an average of 2 (two) consecutive passes through the course. These 2 (two) passes must be made on a continuous run, with no physical intervention by the operator or any other persons between such passes. It is thus required that the craft execute at least a 180 degree turn between passes. The driver may make a one-way run for a speed patch only.

- a) Any 1/16th mile straight-a-way record which has been set on a NAMBA legal course using fixed infrared sights coupled to digital automatically actuated timing devices will not be removed from the books after a three year time period.
- 2) Pit Time
- a) Starting and launching time, otherwise known as Pit Time, shall be determined by the host Club within 2 (two) minute minimum. Pit Time shall commence upon signal from the starting judge.
- 3) a) Engine Starting (Except Racing)
- If the engine of the contestant's boat is running at the expiration of Port Time and the boat has not been launched, the boat shall not be permitted to depart from port. In such event, or if contestant has failed to start the engine in the allotted Pit Time, failure to start shall be considered as a run and shall be recorded as scratched on the time sheet.
- 4) Running Time
- a) Speed running time shall commence when a boat is release from the pit and shall not exceed 5 (five) minutes.
- 5) Tracking Equipment Specifications
- a) The equipment used to trigger the timing equipment must have the differences between the trigger points, when tracking from opposite directions, of no more than 4 (four) feet when checked at a distance of 300 (three hundred) feet. In addition, the measured difference for each piece of tracking equipment shall be within plus or minus 6 (six) inches of each other. Example: at 100 MPH, the boat will cover 1.47 feet in 0.01 seconds, thus the plus or minus 6 (six) inches will still give accurate results even at this speed.
- 6) A contestant shall be eligible for a speed patch only with his time from a one-way run in 1/16th mile straight-away.

## **X. NOISE ABATEMENT**

- 1) All boats must meet a maximum of 92db at 50 feet from shore.
- 2) For correct readings there should be no obstructions between the meter and the shoreline, the meter should not be setup under an awning or overhang, and the meter should not be handheld.

## **Y. NAMBA OVAL TIME TRIALS**

NAMBA Oval Time Trials will be established along with corresponding records for this type of racing. Please note that this in no way affects the current Heat Racing Records, which would continue as always.

### **Rules of Competition:**

1. Shall be open to all legal NAMBA classes.
2. Courses shall follow all guidelines specified in the NAMBA Rule Book section entitled "NAMBA Regulation Courses for Record Only".
3. Only one boat will be permitted on the water at a time.
4. Time starts when the nose of the boat touches the Start/Finish line, and ends no less than 5 laps later when the nose of the boat touches the Start/Finish line.
5. Each boat shall have a maximum of four minutes to start, launch, and make a record attempt run. However, the boat must be launched before two minutes and thirty-one seconds expires - if not, that will be considered a run and will result in a forfeiture of fees paid.
6. If time permits, each boat may make a maximum of two runs within the four minute time period.
7. If the boat hits, cuts, or touches a buoy during the run, no time will be given for that run.
8. The boat may be brought in for a needle adjustment. However, if the engine dies and the two minute thirty-one second time has elapsed, the boat may not be restarted.

## **OFFICIAL COURSES**

### **A. TERMS (See example "A")**

- 1) The shaded area between the turns shall be referred to as the front and back "straights" or "chutes" respectively.
- 2) The section within the course marker buoys is referred to as "within the course" or as "the infield."
- 3) The buoys at each end of the chutes are referred to as the "entrance buoys" to the turns. The buoys at the head or start of the chutes are referred to as the "exit buoys" for the turns.
- 4) The area between the shore and the first line of marker buoys is known as the pit lane. This lane should be considered present during all events, whether marker buoys are set up or not, and the drivers entering or leaving the Pit Area are encouraged to drive their boats accordingly.
- 5) The milling buoy shall be a marker placed in any position. This buoy(s) will be used by boats to establish a definite mill pattern prior to the start of heat races, and will be positioned to provide optimum milling on the water available, and may be one or more of the course markers.

### **B. REGULATION COURSES**

- 1) The course shall be defined and measured as follows:
  - a) The course shall be 0.90 miles in total length for all classes (exception of electric).
  - b) There shall be a minimum of 3 (three) laps required in the total race distance for all classes.
  - c) When applying for Records, the District Director or his appointed alternate from the District in which the contest is held, must certify the course is:
    - i. not less than required in Courses, B.1)a), above;
    - ii. the device or devices used to time the race shall be capable of measuring the Race Time to the nearest 1/10th of a second.

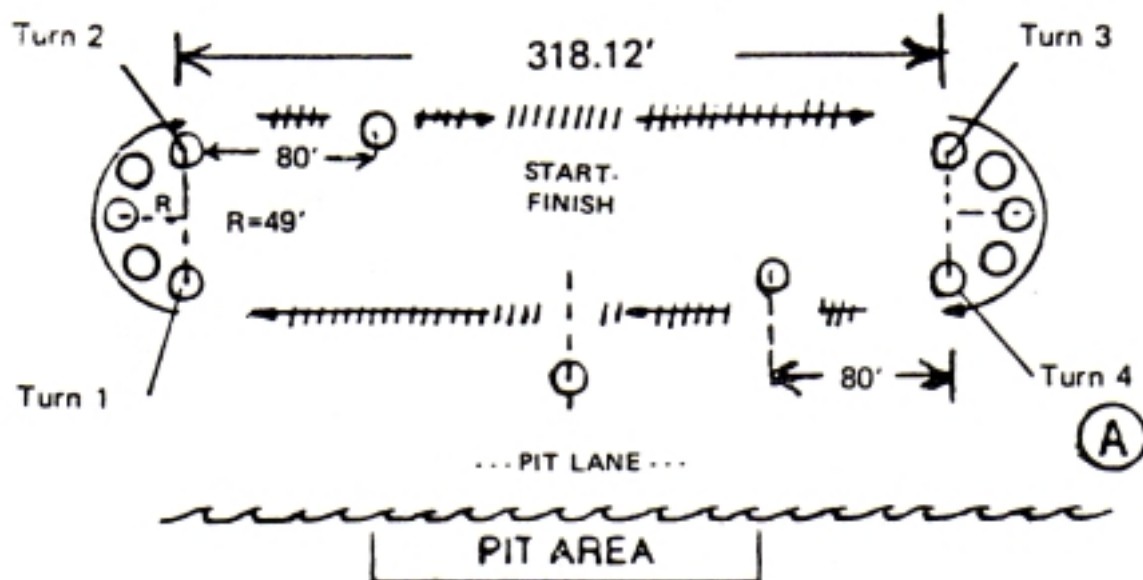
- 2) The turns shall be clockwise and be defined as follows:
  - a) Turns of 90 degrees and 135 degrees must have a 15 foot to 30 foot radius and marked by a minimum of 2 (two) buoys. Radius turns of 30 (thirty) feet or larger must have additional buoys to a maximum of 5 (five) being used to adequately define a turn.
  - b) Turns of 135 degrees or more shall be marked by a minimum of 3 (three) buoys for radii between 15 (fifteen) feet and 30 (thirty) feet. For radii over 30 feet, additional buoys to a maximum of 5 (five) to adequately define the turn shall be used.

**C. NAMBA REGULATION COURSES FOR RECORDS ONLY**

- 1) The course shall be defined and measures as follows:
  - a) The course shall be 0.90 miles in length for all classes.
  - b) The course shall be 5 (five) laps or more for all classes.
  - c) The radii used when establishing a course shall not exceed 50 (fifty) feet or be less than 30 (thirty) feet.
  - d) Five (5) buoys shall be used to define the turn.
  - e) All turns shall be clockwise in direction.
- 2) When applying for Records, the District Director or his/her appointed alternate from the District in which the contest is held must:
  - a) certify the course is in compliance with regulation course requirements;
  - b) provide the course specifications - radius and straight-away;
  - c) have a device(s) capable of measuring Race Time to the nearest 1/10th of a second.

A legal course for NAMBA Heat Racing and Oval Time Trial records be either one in which each buoy is surveyed and placed in a fixed position, or one which is measured and has the straightaway marked by a solid fixture at each end. The fixture can either be on the water or on two sides of the lake so that a line can be drawn across to set the straightaway end positions. The radius shall then be measured from these fixed straightaway end positions, and shall apply to all turn buoys. The lines or devices that are used for measuring shall be at the site during a race in the event that anyone should desire to verify the measurements or placement of a buoy.

# COURSE EXAMPLES

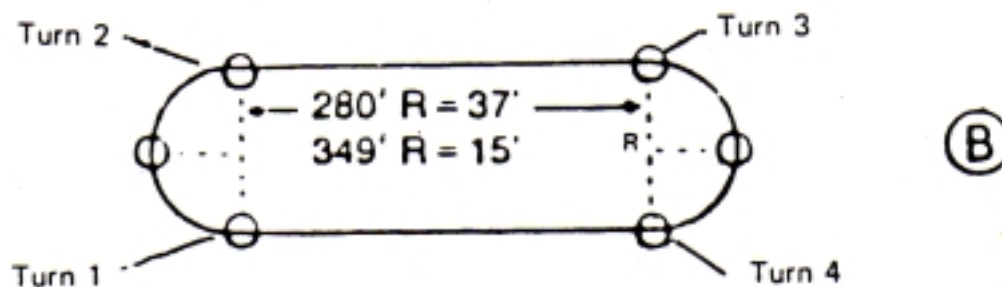


Mathematics of Course "A" —  $R = 49' + 6''$  (for part of buoy)  $\times 2$  turns = 100'  
 $100' \times \pi (3.1416) = 314.16'$   
 $314.16 + 318.12 + 318.12 = 950.40'$  (one lap)  
 $950.40 \times 5$  laps = 4752' = .9 mile

COURSE "A" — Standard 5 lap course. Suggested for NAMBA Internationals.  $R = 49'$  to center of 12" buoy.

COURSE "B" — Standard 6 lap course. No.  $R$  less than 15". All  $R$ 's over 30' shall have extra buoys.

For more information, refer to Official NAMBA Courses.





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## **HEAT RACING**

### **A. GENERAL**

- 1) An R/C model power boat heat shall consist of the simultaneous scheduling of 2 (two) or more boats for a race. The number of heats constituting a race is determined by the number of entries and time available; however, a minimum of 3 (three) heats is required with ties to be broken by the fastest time.

### **B. GENERAL HEAT RACING PROCEDURES**

- 1) Each heat race shall consist of 3 distinct phases:
  - a) Pit Time
  - b) Clock Time or Mill Time
  - c) Course Time or Race Time
- 2) The heat starts with the first phase; a 2-minute period or Pit Time for starting engines, launching and releasing boats. A starting clock, placed in full view of all drivers (or an adequate audio system) and requiring no less than 30 seconds to complete one sweep, will be started. If all boats are on the water, you can go onto the 30-second clock with drivers approval. Contestants will mill on the course in a designated milling pattern until the end of Clock Time. Drivers should pace their boats during Clock Time so as to arrive at the starting line at full throttle simultaneously with the expiration of the Clock Time which constitutes the start of Course Time.
- 3) There must be a minimum of 3 (three) entries on compatible frequencies to make a class and/or race. There shall be not more than 8 (eight) boats in 1 (one) heat.
- 4) Heat Racing Race Records can only be set at and during NAMBA International Sanctioned Heat Races.
- 5) During the last 2 rounds of scheduled heat racing, the Contest Director may combine boats from different heats as frequencies permit, when there are fewer than 3 (three) boats in a particular heat.

**C. PIT TIME**

- 1) A pit of 2 minutes is allowed for the starting of all engines and to allow all boats to be launched.
- 2) If no entrants have started engines and are under way at the expiration of Pit Time, the heat shall be declared "No Contest."

**D. CLOCK TIME (MILL TIME)**

- 1) Clock Time will be initiated at the expiration of Pit Time and no boats may be launched or released after commencement of Clock Time.
- 2) Milling procedures during Pit Time and Clock Time:
  - a) Boats on the course awaiting the expiration of Clock Time will adopt a milling pattern in a clockwise direction and around the milling buoys in a specified milling area to be set at the discretion of the Contest Officials.
  - b) Boats must use the milling pattern and may not cross the Start/Finish line prior to the expiration of Clock Time unless the milling course includes the Start/Finish line. Traversing the course or infield is prohibited (unless as otherwise directed) and will be ruled a driver's infraction and a 1-lap penalty will be assessed.
  - c) During the last 5 seconds of Clock Time, boats passing the buoy marking the end of the mill must steer a straight course and observe driver safety in selecting lanes. Zigzagging "S" turns, or fishtailing to delay crossing the start line, will draw a driver infraction with either a 1-lap penalty being assessed or possible disqualification.

**E. COURSE TIME (RACE TIME)**

- 1) Course Time shall commence with the expiration of Clock Time and shall not exceed 5 (five) minutes. Any boat not completing the required number of laps in this time shall receive a DNF and be ordered off the course.

**F. START**

- 1) The expiration of Clock Time signifies the start of the heat regardless of the position of entrants and also starts timing of the heat.
- 2) Boats crossing the start line prior to the expiration of Clock Time will be rules as jumping the gun and will be required to complete an extra lap, (i.e., complete a circuit of the course and re-cross the start line for a legal start).

- 3) A heat may be considered officially started when 1 (one) boat legally crosses the start line at the termination of Clock Time.

#### **G. THE RACE**

- 1) Laps are counted with the first crossing of the start line counted as zero and with each consecutive crossing of this line counted as an additional lap until the required number of consecutive laps are completed. This constitutes the finish of the race. The first boat to legitimately complete the final lap is declared the winner.
- 2) In the event that no boat finishes the required number of laps, the heat shall forfeit and will not be re-run.
- 3) Following an official start, the course will be run clockwise (right-hand turns) for the required number of laps to designate a heat. In order to be counted as legitimate, a clean lap must be run without penalty. Laps may be counted legitimate after penalty has been assessed and cleared.
- 4) The Course Time shall not be considered a "right" to remain on the course. The Contest Officials may order a boat(s) off the course any time after completion of the race by the winning boat. Boats traveling at reduced speed, but obviously capable of finishing the required laps, will be awarded points according to their position at the time they are ordered off the course. If, in the judgment of the contest official, boats remaining on the course are incapable of finishing the race, they shall

#### **H. RE-STARTS AND RE-RUNS**

- 1) Since each boat must cope equally with the same probabilities for all circumstances (course obstacles, radio interference, shoring or collisions, etc.) in any given heat, no re-runs or re-starts shall be allowed.

#### **F. HEAT DELAYS**

- 1) It shall be the policy of the Contest Officials to maintain a sympathetic and helpful attitude toward contestants and their problems in the conduct of a race, and will do its utmost to help drivers with their problems. The Contest Official should be notified immediately of any major equipment problems discovered by the contestant before reaching the pits. Re-scheduling may be done if, at the discretion of the Contest Official, it is advisable and fair to all other contestants.
- 2) Delay or cancellation of Pit Time will not be allowed under any circumstances other than course problems and shall be called by the proper Contest Official.

## **J. HEAT RACING POINTS AND AWARDS**

- 1) Boats will score and accumulate points in order of their finish positions according to the following table:

1st Place	400 points	6th Place	96 points
2nd Place	300 points	7th Place	72 points
3rd Place	225 points	8th Place	54 points
4th Place	169 points	Did Not Finish	25 points

- 2) Contestants will carry over points as determined by their overall class finishing position towards the District Championship.
- 3) In case of point ties, the boat with the fastest time will take precedence.
- 4) Points will be awarded in order of finish and the entries then placed in order of total accumulated points for the ultimate class and race results.

## **K. RECORDS FOR HEAT RACING**

- 1) See General Rules - Records, Section V
- 2) Heat Racing Records can be set in any NAMBA sanctioned event under the following conditions:
  - a) The course must be "legal" as defined under "Course, Sections B and C" thereof.
  - b) The Start Time shall commence at the expiration of course or Mill Time and such time shall end when the lead boat in the heat completes the required 0.9 mile course.
  - c) All Contest Directors should time the lead boat and the time recorded, as the potential for a record to be set is available during every heat race.
- 3) Records are published in the PROPWASH the Executive Secretary will send new records not so published to the CD of the coming events.

## **L. PROTESTS**

- 1) In all sporting events, situations develop that require judgment calls or decisions on the part of the Contest Officials and all such decisions made herein shall be final.

- 2) Continued verbal protests, harangues and/or other abuse, either direct or indirect of any Contest Officials shall be considered unsportsmanlike conduct and will be just cause to bar that contestant or crewman from any further participation in that contest.
- 3) A protested hull or engine will be allowed to run in the event(s) entered. However, any points, records, places, etc., won will be held pending the resolution of the protest.
- 4) All protests for engines and hulls must be accompanied by a \$25 protest fee. If the protest is found to be as stated when entered by the owner, \$10 will go to NAMBA and \$15 will go to the owner of the boat. If the protest is upheld, the fee is to be returned to the protestor.
- 5) A protested hull or engine will be measured by a committee made up of the Contest Director, the District Director or his authorized representative present at the event, and 1 (one) other NAMBA member other than the protester or owner of the protested engine or hull. Measurements will be made in the presence of the owner and results thereof shall be made known in writing and signed by each member of the 3-man committee and be forwarded with their decision to the Executive Secretary, the Directors, and the President of NAMBA.

Clarification: A protest(s) of any kind must be made at the contest so all factors can be available.

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## **ENDURO COMPETITION**

### **A. ENDURANCE**

- 1) An endurance (Enduro) race shall consist of a minimum of 2 or more boats simultaneously running a prescribed course for a specified course for a specified length of time no less than 1/2 hour. The number of entries will be determined only by compatible frequencies in order of entry.

### **B. RULES**

- 1) Any boat not running on the course at the end of 1/2 hour is ineligible for a finish position higher than any boat still running, regardless of their respective lap counts. Finish positions will be awarded to the boats completing the most laps and running on the course at the end of the 1/2 hour. The lower finish positions will be awarded to those boats not running at the end of the 1/2 hour, also based on the number of laps completed. A boat must be running at least the last minute of the race.
- 2) At 5 minutes prior to the start, all entrants must have boats in the Pit Areas assigned. No engine running will be allowed 2 minutes prior to start.
- 3) The race will start on signal. Contestants may then start engines and enter the course, Le Mans style. The race will end on signal exactly the prescribed length of time later. The contestant must run exactly the prescribed length of time later. The contestant must run at least 1 (one) lap in the first 5 (five) minutes of a 1/2 Enduro, 10 (ten) minutes for all others longer.
- 4) Driving will be in accordance with all NAMBA Rules of Racing.
- 5) One pit stop is required during which the engine must be shut down and fuel added.
- 6) Unlimited equipment repairs and parts replacement is allowed, provided the original hull and frequency remains the same.
- 7) Records for 1/2 Enduros will be kept with longer Enduros records being set up as needed. For record purposes, a course must be set up and measured in accordance with Racing Rules courses, must be certified as to length and must be on 5-lap course.



- 8) Entries will be placed in the order of receipt of compatible frequencies. The first entry on a given frequency will be in the first race, the second entry on the same frequency in the second race, and so on.
- 9) Where possible entries will be classed according to engine size then drawn at random for subsequent races.
- 10) Should time allow after all entries have completed in 1 (one) race, all entries will be drawn at random for subsequent races.

# **DEEP VEE/ENDURO COMPETITION**

## **GENERAL RULES**

1. Deep Vee/Enduro Competition Rules are intended as a supplement to the General Powerboat Rules of Competition. In the case of a conflict, the Deep Vee/Enduro Competition Rules will prevail.

## **RACE FORMAT**

1. The start shall be a "Le Mans" style start. No engine will be started before the beginning of the time period. A one lap penalty will be assessed if an engine is started within 30 seconds prior to the start of the heat.
2. The time period of the event must be in increments of five minutes (i.e., 5, 10, 15 minutes) The time period being used must be clearly stated in the pre-race flyer or entry form.
3. Events may be conducted with or without mandatory pit stops. The pre-race flyer or entry form must state which way the event will be conducted. If pit stops are required, the engine must be stopped and then re-started in the pits.
4. As per the NAMBA Safety Regulations, there will be no retrieving of boats by the retrieve boat while there is any boat running on the water.
5. Total laps will be counted to the nearest 1/4 lap. The winner will be determined by the most laps completed.
6. The type of course may be irregular, M type, or the standard NAMBA 9/10 mile or one mile course.
7. Deep Vee/Enduro records must be set on the NAMBA five lap regulation course.

## **HULL SPECIFICATIONS**

1. The angle of the V bottom must be a minimum of 16 degrees and a maximum of 28 degrees measured at the transom.
2. The angle at the bottom of the keel line must be a V from transom to bow. No flat pads are permitted on the keel line.
3. The intersection of the bottom and the side at the chine must not exceed 125 degrees measured at the transom.

4. Longitudinal bottom strakes may be up to 1/4 inch deep and may not exceed 3/4 inch in width, with a minimum of two and a maximum of eight strakes total. Spacing of the strakes must be reasonably equal and must run parallel to the keel for at least the rear 1/3 of the hull.
5. Gull wing or tunnel hulls are not allowed.
6. Hatch covers, drivers, and scale paint jobs are optional.

#### **ENGINE SPECIFICATIONS**

1. All engine classes may be run as per Section F of the General Powerboat Rules of Competition.
2. The Contest Director may combine classes as necessary or may run the event as “Open Deep Vee” and run all classes together.

# **TEAM MARATHON COMPETITION**

## **GENERAL RULES**

1. Team Marathon Competition Rules are intended as a supplement to the General Powerboat Rules of Competition. In the case of a conflict, the Team Marathon Competition Rules shall prevail.
2. Team Marathon Competition shall consist of a minimum of two boats simultaneously running a prescribed course for a specified distance or number of laps.
3. Teams shall consist of two boats and four team members.
4. Both boats on each team must be operated on the same frequency.

## **RACE FORMAT**

1. The competition shall consist of 100 laps run in a clockwise direction over a standard NAMBA oval course.
2. The competition will commence with a “Le Mans” start.
3. Each team boat will run 10 laps alternately until 100 laps have been completed. The first team completing 100 laps will be declared the winner. Points for completing the course will be allotted in order of finish.
4. A flag or baton will be attached to the “running” boat and must be transferred to the “relief” or “alternate” boat in the assigned pit area before the relay or pass is considered complete. Laps run without the flag will not be counted. Flags lost while running due to collision or other circumstances will require that the boat return to the pits to have the flag replaced.

## **HULL SPECIFICATIONS**

1. There will be no restrictions on hull type except that both boats must be of the same type (i.e. two deep vees, two tunnel hulls, or two catamarans, etc.). The length of each boat must be within 10 percent of each other.
2. Boats should be attractively painted in team colors.

## **ENGINE SPECIFICATIONS**

1. The engines must conform to NAMBA Class B specifications.
2. All boats must have excellent idling characteristics. A demonstration of each boat’s idle may be requested prior to the start of the race. Teams with a boat(s) not idling satisfactorily will not be allowed to compete unless repaired.

3. Boats losing idling capability during the race will be required to demonstrate that the idle has been repaired before being allowed to leave the pits and resume competition.

### **LAP COUNTING**

1. The Start/Finish line will be set out by the Contest Officials. Likewise, a “Lap Line” will be set out in the right area of the pit, so that a boat coming into the pit will complete its full lap, and the relief boat leaving the pits will be starting its first lap.
2. Each boat must run exactly 10 laps each time it is in the water. Additional laps per boat over 10 will not be counted. If less than 10 laps are run, the boat in question must return to the course and complete the deficit.
3. All lap penalties assessed a team must be made up after the last relay set is completed. However, these laps may be picked up and completed by the boat running the last relay set, without a pit stop or a relay transfer.

### **EQUIPMENT REPAIR AND PARTS REPLACEMENT**

1. There is no restriction on the repairs allowed or the parts replaced as long as the original hulls and frequencies are used.

## **KIDS COMPETITION**

Purpose: To actively promote NAMBA's dedication to the aid and development of youth and youth activities.

### **SECTION I.**

#### **A. ENTRY SPECIFICATIONS**

- 1) Entries shall be limited to junior NAMBA members, ages 12 years and younger. This class is designed for the beginner with little or no previous model boat racing experience.

#### **B. QUALIFYING BOATS**

- 1) Boats shall be limited to those qualifying as Mono, Outboard Mono, or OPC Tunnel.
- 2) No hydros or modified tunnels allowed.
- 3) Two or more entrants may race the same boat in the event, providing they are members of the same family.

#### **C. ENTRY FEES**

- 1) Entry fees are waived with receipt of an entry from a parent or sponsoring adult NAMBA member entered at the same contest.

### **SECTION II.**

#### **A. RACE SPECIFICATIONS**

- 1) Heats shall be of either a 3 (three) or 5 (five) minute Enduro type with distance counted in quarter-lap increments.
- 2) Number of rounds offered shall be consistent with other classes offered at the contest.
- 3) The driver must have a pit person at all times. A second pit person shall launch the boat.

### **SECTION III.**

#### **A. SCORING SPECIFICATIONS**

- 1) A 1/2 lap penalty shall be assessed for infractions such as cut buoys.

- 2) The CD shall announce all cuts or infractions on the P/A system.
- 3) Disqualification from a heat for any reasons other than unsportsmanlike conduct is not advised.
- 4) Lane infractions and other driving violation penalties are discouraged, but left to the discretion of the CD, dependent upon circumstances and the severity of the infraction.

#### **B. DRIVER ASSISTANCE**

- 1) The pit person may assist the driver with the handling of the boat, should the driver need assistance avoiding another boat, the shoreline, or waterfowl.
- 2) The CD shall assign special judges to monitor those pit persons assisting with driving.
- 3) In the interest of sportsmanlike conduct and in fairness to each child entered, it is the responsibility of each pit person to report to the judge or CD immediately following the heat, the approximate number of laps the driver required assistance.
- 4) Decisions regarding loss of laps due to the pit person's assisting shall be decided between the CD and/or judge and the pit person. The driver shall not be involved.
- 5) Adjustment of trim by the pit person is permitted.

### **SECTION IV.**

#### **A. AWARD SPECIFICATIONS**

- 1) In consistency with other classes offered at the contest, ribbons shall be awarded to all places in all heats with first place awarded to the driver of the boat with the highest number of laps completed, etc.
- 2) Trophies should be awarded to all finishing positions. Trophies need not be of a quality consistent with others presented at the contest.

## **OFFSHORE COMPETITION**

### **A. OFFSHORE RULES**

- 1) Offshore racing rules are intended as a supplement to the General Power Boat Rules of NAMBA. In case of a conflict, Offshore Race Rules shall prevail.

### **B. DEFINITION**

- 1) Offshore shall be defined as:
  - a) Boat hull may resemble an authentic Offshore APBA/UIM hull from a distance of 10 feet or must be a Deep-Vee or Catamaran (Tunnel) type hull.
  - b) Paint scheme may be authentic or reflect an attempt to make the hull appear like a typical full-size Offshore race boat.
  - c) Hatch covers with cockpit area for drivers (2 minimum).
  - d) Variations from Rule B.1.c must be documented by race photos, magazine articles, or other pictures.

### **C. BOAT SPECIFICATIONS**

- 1) Hull
  - a) All boats shall be models of APBA and UIM offshore race boats. These include Deep Vee, Flat Bottom, Tunnel, etc.
  - b) If the model hull bottom has an angle less than 16 degrees, the bottom must be within  $\pm 5$  degrees of the actual hull copies. Proof of authenticity must be documented by actual hull photos or drawings.
  - c) Boats shall enter competition complete with drivers, cowlings, and hatches. Hatches must cover a minimum of 75% of the deck opening. Hatches which are not part of the original hull must be in the spirit of the Offshore Class. Hatches with an open cockpit configuration must have drivers painted to represent scale-like drivers. Hatches with an enclosed cockpit configuration must be darkened (painted Black) in order to represent a canopy and will not need drivers.
  - d) Rudders, turn fins, struts and ride plates may be configured and located as desired.
  - e) Tuned pipes will be concealed under the deck, cowl, or hatch as completely as possible.



#### **D. ENGINES**

- 1) Engine size to comply with NAMBA A, B, C, and X displacement limits.
- 2) Total of engines' displacement determines class.
- 3) Mode of propulsion: Inboard or Outboard hulls do not to be propelled by the same mode as the real boat. (Multi-engined hull may use single engine; i.e., number of engines in mode does not have to comply with original.)
- 4) No restriction on engine modification to either inboard or outboards.
- 5) Outboard powered Offshore Racers are permitted no external steering rudders mounted on boat hull. Engine must steer boat.

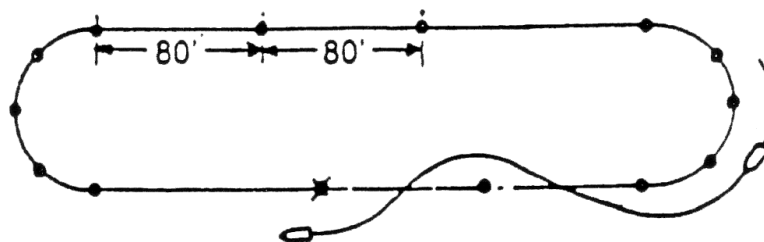
#### **E. RACE FORMAT**

- 1) All Offshore Races to be run as Enduro type using an irregular course.
- 2) Length of each heat shall be in 5-minute increments (i.e. 5, 10, 15, etc.)
- 3) One minute Pre-start countdown will be used. Shorter pre-start countdowns based on 5-second intervals (i.e., 20 sec. / 15 sec. / etc. ) are optional.
  - a) Engines cannot be started or attempted to be started during the Pre-start countdown. Boats “Jumping the starting gun” will be assessed a one lap penalty
  - b) Boats may be launched at any time (per NAMBA course entrance procedures) after the pre-start countdown and throughout the heat.
- 4) Offshore classes ( A / B / C / X ) may be combined at the Contest Directors discretion.
- 5) All boats must start each heat meeting minimum requirements regarding hatches and drivers.
  - 5.a Any part of the boat (i.e. hatch, drivers) falls off during the heat, except for collision, the boat shall receive the number of laps up to that point and will be called off the course.
  - 5.b If a boat is not able to meet minimum Offshore requirements due to a collision, that boat will be allowed to finish the event.

- 6 Buoy cuts will be determined by NAMBA rules.
- 6.a There will be no disqualification for three (3) or more buoy cuts. Negative scores will not be allowed.
- 6.b The cause for excessive cuts during a heat will be reviewed by the Contest Director during the heat and the boat may be called off the course.

#### **F. RACE COURSES**

- 1) Clubs may use any irregular shaped course for Offshore Racing.
- 2) Record courses:
  - a) Must be a NAMBA 0.9 mile, 5-lap or more course.
  - b) Two left turns are required.
  - c) "Left turn" entrance buoy is to be located 80 feet from each turn exit buoy.
  - d) "Left turn" entrance buoy is to be located 80 feet from each turn exit buoy.



#### **G. RACE COURSES**

- 1) Models to be detailed and painted as the actual APBA/UIM Offshore Racer.
- 2) Color photographs or color magazine pictures must be presented at the time of judging.
- 3) Judging to be from a distance of 10 feet.
- 4) Recognition to be given through 3rd Place.

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# **OUTBOARD COMPETITION**

## **GENERAL RULES**

1. Outboard Racing Rules are intended as a supplement to the General Powerboat Racing Rules of NAMBA. In the case of a conflict, the Outboard Racing Rules shall prevail.

## **RACE FORMAT**

1. The format of the race shall be left to the discretion of the Contest Director.

## **ENGINE SPECIFICATIONS**

1. General Engine Specifications
  - a. An outboard motor is defined as a complete internal combustion power and propulsion unit that can be attached to and removed from the hull as one unit.
  - b. The outboard shall be the single means of controlling the direction of the boat.
2. Stock Engine Specifications
  - a. Stock class engine rules are designed to forbid the racing of special, experimental, or custom built engines regardless of whether or not they qualify under the other sections of these rules.
  - b. A manufacturer of outboard motors for NAMBA stock outboard racing is one who is responsible for the original design and manufacture of the following: crank shafts, connecting rods, cylinder heads, pistons and sleeves, crank cases, drive shafts, drive shaft housing, swivel and stern brackets, propeller shafts, and who has complied with any other requirements which are provided for in these rules.
  - c. No motor shall be eligible for NAMBA outboard racing until such time as the motor has been advertised for sale to the general public and is available for purchase through retail dealers for national distribution.
  - d. Stock class engines as referred to in these rules are defined as outboard engines which are:
    - 1) Manufactured in quantities greater than 500 units.
    - 2) Intended for sale to and to be used by the general model boater.
    - 3) Advertised through the same media and in the same publications and given the same prominence as the manufacturers of other engines.

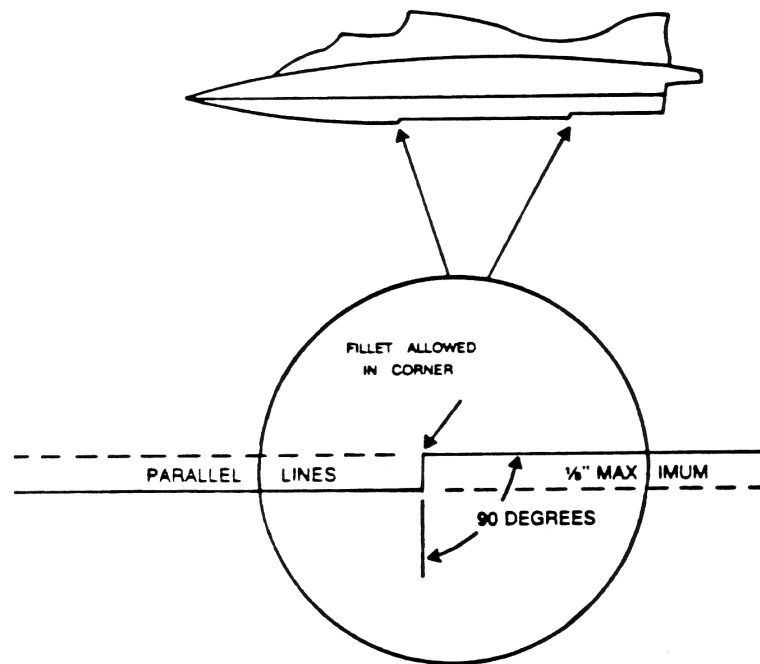
- 4) Distributed through the manufacturer's normal channels.
- e. For the stock classes, the engine's parts must remain as originally manufactured for that brand, size, and style engine. No modifications are permitted. Interchanging of parts from one series or edition to another is legal as long as the parts used were made by the manufacturer of the engine and were used on their outboard engines.
- f. No replacement parts for current production motors shall be considered as a standard production part until this part appears on the current production motors which can be purchased through normal channels.
- g. Motor changes and/or modifications may be made to enhance safety and reliability and, except as otherwise provided for herein, they will not be made to enhance performance. The following changes and/or modifications are permissible:
  - 1) The use of Loctite or longer replacement bolts with locking nuts to secure carburetors, steering arms, or servo savers.
  - 2) Aftermarket or homemade carburetor linkages (arms).
  - 3) Return springs for carburetors or exhaust throttles.
  - 4) Replacement of stock hinge plate to accommodate aftermarket engine trim assembly.
  - 5) Any type of flywheel nut may be used.
  - 6) Any type of prop nut may be used.
  - 7) Any type of steering arm may be used.
  - 8) Servo savers may be used.
  - 9) Cowlings, shrouds, or painting of the engine case to resemble full-sized outboard engines will be allowed to promote a more scale-like appearance.
  - 10) The lower unit may be externally polished or painted, but must otherwise remain unchanged from the prop shaft housing up. However, the skeg may be trimmed, thinned, shortened, or removed. The skeg may not be lengthened or widened.
  - 11) A single hole will be allowed for the specific purpose of lubrication of the flex shaft and/or PTO bearing. This hole must be located on the lower unit along the shaft line but will not be allowed to enter the exhaust cavity.
  - 12) The plastic flex shaft tube may be replaced with a metal one.

- 13) Glow plugs and propellers by any manufacturer may be used.
  - 14) Any fuel brand or mixture is permissible.
  - 15) The use of radio controlled remote needle valves is permissible in addition to the stock needle valve.
  - h. Any other changes and/or modifications, including the use of external aftermarket parts or accessories to include, but not be limited to, on board glow plug igniters (glow drivers), not specifically permitted herein, are considered illegal and will result in disqualification.
  - i. Effective in January 1993, the AMPS engine was no longer allowed to compete in any of the stock classes. However, these engines are still considered legal for the modified outboard classes.
3. Modified Engine Specifications
- a. Modified class engines must meet the General Outboard Motor Standards and the engine classifications as defined under Section F of the General Powerboat rules of competition.

## **HULL SPECIFICATIONS**

- 1) Any hull currently recognized by the existing NAMBA rulebook shall be eligible for outboard racing. At the discretion of the Contest Director, all hull classes may be run together. At the Contest Director's discretion, such classes may be run under either stock or modified engine rules.
- 2) The outboard racing class called Model Outboard Performance Craft Tunnel (OPC), was established to race model outboard tunnel boats that resemble those participating in Outboard Performance Craft Tunnel races as sanctioned by the American Power Boat Association.
- 3) Tunnel hulls shall be of a tunnel configuration with no restriction as to size, weight, or type of construction. A hull shall be classified as a tunnel if it meets the following requirements:
  - a. The general design of the tunnel hull should follow as closely as possible to the design of the full sized OPC tunnel hulls.
  - b. The hulls shall be stand-off scale, with no restrictions as to canted sponsons, tunnel dihedral, air traps, strakes, stern stabilizing fins, etc.
  - c. Imaginative painting, striping, company logos, and lettering schemes may be added and are encouraged.

- d. A close to scale driver with at least the head and shoulders must be provided unless proof of a reclining driver is offered as in OPC hulls. Boats without drivers must be painted to include a darkened windshield to resemble a closed-in cowl appearance.
- e. The tunnel may be of any design, width, or depth, but must run the full length of the hull.
- f. The tunnel must connect two outer hulls or sponsons which are unbroken and must also run the full length of the hull. Picklefork designs are acceptable. Outrigger configurations are not acceptable.
- g. Sponsons may be of any design and may include stepped surfaces on the wetted running sponson bottom of not more than 1/8" in depth. The 1/8" steps may not be less than 5" apart if used across the sponson. Only one step may be used if used lengthwise on the sponson.



- h. No hull shall be allowed to have a recessed or picklefork bow which exceeds 30 percent of the overall boat length. Airslots in the center hull must be subtracted from the overall hull length.

## SPECIALTY CLASSES

1. Quarter Scale Tunnel

- a. General Rules
  - 1) The class shall utilize all existing outboard tunnel rules unless otherwise specified.
- b. Hull Specifications
  - 1) Minimum hull length shall be 44 inches.
  - 2) Steps on the riding surfaces shall not exceed 1/4 inch.
- c. Engine Specifications
  - 1) Any engine from and including .67 (11cc) through 1.8 (30 cc) will be permitted. Multiple engines will be permitted.
  - 2) There shall be no restrictions as to either stock or modified engines.
  - 3) Engines shall use nitro fuel. No gasoline engines will be permitted.

## **OUTBOARD RECORDS**

- 1) The outboard classes shall comply with all general rules regarding the setting of NAMBA records.
- 2) Outboard records can be set in any legal NAMBA record format (i.e. heat racing, 1/16<sup>th</sup> mile straightaway, two-lap oval, etc.

Outboard records can be set in any engine size class provided for in Section F, General Powerboat Rules Of Competition.

- 3) Outboard records can be set in the following hull types:
  - a. Stock Tunnel
  - b. Modified Tunnel
  - c. Outboard Mono
  - d. Outboard Hydro
  - e. Outboard Deep Vee



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## SPORT HYDROPLANE

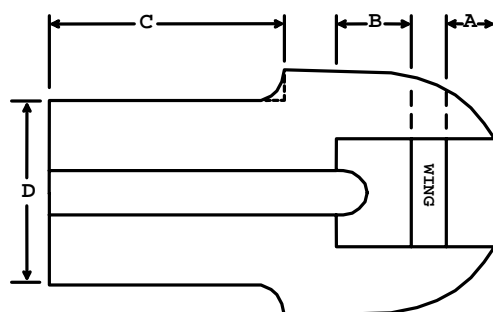
### A. GENERAL RULES

- 1) Boats will be checked for appearance prior to racing or at any time during the event.
- 2) Any boat not passing the technical inspection will be disqualified and forfeit the entry fee for that race.
- 3) A driver of scale like appearance must be used and must be of shoulder height except where a boat has an enclosed cockpit design. In this case, a visible driver will not be needed as long as a simulation of a windshield is part of the paint scheme.

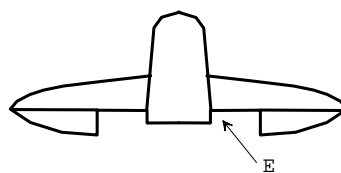
### B. BOAT SPECIFICATIONS

- 1) 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.
- 2) The deck, cockpit, tail, or fin configuration may be changed to keep boats interesting.
- 3) Hulls must be of Unlimited and/or Limited design, with all riding surfaces (drive train and prop not included) in front 50% of hull length.
- 4) The boat must be attractively painted in the spirit of Limited or Unlimited inboard hydroplane racing. Each boat must have a sponsor's name or logo affixed to the hull. The sponsor may be of the builder's choice: a hobby shop, gas station, local business, fictitious sponsor, etc. The boat must have the driver's NAMBA number on it preceded by the letter U. The number can be on the hull or tail. In cases where the boater uses the real Unlimited Hydroplane's "U" number, the driver's NAMBA number must appear somewhere on the visible portion of the boat in numbers at least 1/4" in height.
- 5) There shall be no exposed tuned pipes allowed. Tuned pipes shall be covered by a deck, a cowl or an exhaust shroud. That portion of a tuned pipe which is confined to the engine compartment shall be exempt.
- 6) Engine compartment covers and fake engines are not mandatory. Driver's cockpit, cowls, and tail fin sections are mandatory.
- 7) No out drive assemblies will be allowed.
- 8) The propeller drive dog may be one drive dog length behind the transom of the boat.
- 9) No twin rudders are allowed.
- 10) No twin propellers will be allowed, unless otherwise specified in specific class rules.

- 11) No boat shall have an after plane greater than 60% of the total length of the hull.  
Length "C" shall be measured from the transom to the point where the sponson is attached to the hull (Figure 1). The belly pan (measurement "E", Figure 2), if applicable shall be no deeper than the measurement given in Table 1. The depth of "E" shall be taken at the rear of the sponson, measured from the bottom of the hull to the top of the air trap.
- 12) In determining width "D", the rear sponson width shall not be included in the minimum measurement (Figure 1). The minimum tub widths shall be as shown in Table 1.
- 13) On pickle fork hulls length A plus B (Figure 1) must not exceed 25% of total hull length, unless otherwise specified in specific class rules.



(Figure 1)



(Figure 2)

(Table 1)

Class	Tub Width (D)	Depth (E)
Sport 21	4"	3/8"
Sport 40-I, II	5 1/2"	1/2"
Sport 60	7"	5/8"
Sport X	7 1/2"	3/4"

## C. CLASS SPECIFICATIONS

### 1) SPORT 21 HYDROPLANE

- a) The Class shall be named Sport 21.
- b) Minimum hull length shall be 27".
- c) The engine must conform to Class A specifications.

## 2) SPORT 40 HYDROPLANE

- a) Minimum hull length shall be 35”.
- b) Engine Specifications
  - i) Division 1
    - (a) 5.74 to 6.56 cc (.35 to .40 cubic inch), front intake, side exhaust, no full wave tuned pipes. Speed control must be by rotating barrel carburetors. Carburetor bore diameter is limited to 7.67 mm (.302”) for all engines except for non-schneurle ported engines, which may use rotating barrel carburetors of up to 7.92 mm (.312”) bore diameter. All carburetors must have needle valve and/or fuel discharge nozzle extending into the carburetor bore for a minimum of 3.04mm (.120”).
    - (b) The carburetor will be physically and dimensionally checked. Winning boats may be checked at the completion of day’s racing. If infractions are found, the boat will be disqualified and next boat moved up.
    - (c) A visual inspection by a race official for compliance to these rules will be made any time during the event. Boats not complying with rules will not be allowed to run until corrected.
  - ii) Division 2
    - (a) The engine must conform to NAMBA Class B Specifications. Tuned pipes are allowed.

## 3) SPORT 60 HYDROPLANE

- a) The class shall be named Sport 60.
- b) Minimum hull length shall be 42”.
- c) The engine must conform to Class C specifications.
- d) Hulls must either meet rule B-4, or be models of past or present American Power Boat Association Unlimited Hydroplanes that are listed on the R/C Unlimited Hull Roster. However, they may be painted as specified in rule B-3 of the General Rules.
- e) Any boat, which normally competes in the Unlimited Hydroplane class, will be permitted in the Sport 60 class.
- f) Rule B-13 does not apply to this class.

#### 4) SPORT X HYDROPLANE

- a) The class shall be named Sport X Hydroplane.
- b) Minimum hull length shall be 40”.
- c) The engine must conform to Class X specs.
- d) The use of twin props and drives will be permitted.

# **SCALE UNLIMITED HYDROPLANE COMPETITION**

## **GENERAL RULES**

1. Scale Unlimited Hydroplane Racing Rules are intended as a supplement to the General Powerboat Rules of Competition. In the case of a conflict, the Scale Unlimited Hydroplane Racing Rules shall 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 shall 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 shall 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.

## **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 regatta must consist of four (4) preliminary rounds of heats and one (1) final round of concluding heats. The concluding round of heats must consist of one (1) 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 (4) preliminary rounds shall occur by random draw. The drawing of boats into heats for round one shall occur immediately following the driver’s meeting and before heat racing begins. A drawing of boats into heats for rounds two through four shall occur in the presence of owners and drivers, if possible.
  - c. The boats with the highest points after the four (4) preliminary rounds shall 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 shall 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 shall 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 shall be determined by order of finish in the final.

## **HULL SPECIFICATIONS**

1. All boats shall be models of past or present American Power Boat Association 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 (1/8<sup>th</sup> Scale).
3. The true scale dimensions of any Scale Unlimited Hydroplane shall be derived from the unlimited dimensions listed on the Scale Unlimited Hydroplane Master Hull Roster. Boats shall 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. After plane length (three point design) ..... ± 10%
  - e. Tunnel Width ..... ± 10%
4. Boats shall 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 shall be the responsibility of the boat’s owner. Photographs of the boat are an acceptable form of documentation.
5. Boats shall 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 shall 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 best as is possible.
8. The number of props and rudders shall 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 shall 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.

## **ENGINE SPECIFICATIONS**

1. The engine must conform to NAMBA Class C specifications.

## **MASTER HULL ROSTER**

1. The Scale Unlimited Hydroplane Master Hull Roster shall contain the name and details that identify each boat that may be built for Scale Unlimited Hydroplane competition. It shall 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 31<sup>st</sup> of each year.
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 the American Power Boat Association racing committee.
  - 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.

## **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
    1. 0-20 points - Photograph(s)/Presentation
  - b. General Appearance
    1. 0-10 points - Workmanship
    2. 0-10 points - Engine, exhaust, and radio gear concealment
  - c. Detail
    1. 0-10 points - Engine/cowl detail
    2. 0-10 points - Driver detail
    3. 0-10 points - Cockpit detail
  - d. Paint Job, Markings, Etc.
    1. 0-10 points - True colors
    2. 0-10 points - Scale of markings, decals, lines, numbers
    3. 0-10 points - Overall finish

## **ANNUAL NAMBA NATIONALS**

1. All Scale Unlimited Hydroplanes entered in the annual NAMBA Nationals must have a photograph showing the general configuration and paint scheme of the full sized boat being modeled. Any exceptions to this must be approved in writing by the National Scale Unlimited Hydroplane Chairman.

# **ELECTRIC COMPETITION**

## **GENERAL RULES**

1. Electric racing rules are intended as a supplement to the General Power Boat Rules of NAMBA. In the case of a conflict, the electric racing rules shall prevail.
2. A positive method of speed control must be used. On/Off micro or variable speed controls are allowed.
3. The maximum permissible battery size is Sub C or 1.2 volt battery of any chemistry.

## **CLASS SPECIFICATIONS**

1. 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. 1-4 cells are permitted
  - N-1 A stock class utilizing any ROAR approved motor as defined by current ROAR parameters. 1-6 cells are permitted.
  - N-2 Any single motor, any endbell, bearings, and magnets. 1-6 cells are permitted.
  - O Any amount and/or size of motors, any endbell, bearings, and magnets. 7-8 cells are permitted.
  - P Any amount and/or size of motors, any endbell, bearings, and magnets. 9-12 cells are permitted.
  - Q Any amount and/or size of motors, any endbell, bearings, and magnets. 13-18 cells are permitted.
  - S Any amount and/or size of motors, any endbell, bearings, and magnets. 19-24 cells are permitted.
  - T Any amount and/or size of motors, any endbell, bearings, and magnets. 25-32 cells are permitted.
2. All of the above classes will be further divided into mono and hydro. For specifications on these hull types, see General Power Boat Rules of Competition, Section G. Other specialty classes may be added from time to time.

## **GENERAL RULES**

1. An oval course shall be defined as follows:
  - a. A minimum of three to a maximum of five buoys will be used to define the turns on both ends of the course. The turn radius will be 30 feet, measured to the outside of the buoys, and the straightaway will be 170 feet from the exit buoy at one end of the course to the entrance buoy at the other end of the course. One lap total distance will be 528.5 feet.
  - b. Total lap distance will be 4/10 of a mile for four laps and 1/2 mile for five laps.
  - c. The Contest Director shall determine the number of laps which will be run for each class at a district event. The number of laps to be run for each class must be specified on all entry information which is disseminated about the event. All classes which are run at the annual Electric Nationals will be run on a five lap course.
  - d. Separate NAMBA Electric Heat Racing records will be maintained for both the legal four lap course and the legal five lap course.
2. Straightline racing shall utilize the standard NAMBA 1/16 mile straightaway course.

## **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
    - 1.) The clock system used may be a visual clock or an audio tape type clock.
    - 2.) 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.
    - 3.) 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.
    - 4.) All boats shall leave the launch area and shall 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.

- 5.) 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.
  - 6.) 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
- 1.) The official start of the heat will be a signal from the Contest Director.
  - 2.) All stop watches will be started at the signal, and will be stopped when the driver finishes the required laps.
  - 3.) 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.

## **SPECIALTY CLASSES**

### **O SPORT SCALE HYDRO**

1. General Rules
  - a. Racing shall consist of four laps on the official NAMBA electric course.
2. Hull Specifications
  - a. Hull designs shall follow those for Sport Hydro with the following exceptions:
    - 1.) Hull length shall be a minimum of 20 inches and a maximum of 26 inches.
    - 2.) The drive train is entirely at the modeler's discretion, including the location of the drive dog and strut, if used.
3. Motor Specifications
  - a. Power parameters for this class shall comply with the class "O" specifications.

## **P SPORT SCALE HYDRO**

1. General Rules
  - a. This class will comply with the existing rules for 1/16th Sport Scale Hydro with the following exception:
    - 1.) Section 1 of General Rules will be eliminated and either legal NAMBA electric course may be used.
2. Hull Specifications
  - a. This class will comply with the existing rules for 1/16th Sport Scale Hydro with the following exception:
    - 1.) Hull length shall be a minimum of 24 inches.
3. Motor Specifications
  - a. Power parameters for this class shall comply with the class “P” specifications.

## **Q & S SPORT SCALE HYDRO**

1. General Rules
  - a. This class will comply with the existing rules for 1/16<sup>th</sup> Sport Scale Hydro except as specified in the specific rules that follow.
  - b. This class is a combination class and “Q” and “S” will be run together.
  - c. Because “Q” and “S” will be running together, heat racing records will be shown as “Q & S” Sport Hydro.
  - d. Separate straightline records will be maintained for “Q” and “S” Sport Hydro.
2. Hull Specifications
  - a. This class will comply with the exiting hull specification for O Sport Scale Hydro with the following exception: The Q hull length shall be a minimum of 29 inches and the S hull length shall be a minimum of 35 inches.
3. Motor Specifications
  - a. Power parameters for this class will comply with class “Q” or “S” specifications.

1. Race Format
  - a. Heat racing format will be used utilizing the NAMBA Electric five lap course.

## **LIMITED SPORT HYDRO**

1. General Rules
  - a. This class will comply with the existing rules for 1/12th Sport Scale Hydro except as specified in the specific rules that follow.
2. Hull Specifications
  - a. This class will comply with the existing rules for 1/12<sup>th</sup> Sport Scale Hydro.
3. 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:
    - 1.) Can Length: 66 to 67 mm (2.598 to 2.638 inches).
    - 2.) Can Diameter: 42.2 mm (1.661 inches). This excludes option torque ring.
    - 3.) Fixed endbell
    - 4.) Fixed brushes
    - 5.) Ball bearings and bushings are legal
    - 6.) 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 will conform to class “P” specifications with that the limitation that cells must be of Sub-C (no cells larger or smaller will be permitted). Sub-C shall be defined as 23mm diameter and 43 to 44 mm long.

#### 4. 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 urged to strongly consider the experience level of the individual contestants when judging the race and to make calls accordingly.

#### **1/10th SCALE CRACKERBOX**

1. Purpose - To duplicate in 1/10th scale the American Power Boat Association Crackerbox One Design Runabout.
2. Hull Specifications
  - a. Hulls must be within 1/8th inch of the appropriate hull.
  - b. The deck/hatch must resemble that of the full scale hull.
  - c. The boat must be painted 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 shall be 3/8ths of an inch in total (3/16th of an inch per side), with a transom width of 6 3/8th inches.
  - f. Drive Train
    - 1.) A single motor shall be coupled directly to a straight drive shaft. A flex shaft may be used in a straight tube.
    - 2.) The propeller may not extend beyond the back edge of the transom.
    - 3.) Steering shall be by a rudder mounted under the hull or attached to the transom.

3. Motor Specifications
  - a. Power parameters for this class shall comply with class “N-1” specifications.
4. Race Format
  - a. Heat racing format will be used.
  - b. The Contest Director shall determine the scoring format, i.e. total points or a “winner take all” final heat format.

## **P OPC TUNNEL**

1. General Rules
  - a. Electric Outboard Racing Rules are intended as a supplement to the NAMBA General Powerboat Rules of Competition. In the case of conflict the Electric Outboard Racing Rules shall 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.
2. Hull Specifications
  - a. Hull must be an outboard motor tunnel hull type.
3. Motor Specifications
  - a. This class will use the P class designation for power.
  - b. All boats must have motor mounted outboard of the hull. No inboards will be allowed.

## **OFFSHORE**

1. General Rules
  - a. Electric Offshore racing rules are intended as a supplement to the NAMBA General Powerboat Rules of Competition and to the NAMBA Offshore Competition Rules. In case of a conflict the Electric Offshore Racing Rules shall prevail.
2. Hull Specifications
  - a. Offshore hulls may resemble an authentic Offshore APBA / SBI / UIM hull from a distance of 10 feet or must be a Deep-Vee or Catamaran (tunnel) type hull.



- b. Stepped hulls will be allowed on both types of hull.
  - c. Open cockpit boats will be required to have a minimum of two driver figures.
- 3. Engine Specifications
  - a. Power parameters for this class shall comply with the class N-2, P, and/or Q specifications.
- 4. Race Format
  - a. The length of each heat shall be in 2 minute increments (i.e. 2,4,6,etc).
  - b. A flying clock start or Le Mans type start may be used.
  - c. Offshore classes (ie, N-2 / P / Q) may be combined at the Contest Director's discretion.
- 5. Race Courses:
  - a. Record Courses
    - 1.) Must be a NAMBA 1/10 mile electric course.
    - 2.) Left turn entrance buoy is to be located 45 feet from each turn exit buoy.
    - 3.) Left turn exit buoy is to be located 45 feet from left turn entrance buoy.

## **ECO**

- 1. Purpose - to provide an “economical” electric class utilizing affordable and readily available 05 motors and economical hardware.
- 2. General Rules
  - a. These ECO Class electric racing rules are intended as a supplement to the General and Electric Power Boat Rules of NAMBA. In the case of a conflict, class rules shall prevail.
  - b. This class will comply with the existing rules for electric Offshore with except as specified below.
- 3. 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.

#### 4. 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.

#### 5. Official Courses

- a. The course size for records shall 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. Straightline racing shall utilize the standard NAMBA 1/16 mile straightaway course. Straightline records must be set using cells described above.
- e. Record Courses
  - 1.) Must be a NAMBA 1/10 mile electric course.
  - 2.) The left turn entrance buoy is to be located 45 feet from each turn exit buoy.
  - 3.) The left turn exit buoy is to be located 45 feet from the left turn entrance buoy.
  - 4.) Because of the flexibility of the heat lengths and start types, for the calendar year 2003 it is recommended that no official oval records be set. However, straightaway records can be set in calendar 2003.

#### 6. Race Format

- a. The length of each heat shall be in 2 minute increments (i.e. 4,6,8 etc). When time is called, boats will race to the Start/Finnish to determine the final positions.
- b. A flying clock start or a Le Mans type start may be used.

# **GAS COMPETITION**

## **GENERAL RULES**

Gas Racing Rules are intended as a supplement to the General Power Boat Rules of NAMBA. In the case of a conflict, the Gas Racing Rules shall prevail.

## **CLASS SPECIFICATIONS**

### **G CLASS RULES**

#### **1. General Engine Specifications**

- a. Engines running in this class shall be industrial, lawn maintenance engines. Only industrial motors will be allowed in this class. Examples of such engines are Zenoah, Kawasaki, Homelite and U.S. Engines.
- b. Secondary parts such as water jackets, nose cones, drive components, shim plates, intake manifolds, carburetors, headers, pipes, etc. do not come under the "industrial" rule. Major components such as cranks, pistons, cases, and cylinder heads do fall under the rule and must be parts of the original motor manufacturer.
- c. Modifications are allowed to major and minor components to the extent that the part is still recognizable as a manufactured part. However, major components may only be modified by removing material. Adding material or parts to modify an engine's major components will be illegal. The only exception to this rule is that a cylinder may be modified to accept (add-on) a water jacket.
- d. Induction systems must be piston-ported. Modifications incorporating induction systems other than piston-ported systems are illegal. An example of this would be a Homelite engine manufactured as a piston-port induction engine modified to incorporate a rotor-valve induction system.
- e. Engines in this class must employ spark-induced combustion. Glow plug or compression-induced combustion is illegal.
- f. Recoil starters must be included on the original engine and must be retained on engines in this class. The recoil must be used as the primary means of starting the engine.
- g. Displacement is the swept volume of the engine, which is the cross sectional area of the cylinder multiplied by the stroke of the engine and two displacement ranges will be offered within this class:
  1. G-1 will include engines from 15 to 25.99 cubic centimeters.
  2. G-2 will include engines from 26 to 35.99 cubic centimeters.

## 1. Fuel Specifications

- a. Gasoline having an octane rating no higher than 100 must be used in this class.

To enforce this rule, a protest may be made to the contest director any time during

- b. the contest. Protests must be accompanied by a \$10.00 protest fee that will be awarded to the sponsoring club. The offending racer will be made to use the protesting racer's fuel for the duration of the contest. If the fuel is unacceptable to the offending racer, fuel from a neutral party must then be used by both the offending racer and the protesting racer. In this situation, the neutral party would be awarded the protest fee in payment for the fuel.

## OPEN CLASS RULES

### 1. General Engine Specifications

- a. Engines running in this class will not be required to fall under the “industrial” rule. Displacement is the swept volume of the engine, which is the cross sectional area of the cylinder multiplied by the stroke of the engine and two displacement ranges will be offered within this class:

1. GX-1 will include engines from 15 to 25.99 cubic centimeters.

2. GX-2 will include engines from 26 to 35.99 cubic centimeters.

- b. Engines in this class must employ spark-induced combustion. Glow plug or compression-induced combustion is illegal.
- c. Induction systems may include piston port induction, reed valve induction, rotor-valve induction and drum valve induction.

### Fuel Specifications

- a. Gasoline having an octane rating no higher than 117 must be used in this class.

- b. To enforce this rule, a protest may be made to the contest director any time during the contest. Protests must be accompanied by a \$10.00 protest fee that will be awarded to the sponsoring club. At this point the offending racer will be made to use the protesting racer's fuel for the duration of the contest. If the fuel is unacceptable to the offending racer, fuel from a neutral party must then be used by both the offending racer and the protesting racer. In this situation, the neutral party would be awarded the protest fee in payment for the fuel.

## HULL SPECIFICATIONS

### GENERAL RULES

- 1. All hulls shall be limited to a maximum length of 60” and a maximum width of 30”.

2. Primary propulsion must be by a propeller making contact with the water. No air drive or jet drive propulsion is permitted.

## **HULL CLASSIFICATIONS**

### **1. Monoplane**

- a. Mono hulls must have a single riding surface at planing speeds. This planing surface may be flat or a V configuration.
- b. No lateral side to side breaks are permitted.
- c. Lap strakes may be used. If used, they must be parallel to the keel for a minimum of 60 percent of the hull length, measuring from the transom forward. The strakes may merge to the keel after the 60 percent minimum has been exceeded.
- d. Lap strakes on hulls 46" long and under and with a beam width of 15" and under may have a maximum lap strake width of  $\frac{3}{4}$  inch and depth of  $\frac{1}{4}$  inch.
- e. Lap strakes on hulls over 46" long and with a beam width over 15" may have a maximum lap strake width of  $\frac{3}{4}$  inch and a depth of  $\frac{1}{2}$  inch.
- f. The depth of the lap strakes is measured from the bottom (primary running surface) to the lowest point on the lap strake.

### **2. Outrigger Hydroplane**

- a. Outriggers may have more than two planing surfaces.
- b. General design shall consist of two forward sponsons connected to the tub by booms.
- c. This class is an open design class.

### **3. Sport Hydroplane**

- a. Sport hydroplanes may have more than two riding surfaces touching the water at planing speeds.
- b. This class will include both three-point hydros and canards.
- c. All sport hydros must resemble full scale racing boats and may be of current or historical design.
- d. The sponsons may have pads or breaks that contact the water at planing speeds.

4. Catamaran
  - a. Catamarans have two sponsons that normally run the full length of the hull.
  - b. Sponsons are separated and connected together by a tunnel.
  - c. Sponsons may have lateral breaks.
5. Crackerbox
  - a. All boats shall be models of full sized crackerboxes.
  - b. The letter “P” must precede or follow the NAMBA number on each side of the hull.
  - c. The minimum length shall be 43.5 inches and maximum length shall be 49 inches.
  - d. Minimum beam width shall be 16.5 inches.
  - e. The bottom must be generally flat with a maximum of a three degree V at the transom. There may not be any pads or lap strakes.
  - f. The deck and hatch must resemble that of a full sized crackerbox.
  - g. Two drivers of ¼ scale size and appearance, wearing helmets and life preservers must be used.
  - h. A steering wheel, instrument panel, and other detailing is encouraged.
  - i. No parts (rudder, prop, plates, etc.) may be more than four inches behind the transom.
  - j. The exhaust system must be enclosed by the hull. No part of the exhaust system may extend beyond the transom with the exception of a small pipe muffler or transom exhaust flange.
  - k. No servo adjusted trim tabs are permitted.
6. Classic Crackerbox
  - a. All general Crackerbox rules apply with the following exceptions:
    1. The hull must be made completely of wood. It is permissible to cover the hull with fiberglass and resin. The minimum running weight will be 15 pounds.
    2. Classic Crackerboxes may run in the general Crackerbox class but not on the same day.