

**SECTION
H
NITRO
SPECIAL
CLASSES**

IMPBA OFFICIAL RULE BOOK

SECTION H

NITRO SPECIALIZED CLASSES

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NITRO SPECIALIZED CLASSES

I - MODEL OFFSHORE POWER BOAT RACING

A. General

1. The intent of this event is to simulate Offshore Racing as sponsored by the American Power Boat Association (A.P.B.A)
2. Model boaters are cautioned to conform to the content of this event, i.e., to simulate Offshore Racing Hulls.
3. Boats must have driver and crew, and/or simulated enclosed cockpit.
4. While models paint scheme do not need to be scale to real boats, they must be painted in the Offshore Style, with numbers, sponsors, names, etc. See "Offshore Paint Schemes" in this section.

B. District Offshore Director

1. Responsibilities
 - a. Coordinating regulations for his district
 - b. Power to appoint a committee to resolve protests
 - c. Oversees the operation of offshore boats in his district and assist IMPBA in offshore matters.
 - d. Keep point record for district high point trophy.

C. Hulls

1. IMPBA legal Mono and Catamaran hulls.
2. The use or inclusion of stepped (Deep Vee) mono hull in the gas offshore classes.

D. Engines

Any IMPBA legal engine, including gasoline

E. Propulsion and Control Systems

1. Propulsion must be by water propeller
2. Rudders, struts, cavitation plates, etc., have no restrictions

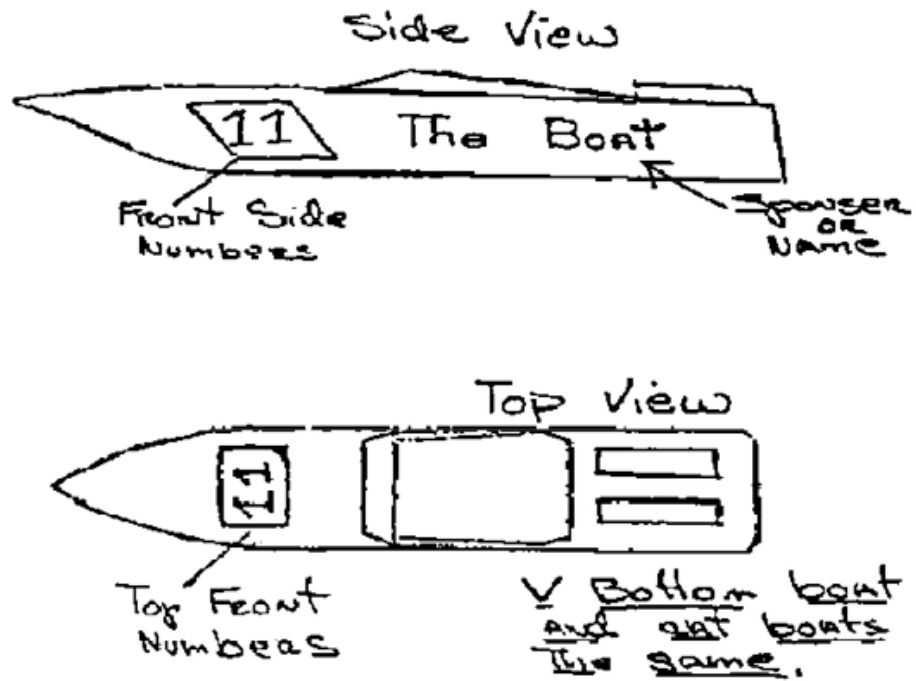
F. Racing Rules

Racing rules will, in general, conform to section G, Contest and Racing Rules, Classes and Courses with the following exceptions:

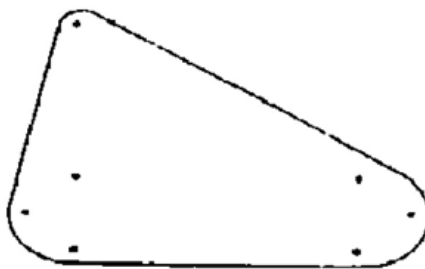
1. Sponsoring club will have the authority to stipulate:
 - a. Type of start, i.e., clock or LeMans
 - b. Length of race and whether it is distance (specific number of laps) or time (specific time period) and whether or not there is a mandatory pit stop.
 - c. Which engine classes will be run individually or together
 - d. Designate the course to be run as either Course A, Course B, or Course C from illustrations listed in "Offshore Courses", or a course to be listed on the club's flyer.

All of the above information should be stipulated clearly on the circular distributed by the host club.

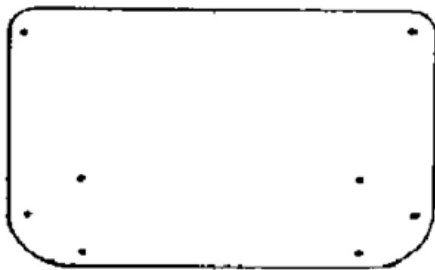
G. Offshore Paint Schemes



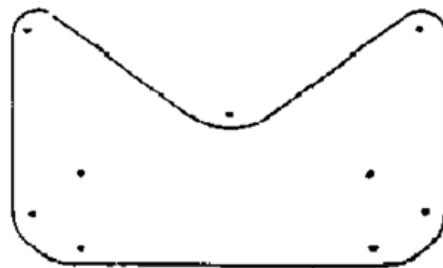
H. Offshore Courses



Course A



Course B



Course C

II - SCALE UNLIMITED RULES

A. General

The purpose is to realistically duplicate the Unlimited class of Hydroplanes.

B. Function of District Chairman

1. Responsibilities

- a. Coordinates registrations for their district.
- b. Has the power to appoint a committee to resolve protests.
- c. Oversees the operation of scale hydros in the district and assists IMPBA in scale hydro matters.
- d. Keeps point record for district high-point trophy.

When vacancies occur, this position will be appointed by the current District Director and the National Scale Hydro Chairman.

C. Registration Procedures

1. All boats must be registered with the District Chairman.
2. The District Chairman will require the following information in writing:
 - a. Name, address and phone number
 - b. IMPBA number
 - c. Unlimited name, year raced, and number
 - d. Length and beam of prototype boat and model
 - e. Prototype designer and boat colors
 - f. Must submit a photo of prototype boat
 - g. \$5.00 annual District registration fee to be submitted upon completion of model & prior to it competing in a sanctioned event. Purpose of fees-monies is to cover registration printing costs & postage fees. A boat registered in one District may race in any District.
3. Boat must compete at a racing event within one year from registration.

D. Engine and Boat Specifications

1. All models must be of a real unlimited hydroplane as listed in the APBA Master Hull Roster list. The model owner must show the real boat attempted to qualify, qualified or raced in an actual sanctioned racing event, in the configuration being modeled, via photographic and/or written documentation. Failure to adequately meet the validation requirements can result in the model not being allowed to compete in an IMPBA event until proper documentation is obtained.
2. All boats to be built to a scale of 1- 1/2" to 1'0" (1/8 scale) plus or minus 10% of the beam and 5% of the length.
3. Boats will look as scale as possible and meet the following requirements for racing and scale judging:
 - a. Cockpit with driver
 - b. Complete all major lettering and paint schemes
 - c. Effort must be made to conceal glow engine with fake engine or cowling as per prototype boats.
 - d. Minimum 50% of glow engine crankcase (flywheel is not considered part of crankcase) must be concealed with fake engine or cowling as per prototype boat.

4. Hull bottom and running hardware will not be judged or checked. However, hull must not deviate from conventional 3-point hydro (unless prototype was a different design).
 - a. Hull bottom must be scale appearing.
 - b. Belly pants are acceptable to clear engine and/or flywheel.
 - c. Secondary front sponson running surfaces are optional.
 - d. Air traps are optional.
5. Engine must correspond with IMPBA Class "E".
6. Boat shall use same number of propellers as the prototype.
7. The drive dog must not extend beyond the transom unless the prototype's strut and/or drive dog did so. Photo documentation may be requested for proof by race CD or district scale director.
 - a. The drive dog may extend only a maximum of one and one-half (1.5) inches beyond the transom on boats that have documentation.
8. No twin rudder assemblies allowed.
9. Boats should have the ability to change frequency.

E. Rules for Optional Scale Judging (Concourse)

1. Boat must accumulate 50 points in racing to qualify for scale judging.
2. Judging points to be separate from racing points.
3. All boats are to be judged no closer than 5 feet.
4. A picture must be submitted for the scale judging.
5. Points as follows:
 - a. 1 to 10 overall scale appearance
 - b. 1 to 10 for detail, engine, cowl, driver, etc.
 - c. 1 to 10 for paint job, markings, etc.
 - d. 1 to 10 for construction

F. Racing Rules

1. Normal IMPBA driving rules will be followed.
2. Only the registered owner can race his unlimited.
3. All boats shall run 3 qualification heats. There shall be no more than 6 boats in a heat.
4. At the conclusion of the qualification heats, the top 5 boats, based on point total, shall go into the Final.
5. To get the 6th boat for the final, the next 6 boats, based on qualification heat points, shall compete in a Consolation Race with the winner by points in Consolation race going into the Final. In the event that the boats that have a tie are in 5th place, both boats go into the Final and the final field of 6 boats is established. Scale Final is a "winner-take-all" heat with trophies awarded based on points earned in that Final.
6. Heat races will be 6 laps in length and will follow standard IMPBA starting procedures. The last boat running rule may be used, except at the International Regatta.
7. Frequency choice will be made in the point system. If a frequency conflict appears, the boat with higher points will have preference. If the conflicting boat does not wish to change frequency, it will be put into the consolation race and all other boats moved up.
8. Main Event and Consolation race points do not count toward the seasonal high point awards.
9. Seasonal points accumulated in racing will go to registered owner at time of competition.
10. Cutting a buoy on the inside before or during the race shall incur a one-lap penalty. Hitting a buoy on the outside at any time shall incur a 50-point penalty.

11. Normal heat racing rules can be used as optional racing format however each heat will be limited to no more than 6 boats raced together at any one time. International Regatta racing will revert to regular heat racing rules for Scale US-1 with the same 6 boat per heat limit.
12. If any removable parts (cowling(s), wing(s), dummy engine, driver, etc.) fall off during a heat, except as the result of a collision, that boat will receive no more than sixth place points for that heat. This penalization does not affect the finishing placement of the boat, only the points awarded. The points awarded and placements of the other boats in the heat are not affected by this ruling.

G. Records

1. Records shall be established in the Scale Unlimited class as listed in the "Records" section of Rules of Competition.
2. Only boats properly registered will be eligible to establish records.
3. Only the registered owner can attempt to set a record with the registered Scale Unlimited.

III - SPORTSMAN 40 HYDRO (SPORT 40 HYDRO)

A. Boat Specifications

1. Boat must be inboard powered.
2. Hull must be a three (3)-point hydroplane configuration and resemble a limited or unlimited hydroplane design of past or present, except outrigger, modified outrigger, tunnel, or canard hulls are NOT permitted.
3. Boat must have a name, sponsor's name, logo, and/or a racing number affixed to hull (a local, national, or fictitious sponsor name is acceptable).
4. Hull shall be a minimum of 35 inches and a maximum 40 inches in length.
5. If the bow is recessed behind the tips of the sponsons (i.e. pickle fork design) the recess less canard wings shall be no longer than 25% of the overall length of the boat starting from the sponson tips back. Canard wings individually cannot exceed 3.5 inches in length. Having more than one set of canard wings you are only allowed a total of 5 inches of combined wing length. (Refer to Sport Hull Configuration drawings)
6. Open cockpit boat designs must have a full or partial 3-D driver figure.
7. Closed cockpit boat designs must have a minimum of a simulated enclosed cockpit i.e. (painted, decal, etc) windshield.
8. A strut width no greater than 9/16 inch wide or a length longer than 3 inches may be mounted either under the hull or on the transom with the farthest end of the drive dog as measured from the transom not extending out more than 3-1/2 inches. (See Sport Hull drawing for clarification.)
9. Model Engine must be fully cowled except for air and water inlets and exits (this excludes the exhaust system).
10. Belly pans are allowed but must terminate aft smoothly and extend no further than 50% of the aft plane. Belly pans must be at least 3/8 inch above the bottom planning surface of the boat measured with the boat resting on its 3 points on a static table.
11. The bottom of the hull from the sponsons must start tangent or outboard of the inside of the sponson, and transition smoothly to the transom. (see **Exhibit A**)
12. The width of the bottom of the transom must be 65% or more of the width between the forward riding surfaces. On a shovelnose/roundnose hull that has a tapered transom bottom, the 65% rule will apply to the hull bottom at a point 3-1/2 inches forward of the transom.
13. Hull/Deck venting is not allowed.
14. From a top view the transom must be a constant uninterrupted plane. (refer to Sport Hull Configuration drawings)

15. Shoes, skis or dihedral are not allowed on the transoms lower plane. The lower edge of the transom must remain flat excluding non-trips.
16. Air traps 1/8 inch wide are allowed and must start at the back of the front sponson and at termination be no deeper than 1/4 inch. Non-continuous air traps will be considered a planning surface.

B. Engine Specifications

1. IMPBA **D class** engine shall be used.
2. Twin engine installations are not allowed in Sport 40.

C. General Rules

Racing to be conducted following current IMPBA, Contest and Racing Rules, racing procedures and format.

IV - SPORTSMAN 20 HYDRO (SPORT 20 HYDRO)

A. Boat Specifications

1. Boat must be inboard powered.
2. Hull must be a three (3) point hydroplane configuration and resemble a limited or unlimited hydroplane design of past or present. Hulls not permitted: outrigger, modified outrigger, tunnels, or canard hulls.
3. Boat must have a name, or sponsor's name, or logo, or a racing number affixed to the hull. (a local or national or fictitious sponsor name is acceptable).
4. Hull shall have a minimum length of 27 inches, and a maximum length of 35 inches.
5. If the bow is recessed behind the tips of the sponsons (i.e. pickle fork design) the recess less canard wings shall be no longer than 25% of the overall length of the boat starting from the sponson tips back. Canard wings individually cannot exceed 2.5 inches in length. Having more than one set of canard wings you are only allowed a total of 4 inches of combined wing length. (refer to Sport Hull Configurations)
6. Open cockpit boat designs must have a full or partial 3-D driver figure.
7. Closed cockpit boat designs must have a minimum of a simulated enclosed cockpit i.e. (painted, decal, etc) windshield.
8. A strut width no greater than 9/16 inch wide or a length longer than 3 inches may be mounted either under the hull or on the transom with the farthest end of the drive dog as measured from the transom not extending out more than 3-1/2 inches. (See Sport Hull drawing for clarification.)
9. Model Engine must be fully cowled except for air and water inlets and exits (this excludes the exhaust system).
10. Belly pans are allowed but must terminate aft smoothly and extend no further than 50% of the aft plane. Belly pans must be at least 3/8 inch above the bottom planning surface of the boat measured with the boat resting on its 3 points on a static table.
11. The bottom of the hull from the sponsons must start tangent or outboard of the inside of the sponson, and transition smoothly to the transom. (see **Exhibit A**)
12. The width of the bottom of the transom must be 65% or more of the width between the forward riding surfaces. On a shovelnose/roundnose hull that has a tapered transom bottom the 65% rule will apply to the hull bottom at a point 3-1/2 inches forward of the transom.
13. Hull/Deck venting is not allowed.
14. From a top view the transom must be a constant uninterrupted plane. (refer to Sport Hull Configuration drawings)

B. Engine Specifications

1. IMPBA **B class** engine allowed in Sportsman 20 Hydro.
2. Twin engine installations are not allowed in Sportsman 20 Hydro.

C. General Rules

Racing to be conducted following current IMPBA Contest and Racing Rules, racing procedures and format.

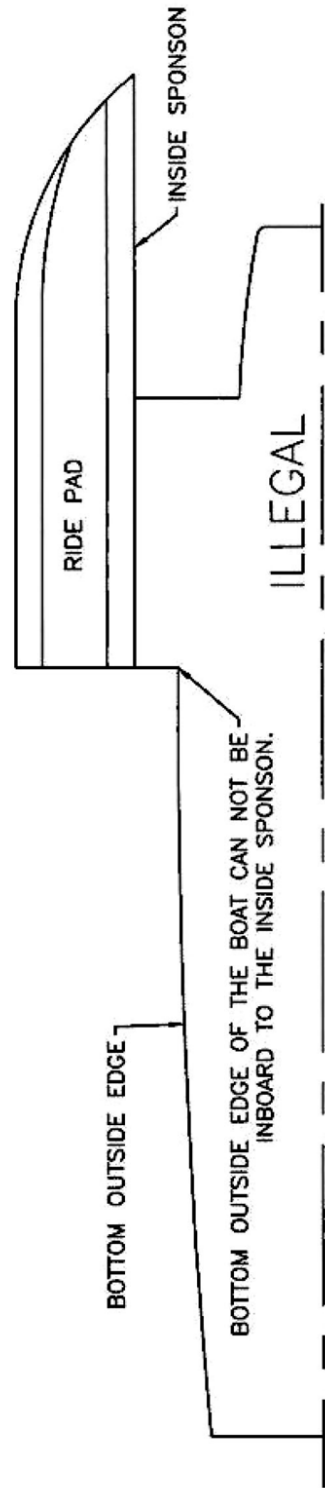
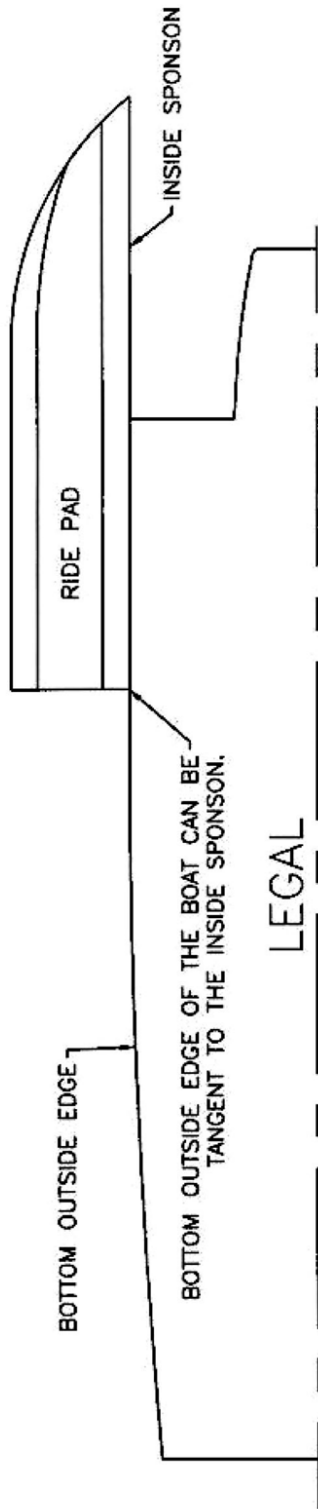
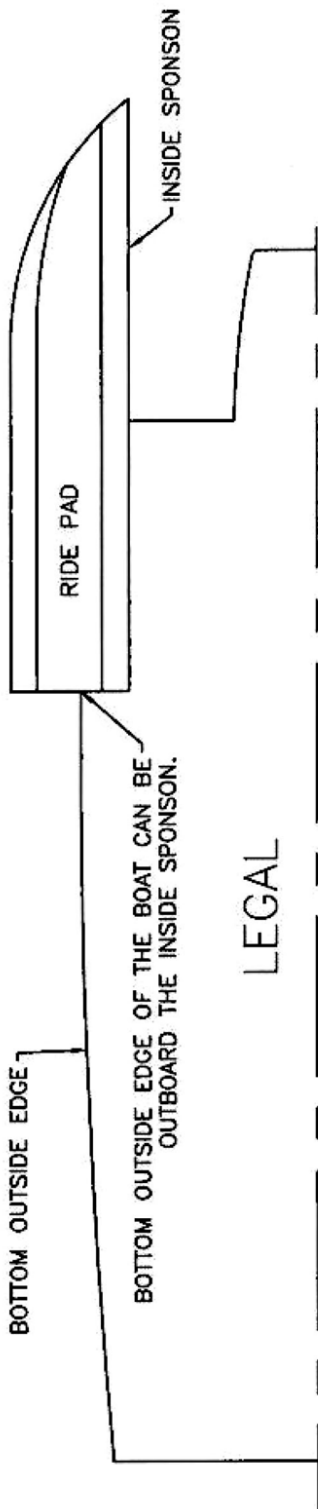
V - SPORT 12 HYDRO

A. Boat Specifications

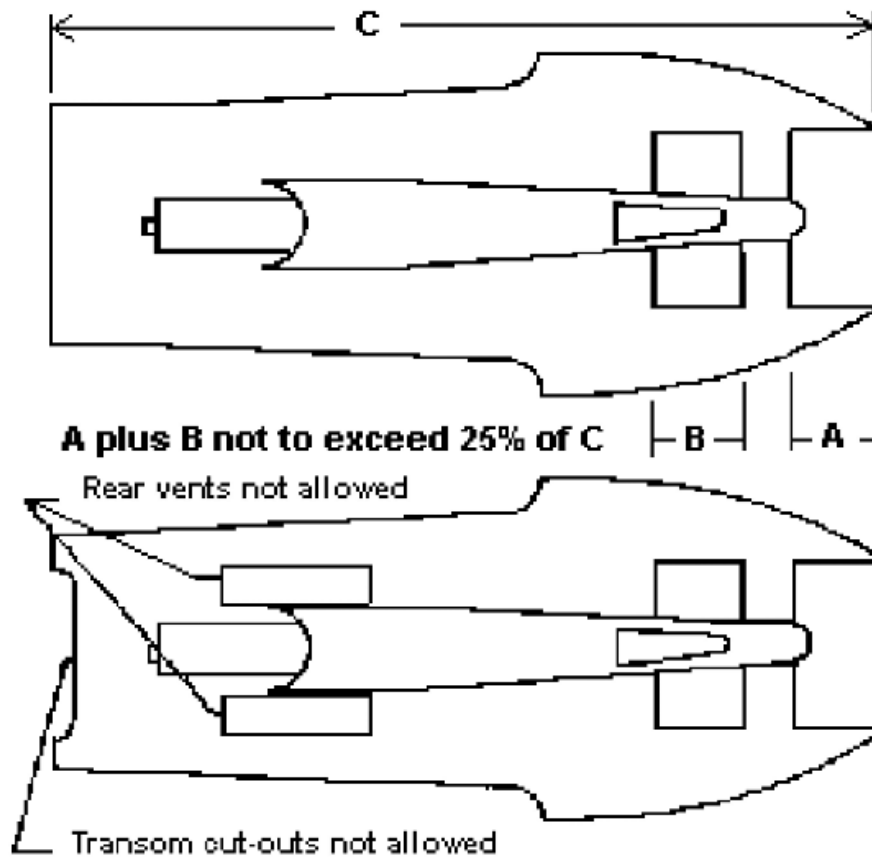
1. Boat must be inboard powered by a legal IMPBA "A" class engine.
2. Hull must be a three (3) point hydroplane configuration and resemble a limited or unlimited hydroplane design of past or present. Hulls not permitted: outrigger, modified outrigger, tunnels, or canard hulls. NOTE: models designed after a 2 or 3 "wing" limited or unlimited hydroplane design will be legal.
3. Boat must have a name, or sponsor's name, or logo, or a racing number affixed to the hull (a local or national or fictitious sponsor name is acceptable).
4. Hull shall have a minimum length of 20 inches, and a maximum length of 30 inches.
5. If the bow is recessed behind the tips of the sponsons, that recess shall be no larger than 25% of the overall length of the boat. (refer to Sport Hull Configurations)
6. Boat must have a driver in open cockpit or simulated enclosed cockpit.
7. A strut width no greater than 3/8 inch wide may be mounted either under the hull or on the transom with the farthest end of the drive dog, as measured from the transom not extending out more than 3 inches.
8. See Sport Hull pictorial for clarification of Sport Hull Configurations

VI- SPORT HULL CONFIGURATIONS

EXHIBIT A



Sport Hull Configurations



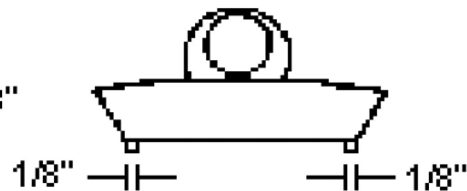
Bottom Extensions

Not Allowed



Bottom cut-ups

Air Dam
Max. Width 1/8"



Maximum Strut dimensions 9/16" wide x 3-1/2" long
(Sport 12 Maximum Strut dimensions 9/16" wide x 3" long)

VII - OUTBOARD RULES

A. Engine and Hull Specifications

1. There are two outboard classes - Tunnel and Hydro (Outrigger).
2. There are six engine classes – A, B, C, D, E, and F.
3. The tunnel outboard classes shall not lock down engines nor use an auxiliary steering system.
4. The hydro outboard classes may lock down engine and steer by an auxiliary steering system.

B. Racing Rules

1. Racing rules will conform to the IMPBA, Contest and Racing Rules, Classes and Courses (1/4 mile & 1/3 mile).
2. At the IMPBA International Regatta all classes will run for 6 laps.
3. IMPBA clubs hosting outboard races may change the number of laps for the above classes upon notification to the contestants 14 days prior to the date of the published event.

C. Records

Records shall be established for Outboard Tunnels and Outboard Hydro for the 6 engine classes.

VIII - SPORT OUTBOARD TUNNEL RULES

A. Engine and Hull Specifications

1. There shall be one engine class, Class B.
2. The Sport outboard class shall use tunnel boats only.
3. The Sport outboard tunnel class shall not lock down the engine or use any auxiliary steering system.
4. Original carb bore and exhaust configuration will be retained as manufactured. No modification to the carb bore or exhaust outlets will be allowed.
5. No high performance exhaust systems (tuned pipes) will be allowed, even if they are offered by the manufacturer of the engine. Clarification: the two outlet exhaust / muffler chambers offered by K&B and O.S. are not considered tuned pipes and will be allowed in the Sport outboard tunnel class.

B. Engine Specifications

1. Engines must be standard factory production with a minimum of 100 units available for sale to the general public. To be eligible for the International Regatta the engines must have been offered for sale to the general public not less than ninety (90) days prior to that year's International Regatta.
2. The powerhead and lower unit must be of the same manufacturer and model.
3. The engine external parts shall remain as originally manufactured, but any part from a manufacturer's outboard may be replaced with any other outboard part for the same size outboard from the same manufacturer, the exception being that slide valve exhaust adapters may not be used with carburetor equipped engines.
4. The following exceptions will be allowed in the Sport Outboard Tunnel specifications:
 - a. Adhesives (loctite), set screws and jam nuts.
 - b. Any carb linkage arms.
 - c. Any motor mount.
 - d. Any glow plug, fuel brand and mixture.
 - e. Any type steering arm.

- f. The factory color finish may be altered or removed as an appearance alteration.
- g. Any flywheel nut.
- h. The lower unit below the cavitation plate may be trimmed, sharpened or polished. No material shall be added to the lower unit.
- i. Adjustable mixture controls will be allowed, however the original needle valve must remain in its original position.

C. Sport tunnel engine inspection procedures

The maximum carb bore and exhaust outlet bore size shall not exceed 0.320 inches. These may be checked with a 'GO, NO-GO' gage or dial calipers. Note: It will be the contestant's responsibility to check and verify carb bore and exhaust outlet bores prior to the contest. Any infraction concerning the carb or exhaust bore sizes will result in immediate disqualification from the contest.

IX - PRODUCTION RTR

A. Technical Specifications

- 1. Classes - Boat hull must be of vacuum formed ABS plastic, wood, and/or fiberglass Production RTR. In order to qualify as a production RTR boat, it needs to be, or have been, available to the public through nationally recognized retail channels and at least 300 boats need to have been produced.
- 2. All hulls must have positive buoyancy characteristics when operated, and display colorful decals to enhance the spirit of this class.
- 3. Classes may be divided by manufacturer, model, propulsion type and sizes, average cost, or potential speed, if sufficient boats are entered.

B. Propulsion and Control Systems

1. Stock Division:

a. Engine:

The engine must remain STOCK. No internal or external modifications are allowed beyond replacement of stripped or worn bolts with non OEM pieces. If the engine is replaced it must be of the same model as was included by the manufacturer. If the original engine is no longer available, a replacement engine of a similar size and price will then be allowed.

If the engine was shipped with a head shim, this can be removed. To promote competition, clubs can optionally permit boats that originally came with a smaller displacement engine to be upgraded with a stock engine for the boats they are competing with.

b. Exhaust:

Exhaust system must remain in the stock condition as the boat was received in the RTR box. If equipped with a tuned pipe, length adjustments are allowed. Replacement of tuned pipe couplers with an alternate material is also allowed. Addition of extra cooling outside the header is permitted. Also permitted is the addition of extra muffling, to quiet the boat down, as long as the original exhaust remains in place.

c. Starting method:

The engine will be started using the method provided by the manufacturer. If equipped with a flywheel that allows belt starting, a belt can be added and an electric starter used. In all cases, the original starting equipment, such as a pull starter, must remain on the engine and be fully functional. Unless specifically noted in these rules, modification of the original boat, including replacement or alteration of parts, is not permitted.

d. **Exceptions** are listed below:

- i. **Propellers:** Replacement of the original propeller with aftermarket propellers is permitted.
- ii. **Starting method:** In cases where alternative starting methods were part of the stock boat, such as a grooved flywheel on a pull start engine, the optional starting method is permitted.
- iii. **Radio system:** The entire radio system including transmitter, receiver, servos, battery, etc, can be replaced. The original radio box can be replaced with one of a similar size and it must remain in the original location.
- iv. **Riding surfaces:** The riding surfaces of the boat, the parts that contact the water, may be sanded to obtain a true surface and square edges. Materials may not be added which change the original shape of the running surfaces.
- v. **Turn fin, strut, and rudder:** Modification or replacement of the original turn fin is allowed. Slots in the strut can be lengthened to allow additional up and down movement. These parts can also be replaced with add-on parts from the original manufacturer that are specifically designed for that model.
- vi. **Engine mounts:** To assist with noise abatement, solid engine mounts may be converted to rubber mount via modification or replacement.
- vii. **To foster variety:** removing, adding, or replacing cosmetic parts, such as drivers, decals, paint, etc. is permitted. Modification of cowls to improve internal cooling is allowed. Rear wings, such as are included with scale appearing Hydroplanes, must remain in place.
- viii. **Alternate non-performance enhancing maintenance parts** including fuel lines, flex shafts, and shaft collets, can be used.

2. **Modified division:**

The modified division permits modification or replacement of all parts. The only limitation is that the engine must have the same displacement as was originally shipped with the boat.

C. **Racing Rules**

Racing rules will conform to IMPBA contest and racing rules. Boats will run on full course or if desired, a short course can be defined. This is a non US-1 Class.

X - MULTI-ENGINE HYDRO

- A. The hull will be a hydro as defined in the Rule Book. Under the title of Hydro Hull Definitions and Restrictions.
- B. The boat must have a minimum of 2 engines.
- C. This will be a Nitro/Glow only class.
- D. The boat must have each engine connected to a shaft/propeller or the boat may have a minimum 1 shaft/propeller so long as all engines are connected and driving the 1 shaft/propeller or the boat can have multiple shafts/propellers so long as all shafts/propellers are connected and driven by an engine or engines.
- E. The minimum displacement for two or more engines will be 0.610 cu. in. or 10cc. The maximum total displacement will be 2.50 cu. in. or 40.96cc.

XI – NITRO INTERNATIONAL REGATTA

A. US-1 Eligible Classes

The following 15 classes may enter the 1/16 mile SAW, 1/3 mile Oval, and multi-boat heat racing events at a US-1 format Nitro International Regatta to be eligible for the US-1 International Champion and Excellence of Performance Trophies per Section E-Procedures.

1. AB, CD, E and F Hydro and Mono; B, D, E and F Outboard Tunnel; 1/8 Scale Hydro; Sport 40; Multi-Engine Hydro.