## ARTICLE 19. GENERAL TECHNICAL RULES AND REQUIREMENTS

A. This class shall be for hydroplanes only. Minimum length shall be 20' 0" excluding projections. Maximum length shall be 26' 0" including projections. Maximum width shall be 12' 6". Maximum tunnel width shall be 78". Hull must have suitable flotation.

B. Fuel used will be racing gas only for engine options one through five and racing gas or methanol for engine option six. The H & H method of testing gasoline shall be allowed. Gasoline passing same shall be considered legal provided it meets the following specifications:

1. Specific gravity shall not exceed .770.

2. Polarity electronic tests shall read between +5 and -5 on the H & H tester or equivalent method.

C. Propulsion will be by one underwater propeller. Outdrives are not allowed. Said propeller shall have no more than three blades.

D. All APBA Inboard safety rules apply to this class.

E. Boat high points may be transferred to a team backup boat. The backup boat must have the same name and be run under the same number as the primary hull. Only one boat may be used to accumulate points under a registration number at an event.

F. Two-way radio communications are mandatory at all Unlimited Light events. It is mandatory that a team radio person be in the designated area to maintain communications with race officials. Frequency checks shall be reviewed at the drivers' meeting to determine conflicting or overlapping channels between boat camps.

G. All entries racing in an unlimited light race must have cockpit construction as detailed below.

1. All boats built prior to January 1, 1998 shall comply with inboard racing rules Section B., Type 3 restraint capsule.

2. All boats built after January 1, 1998 shall comply with inboard racing rules Section B., Type 4 restraint capsule.

H. Strobe lights are mandatory at all unlimited lights events and a fine will be imposed if a competing boat does not have one.

I. All boats must have an on-board minimum 5 lb. 1211 Halon (or approved equal) fire extinguisher securely mounted outside the cockpit area. Activation of the fire system will be with a handle marked with the word Fire, and easily accessible without removing the engine cowling. It is recommended that a minimum of two spray nozzles be installed in the engine compartment.

J. Multiple speed gearboxes are not permitted.

K. Vertical wings are required to run for points or series prize money. There shall be one vertical wing on each side of the boat, the placement of which shall be as follows:

1. The top tip of the wing shall be equal to or behind the transom of the boat

2. The outside surface of each wing shall be no further inboard than 12 inches from their respective sides of the boat

3. Minimum dimensions of each Wing

   a. Height 29 inches (measured from deck)

   b. Width
      Base 28 inches
      Top 17 inches

   c. Thickness
      Base 2.25 inches
      Top 1.25 inches

   d. Frontal Area
      52 square inches on each wing

4. There shall be no venting through the cord of the wing

5. Guide wires or any form of bracing is allowed

## ARTICLE 20. INSPECTION PROCEDURES

All current inspection procedures outlined here and in the APBA Inboard racing rules apply. All technical dimensions are to be measured with plus or minus .005 inch tolerance. A qualified Inspector will be appointed by the ULHRA Commissioner.

Inspection will include:

1. Length of hull

2. Weight of hull with drain plugs removed, water drained and no other changes.

3. Fuel check

4. Cubic inches

5. Carburetor size

6. Inspection of cylinder heads

7. Other inspection deemed appropriate by Inspector

## ARTICLE 21. HULL AND ENGINE SPECIFICATIONS

There will be six options for hull and engine specifications allowed to compete in the UL class.

**Option One**

A. Hull minimum weight in racing trim, without driver, shall be 2,000 pounds.

B. Engine

1. U.S. Manufacturer, automotive or marine, four cycle, internal combustion type.

2. Total cubic inches not to exceed 468.

3. Engine must be normally aspirated utilizing any American-made 600 CFM carburetor with a throttle bore as follows:

   a. Primary 1-9/16" max.

   b. Secondary 1-9/16" max.

   c. A .250 inch thick restrictor plate, located a maximum distance of 1.50 inches directly beneath the carburetor, with these dimensions, will be acceptable.

4. Ignition may be any type.

5. No overhead camshafts

6. Maximum two valves per cylinder.

7. Cast intake manifolds only. Must be available from a major manufacturer. Plenums and spacers may be fabricated.

8. No nitrous oxide or other power producing additives.

**Option Two**

A. Hull minimum weight in racing trim, without driver, shall be 2,500 pounds

B. Engine

1. U.S. Manufacturer, automotive or marine, 4 cycle internal combustion type.

2. Total cubic inches not to exceed 511.

3. Engine must be normally aspirated utilizing any American-made carburetor with a throttle bore as follows:

   a. Primary 2" max.

   b. Secondary 2" max.

   c. A .250 inch thick restrictor plate, located a maximum distance of 1.50 inches directly beneath the carburetor, with these dimensions, will be acceptable.

4. Ignition may be any type.

5. No overhead camshafts

6. Maximum two valves per cylinder

7. Cast intake manifolds only. Must be available from a major Manufacturer. Plenums and spacers may be fabricated.

8. No symmetrical port heads permitted.

   a. Allowed: Common wall type including Chevrolet, Dart 320 & 360, Brodix -1, -2, -3, -4, B1-TS Dodge and other non-symmetrical port cylinder heads.

   b. Not allowed: Pontiac Prostock, Dart Big Chief, Olds DRCE, Dart Oldsmobile, Brodix EPD, Dodge B1-TS and other symmetrical port cylinder heads. If in doubt, contact the UL technical advisor.

9. Determination on the permitted use of any cylinder head shall be solely the responsibility of the UL technical advisor.

10. No nitrous oxide or other power producing additives.

**Option Three**

A. Hull minimum weight in racing trim, without driver, shall be 2,000 pounds.

B. Engine

1. U.S. Manufacturer, automotive or marine, 4 cycle, internal combustion type.

2. Total cubic inches not to exceed 468.

3. Engine must be normally aspirated utilizing any American-made carburetor with a throttle bore as follows:

   a. Primary 2.00" max.

   b. Secondary 2.00" max.

   c. A .250 inch thick restrictor plate, located a maximum distance of 1.50 inches directly beneath the carburetor, with these dimensions, will be acceptable.

4. Ignition may be any type.

5. No overhead camshafts.

6. Maximum two valves per cylinder

7. Cast intake manifolds only. Must be available from a major Manufacturer. Plenums and spacers may be fabricated.

8. No symmetrical port heads permitted.

   a. Allowed: Common wall type including Chevrolet, Dart 320 & 360, Brodix -1, -2, -3, -4, B1-BS Dodge and other non-symmetrical port cylinder heads.

   b. Not allowed: Pontiac Prostock, Dart Big Chief, Olds DRCE, Dart Oldsmobile, Brodix EPD, Dodge B1-TS and other symmetrical port cylinder heads. If in doubt, contact the UL technical advisor.

9. Determination on the permitted use of any cylinder head shall be solely the responsibility of the UL technical advisor.

10. No nitrous oxide or other power producing additives.

**Option Four**

A. Hull minimum weight in racing trim, without driver, shall be 2,500 pounds.

B. Engine

1. U.S. Manufacturer, automotive or marine, four cycle, internal combustion type.

2. Total cubic inches not to exceed 511.

3. Engine must be normally aspirated utilizing a Holley four barrel carburetor with throttle bore as follows:

a. Primary 1-9/16" max.

b. Secondary 1-9/16" max.

c. A .250 inch thick restrictor plate, located a maximum distance of 1.50 inches directly beneath the carburetor, with these dimensions, will be acceptable.

4. Ignition may be any type.

5. No overhead camshafts

6. Maximum two valves per cylinder

7. Cast intake manifolds only. Must be available from a major Manufacturer. Plenums and spacers may be fabricated.

8. No nitrous oxide or other power producing additives

9. No cylinder head restrictions.

**Option Five**

A. Hull minimum weight in racing trim, without driver, shall be 2,500 pounds.

B. Engine

1. U.S. Manufacturer, automotive or marine, four cycle, internal combustion type.

2. Total cubic inches not to exceed 468.

3. Engine must be normally aspirated utilizing any American-made carburetor with a throttle bore as follows:

a. Primary 2.00" max.

b. Secondary 2.00" max.

c. A .250 inch thick restrictor plate, located a maximum distance of 1.50 inches directly beneath the carburetor, with these dimensions, will be acceptable.

4. Ignition may be any type.

5. No overhead camshafts.

6. Maximum two valves per cylinder.

7. Cast intake manifolds only. Must be available from a major manufacturer. Plenums and spacers may be fabricated.

8. No nitrous oxide or other power producing additives.

OPTIONS, TWO THROUGH FIVE, HULL AND ENGINE SPECIFICATIONS, MAY BE CHANGED BY THE ULHRA TECHNICAL INSPECTOR, WITH APPROVAL BY THE VICE PRESIDENT- GENERAL MANAGER, TO ACHIEVE PARITY WITHIN THE CLASS.

*The specifications which may be changed are limited to boat weight and the size of the throttle bore permitted.*

**Option Six**

A. Hull minimum weight in racing trim, without the driver, shall be 2,700 lb.

B. Engine:

1. US manufacturer, automotive or marine, four cycle, internal combustion types.

2. Total cubic inches not to exceed 468.

3. No aluminum blocks.

4. No titanium engine components with the following exceptions:
   a. Valve spring retainers and keepers.

5. Supercharger must be a 6-71 standard roots type design.
   a. 60-degree helix rotors only -- no front discharge.

   b. Supercharger to be driven at no more than 80% of crankshaft speed for boats at or above 2700 lb, and no more than 85% of crankshaft speed for boats at or above 3300 lb.

   c. No magnesium cases or rotors.

   d. No titanium rotors.

   e. Supercharger drive ratio subject to change by ULHRA Board of Directors on an individual engine basis to achieve or maintain parity. A member may request an alternative drive ratio by submitting a request to the Director of Competition. The Director of Competition shall present the request to the Board of Directors with or without recommendation. Any alternative drive ratios approved shall be for the current racing season.

   f. No intercoolers.

6. Maximum compression ratio 9:1 static.

7. No overhead camshafts.

8. Maximum of 2 valves per cylinder.

9. Fuel and air must be metered by carburetors or a mechanical fuel injection system. No electronic fuel injection systems permitted. All fuel must be injected by 8 hat nozzles only using a cast aluminum injector available from a major manufacturer. No port nozzles are allowed.

10. No symmetrical port cylinder heads are permitted.
    a. Allowed: Common wall type aluminum or cast iron type including Chevrolet, Dart 320, 360, or Pro 1, Brodix 1,2,3,4, B-1 & B-5 Dodge and other non-symmetrical port cylinder heads.
    b. Not allowed: Pontiac Prostock, Dart Big Chief, or Olds DRCE, Dart Olds, Brodix EPD, Dodge, and other symmetrical port cylinder heads.

11. Fuel may be gasoline or methanol. No nitrous oxide or other power producing additives allowed.

12. Any racer choosing this engine combination must receive approval from the Board of Directors and understand the conditional nature of the rule.

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