HRL 2026 ANNEXES

TABLE OF CONTENT

ANNEX A ____ **2**
Grand Prix Hydroplane Technical Rules ____ 2

ANNEX B ____ **7**
Hydro 350 Technical Rules ____ 7

ANNEX C ____ **14**
Formula F & R ____ 14
Ford Engine Technical Rules ____ 14

ANNEX D ____ **21**
Formula F & R ____ 21
Honda Engine Technical Rules ____ 21

ANNEX E ____ **29**
Pro Hydro Class Technical Rules ____ 29

ANNEX F ____ **36**
Air System ____ 36

ANNEX G ____ **38**
Capsule Training Procedures ____ 38
2026 HRL Capsule Training Evaluation Chart ____ 40

ANNEX H ____ **41**
Safety Inspection ____ 41

ANNEX I ____ **44**
Boat on Restriction – Specifications ____ 44

ANNEX J ____ **45**
Lane Assignment ____ 45

ANNEX K ____ **46**
Safety Commission Chart ____ 46

ANNEX L ____ **47**
Grand Prix Technical Measurements ____ 47

ANNEX M ____ **50**
Protest Form ____ 50

ANNEX N ____ **51**
2026 Novice Hydro Rules ____ 51

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ANNEX A

Grand Prix Hydroplane Technical Rules

1-ENGINE BLOCK

1.1 Total cubic inches shall be 468.
1.2 Any manufacturer cast iron Block only.
1.3 Short deck 9.800" or tall deck 10.200".
1.4 Maximum bore of 4.310 inch. Tolerance + or – 0.005.
1.5 Cylinder and lifter bore may be sleeved to meet stock specification if damaged.
1.6 The block may be decked (.010" maximum) (a minimum of 9.790" for a short deck and 10.190" for a tall deck) top of the piston (flat surface) at TDC must have a minimum distance of .060" with gasket to the flat of the surface of the cylinder head.

2–CRANK

2.1 Crankshaft stroke must be 4.00". Tolerance + or – 0.005.

3-CONNECTING RODS

3.1 Any type or manufacture of steel rod.
3.2 Length maximum 6.385" for a 9.800 deck block. Minimum gram weight of rod to be 780g.
3.3 Length maximum 6.535" for a 10.200 deck block. Minimum gram weight of rod to be 820g.
3.4 No aluminum or titanium or exotic material and no handmade rods.

4-PISTONS

4.1 Any type or manufacturer.
4.2 No more than 20cc piston dome.
4.3 Thickness will be: first and second ring 1/16 followed by oil ring 3/16
4.4 No Dykes ring or ring spacers in the first or second groove.
4.5 Gapless rings are allowed.
4.6 Maximum compression ratio 9, 5:1 static.
4.7 Wrist pin to have a minimum wall thickness of .200" and minimum length of pin to be 2.930" and a diameter of 0,990".
4.8 Top ring down dimension to be minimum .320" down.

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Procedure: Piston Dome - Method of inspection:

- *Rotate motor to TDC (Top Dead Center) place plastic fluid retainer over piston and seal.*
- *With the use of a calibrated burette introduce a liquid into chamber and record the amount of liquid used.*
- *The measuring process is accomplished by filling the combustion chamber with fluid from a graduated burette.*
- *A flat Plexiglas plate is placed over a combustion chamber and fluid is released into the chamber through a hole in the Plexiglas plate.*
- *A thin layer of grease seals the plate against leaks to either the cylinder head or cylinder block.*
- *When the combustion chamber is filled with no air bubbles showing, read the burette and write down the number.*
- *The easiest way to measure piston dome or dish volume is to cc the piston in the cylinder.*
- *Seal the rings with grease.*
- *Accurately place the piston 0.100 inch down in the cylinder and then measure the cc volume by filling up the cylinder.*
- *Compute the volume of a standard cylinder (bore x bore x height x 0.7854).*

For example, a 4.00-inch bore, and a 0.100-inch height would be: 4 x 4 x 0.100 x 0.7854 = 1.256 ci x 16.387 = 20.59 cc. If you are measuring a piston with a dome, the measured volume will be less than the computed volume with the difference being the effective dome volume.

5-CAMSHAFT & VALVETRAIN

5.1 Lifters: any manufacture
5.2 No hydraulic lifters, no mushroom lifters.
5.3 Alterations to the lifters are not allowed exception of a oil grove in Dart block.
5.4 Bronze lifters bushings are allowed.
5.5 Keyed lifters are prohibited.
5.6 Lifters not to exceed standard GM diameter of .842".
5.7 Limit cam lift at the valve stem to .680``.
Method to be used to verify cam lift: to verify first adjust the rocker so that there is 0 lash then rotate cam until you get max lift.
5.8 Valve Springs: Any type and any manufacturer may be used. **No titanium or exotic material.**
5.9 Rockers: roller rockers may be used, must not exceed 0.680 lift.
5.10 Pushrod: any push rod may be used. **No titanium, exotic material or handmade pushrods may be used.**
5.11 Timing chain, gear and belt drive may be used.
5.12 No titanium engine components with the following exceptions: valve spring retainers.

6–HEADS

6.1 DART Part # 19574030 CNC-PRO1-355cc or AFR Part #2010-TI 357CC magnum cylinder heads. The heads can be purchased fully assembled or bare. The part number must be highly visible.
6.2 Heads must be unaltered in any ways except for specified changes noted in rule 6.3
6.3 No alterations allowed except for the addition of Jesel shaft mount rocker systems or similar systems.
6.4 Only milling the intake rocker studs is permitted for fitting the Jesel system
6.5 No angle milling. Combustion chamber = 119cc + or – 2cc.
6.6 Ports must remain stock as per the manufacturer.
6.7 Valves: Any manufacturer may be used, **no titanium or exotic material.**
6.8 These specifications must be respected.
Our reference is Manley, part number 11843-8 (exh.), 11854- 8 (int).

Type	Head Diameter	Steam Diameter	Installed Height	O/A Length	Tip Length	Under head Angel/Radius	Margin	Seat Width	Top of Head	Wgt/ Grams
exh	1.880	.3415	stock	5.422	.250	10°x 3/8''	.075	.085	6° dish	122
int	2.300	.3415	.250 longer	5.494	.250	12°x 3/8''	.050	.100	7° dish	149

7-INTAKE MANIFOLD

7.1 Any manufacturer cast aluminum may be used.
7.2 No handmade fabricated manifold.
7.3 Two-piece manifolds which consist of a cast base and an adaptor plate may be used if the adaptor plate is less than one inch thick. The adaptor plate may be constructed of cast or extruded aluminum.
7.4 No magnesium or exotic material.

8–BLOWER

8.1 Supercharger must be an 8-71 standard roots type design with 60-degree helix rotor only.
8.2 Case and rotor must be a maximum 16.00" in length inside diameter.
8.3 Cast or billet rotors are allowed, 5.860" maximum rotor diameter.
8.4 Supercharger to be driven at no more than 20% (120%) of crankshaft speed.
8.5 No magnesium cases or rotors.
8.6 Any supercharger inlet opening and /or outlet opening 'shape or dimension' is allowed without exposing the ends of the rotors.
8.7 Nothing is allowed between the base of the supercharger and the intake manifold. Example: spacer plate, intercooler or after cooler, chiller, etc.

Blower Hat Mechanical injection and electronic injection

8.8 Fuel and air must be metered by a mechanical fuel injection system or electronic fuel injection system.
8.9 Air is allowed to enter engine through butterfly hat injector made of cast aluminum from a major manufacturer only. Such as Enderle Birdwatcher or Enderle Big and Ugly. No throttle body air intake styles allowed.

Mechanical fuel injection

8.10 All fuel must be injected by a minimum of (8) eight hat nozzles situated in blower hat.
8.11 Port injections are allowed but not mandatory.

Electronic Fuel Injection

8.12 Electronic fuel injection is allowed in the GP class.
8.13 Electronic fuel injection shall be controlled by one (1) onboard ECU. Holley HP ECU, or related system is allowed. ***A copy of the program must be supplied to the inspector before the system is used.***
8.14 No outside telemetry or modifications from shore are allowed during a race. Only onboard functionality is allowed.
8.15 Injectors:

- Hat and port injection is allowed.
- Up to (8) eight electronic injectors in hat and up to (8) eight electronic injectors in port are allowed.
- Must be mounted externally on hat and on intake manifold runners.
- Injector tips may not be modified, and diffuser plates may not be added.
- Electric fuel pumps are allowed.
- Electric fuel pumps must have an automatically device to cut power to the pump when oil pressure is lost.

9-IGNITION:

9.1 The use of a magneto is allowed, and it must be placed in its original position behind the supercharger on the intake manifold.
9.2 No offsets are allowed.
9.3 The use of two (2) MSD boxes is allowed.
9.4 Any electronic ignition system may be used if a magneto can be installed in its original position behind the supercharger.
9.5 Magneto used for inspection will be MSD PRO MAG 12/20.

10-OIL SYSTEM

10.1 Oil pan: any oil pan may be used.
10.2 Dry sump: any dry sump may be used.
10.3 “Aeroquip” type oil lines only

11-FUEL

11.1 Fuel will be methanol only.
11.2 “Aeroquip” type lines only

12-MISCELLANEOUS

12.1 Headers are not allowed.
12.2 Only traditional Zoomie configuration with one bend only must be used.
12.3 On board Data Acquisition is strongly suggested. Racepack or equivalent for recording the following:

- Exhaust gas temperatures for all 8 cylinders.
- Manifold pressure
- Fuel pressure
- Oil pressure
- Water temperature
- Etc.

12.4 A member of each team must be capable of downloading and recording information from RP (or equivalent) for each heat.

ANNEX B

Hydro 350 Technical Rules

1-ENGINE BLOCK

1.1 Stock production style GM V8 engine V-8 only.
1.2 Must be cast iron block with standard external measurements only.
1.3 Maximum 358 cubic inches.
1.4 No removing of identification numbers. Grinding or lightening of block is not allowed.
1.5 A maximum of 4 sleeves in cylinders and 8 sleeves in lifter holes. (No index lifter holes).
1.6 Must use a 153 teeth SFI type flywheel.
1.7 Starter: Any starter that functions like the stock starter may be used. No inertia starters.
1.8 The only aftermarket engine block allowed is Dart SHP P/N: 31161111.
1.9 Maximum Bore: 4.047".

2–CRANK

2.1 Minimum 50lb.steel magnetic crank only.
2.2 Stock stroke for crank 3.480". (+ or - 0.010").
2.3 Must remain unaltered except for normal cleanup and balancing.
2.4 Crank must not be contoured or sculptured, or knife edged.
2.5 Stock main journal and rod journal sizes only. 2.450" main / 2.100" rod. (Undercut maximum 0.030").

3-CONNECTING RODS

3.1 Any large journal magnetic steel type connecting rods only.
3.2 No titanium or aluminum rods.
3.3 5.700" maximum length. (+ or - 0.010").
3.4 Minimum weight of rods 600 grams (cap and bolt included no bearing).
3.5 **MUST** use full floating pins.

4-PISTONS

4.1 Any piston or manufacturer may be use. Piston must be in stock configuration. **No alteration is allowed.**
4.2 No portion of the piston may protrude above the top of the block and that without any head gaskets.
4.3 It is ***not allowed***: Gas porting of piston ring lands & top of piston coating of any kind.
4.4 The ***minimum weight*** of each piston is 590 grams which includes the wrist pin, "C" clips and rings.
4.5 Piston Rings - Must be of the type supplied by General Motors. The 1st and 2nd rings (compression) must be 1-piece design, 3rd ring (oil) must be 3-piece design, consisting of 2 rails

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and 1 expander. Moly file fit allowed. Minimum thickness of rings 1/16" (1.58mm) for top and second, 3/16" (4.76 mm) for oil control ring.

4.6 Ring lands must remain in standard location.

4.7 Gapless rings are not allowed.

4.8 Maximum oversize piston is allowed (0.040")

5-CAMSHAFT & VALVETRAIN

5.1 Ony the Comp Cams part # 12-675-4 is allowed & may be purchased from any distributor.

5.2 All Cam numbers must be visible – Grinding & sandblasting is not allowed.

5.3 Stock diameter magnetic steel solid flat tappets lifters. Maximum size 0.842" ***no hydraulic lifters.***

5.4 Stock size push rods only. Size 5/16" all the way***. (No titanium or exotic material).***

5.5 Mushroom or roller tappets & rev kits are not allowed.

5.6 Double roller or standard timing chain only. No gear drive or belt drive.

5.7 Roller rocker arms are allowed 1.50 ratio only. No shaft rocker arm systems.

5.8 Stud girdles is allowed.

5.9 Valve Springs - Any valve spring may be used, maximum size: 1.250" (+ or – 0.010") diameter.

5.10 Spring retainer: steel only (no exotic material).

5.11 Cam roller bearing is not allowed.

5.12 May only use the standard diameter cam bearing.

5.13 Any alteration of the original form is prohibited.

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5.14 Valve lift Chart:

During the inspection process the maximum valve lifts are as follows:
(Lobe separation Comp Cam 110°)

Intake Lobe		Exhaust Lobe	
Camshaft:	**Comp Cam**	**Camshaft:**	**Comp Cam**
Lift	**Degrees**	**Lift**	**Degrees**
0,050	0	0,050	0
0,100	5	0,100	6
0,150	10	0,150	11
0,200	15	0,200	16
0,250	20	0,250	20,5
0,300	24,5	0,300	25,5
0,350	30	0,350	31
0,400	36,5	0,400	37
0,450	46,5	0,450	46,5
0,477*	56,5	0,488*	60,5
0,450	69	0,450	73,5
0,400	78	0,400	82
0,350	85	0,350	88,5
0,300	90	0,300	94
0,250	95	0,250	98,5
0,200	99,5	0,200	103,5
0,150	104,5	0,150	108,5
0,100	109,5	0,100	113,5
0,050	116	0,050	119,5

*Measured max lift and degree of Comp Cam.

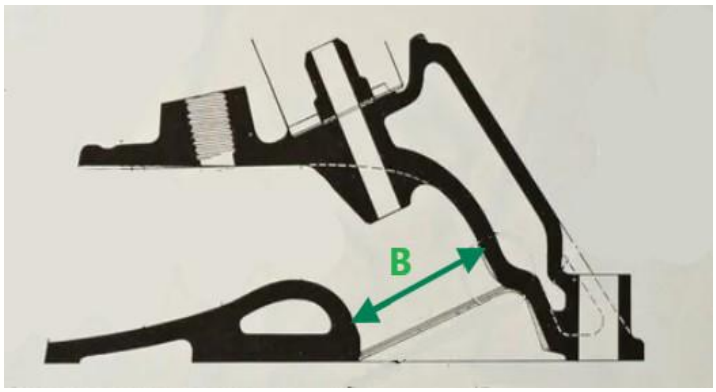
6–HEAD

6.1 Dart Part #10024361, #:10021070 or Dart Iron Eagle S/S 165.
6.2 Rule removed for 2026 season.
6.3 Intake and exhaust valve seats may be narrowed by cutting at 90deg or less.

6.3.1 Dimension A (the head is upside down)
Not to exceed 0.750'' from the surface of the seat

6.3.2 Dimension B

Inner intake seat diameter must not exceed 1.750''
Inner exhaust seat diameter must not exceed 1.310''
The combustion chamber around the intake and the exhaust valve seat may be unshrouded ` by cutting tool not by hand grinding.



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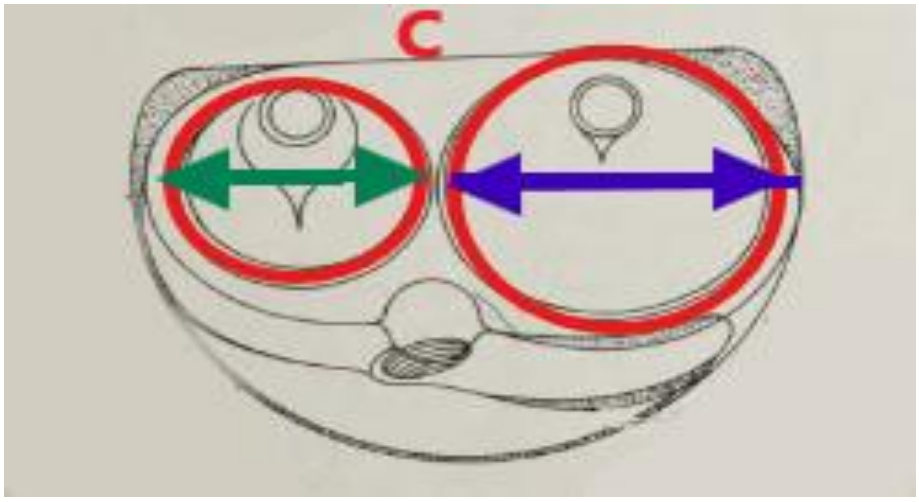
6.3.3 Dimension C

Unshrouding the intake seat diameter must not exceed 2.200”
Unshrouding the exhaust seat diameter must not exceed 1.900”

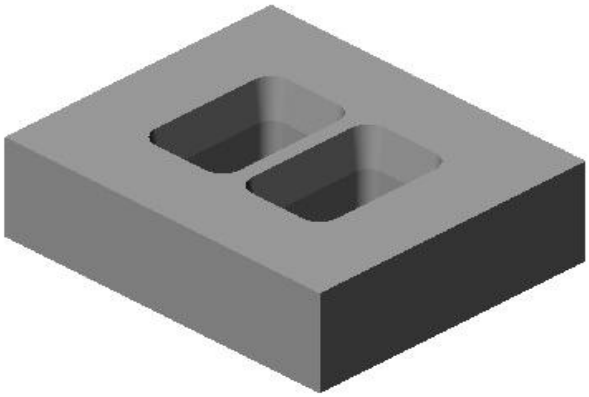


go / no go tools will be used to perform the inspections

6.4 Valves - Any manufacturer may be used. Must keep the original standard 45-degree seat angle.
6.5 Titanium or exotic materials are not allowed.
6.6 Swirl polish is allowed.
6.7 Exhaust Diameter: 1.500“. Intake, Diameter: 1.940“.
6.8 Maximum back cut 0.250” measured from the outside diameter of the valve.
6.9 Stem must remain same size all the way. Minimum 0.340”.
6.10 The outer edge of the valve guide for smaller valve seal and bronze liner is allowed
6.11 **9.30 : 1** maximum compression ratio as measured on the ‘Whistler’.
6.12 The number of CC in the head runner should not exceed: Intake: 180cc, Exhaust: 70cc (+/- 2cc).
6.13 Minimum CC in the combustion chamber of 64 cc. Flat milling of deck is allowed. (No angle milling).
6.14 Screw in studs (maximum size 0.4375”) and guide plates allowed.
6.15 Any evidence of sanding, polishing, relieving, grinding, porting, chemical treating ceramic work, abrasive blasting, and alteration of the original form or the addition of material to the ports or combustion chambers are prohibited. Except for the following rule 6.16.
6.16 Port matching of the intake face of the cylinder head and intake manifold may be altered to the following dimensions. (See Diagram 6.20)
6.17 Valves must be in stock location and at stock angle.
6.18 For the measurement of the volume (cc) of cylinder opening in the cylinder head gasket, HRL will only consider the value specified by the manufacturer.
6.19 All teams must provide the manufacturer, and the part number of the cylinder head gasket

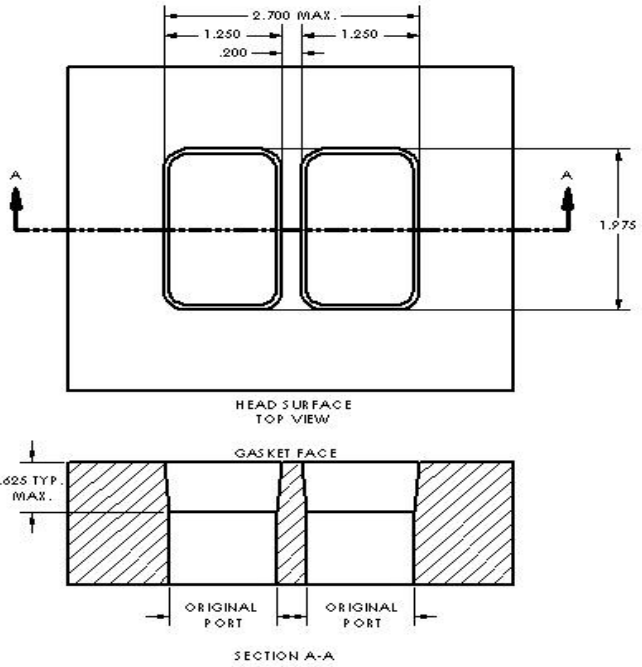
used, as well as all technical details to Hydroplane Racing League - HRL by email administration@hrlhydroplane.com

6.20 Port Matching - Diagram.



Suggested intake gasket for template: FEL-PRO MS 90322.

Both the intake and head grinding shall be measured to a maximum depth of 0.625" from the gasket face.



7-INTAKE MANIFOLD

7.1 Only aluminum intake allowed: Edelbrock 7101 dual plane only.
7.2 Cooling bleed lines allowed.
7.3 Any evidence of sanding, polishing, relieving, grinding, porting, chemical treating abrasive blasting, ceramic work, addition of material or any alteration and modification of the original form is prohibited. Except for the Head rule 6.16.

8-CARBURETOR

8.1 Only two carburetors are allowed: Holley 0-4412 or Holley HP 0-80583-1 Venturi size: 1.375“, Throttle bore: 1.687“.
8.2 The carburetor must pass top and bottom dimension tool specs.
8.3 Choke plate may be removed but no removal of choke housing. Fine tuning of jets, power valves, float bowl, metering block, accelerator pump and nozzles is allowed.
8.4 Standard boosters only and must be tightly mounted. No annular boosters. Epoxying or safety wiring of boosters recommended.
8.5 No vacuum leaks. No turtles or other induction performance enhancing devices. No other systems allowed.
8.6 Two (2) return springs mandatory. An over-center throttle stop is recommended.
8.7 Carburetor adapter Bicknell #376 (Max.1.00”) No modification allowed to adapter.
8.8 Straight bore spacer allowed
8.9 The total dimension of adapter, spacer and gaskets measured from the intake manifold to carb

base shall not exceed 2.225 inches.
8.10 No billet metering block.

9–IGNITION

9.1 Any factory stock HEI type ignition only.
9.2 No crank triggers.
9.3 No external super coils.
9.4 No aftermarket multiple spark discharge control boxes.
9.5 Firing order must remain stock GM: 1.8.4.3.6.5.7.2

10-OIL SYSTEM

10.1 Aftermarket oil pans and breather allowed.
10.2 Wet sump Oil pump must remain in stock location.
10.3 Dry sumps allowed. Maximum three stages only.
10.4 Oil coolers allowed.
10.5 “Aeroquip” type oil lines only.
10.6 One oil accumulator with two-quart maximum volume is allowed, connected by a single oil line.

11-FUEL

11.1 Fuel is restricted to gasoline.
11.2 Any pump fuel allowed.
11.3 Specific gravity must fall within the range: 0.715 to 0.765 at 60 degrees Fahrenheit.
11.4 Ethanol content must be less than 15% by volume.
11.5 Maximum oxygen content is 4% by weight.
11.6 No alcohol or additives allowed.
11.7 Fuel lines must mount in a position to reduce damage, usually on front side of pump.
11.8 No fuel lines shall pass through the driver’s compartment.
11.9 No plastic fuel filters.
11.10 No plastic pressure lines - No pressurized fuel tanks.
11.11 Any type of fuel pump allowed. (Electric pump must be connected to oil pressure switch).

12-MISCELLANEOUS.

12.1 The following items may be of any manufacture: gaskets, spark plugs, wires, bearings, filters, fuel lines, hoses, fittings, valve covers, breathers, nuts, bolts, washers, fittings, and exhaust system unless specified in these rules.

ANNEX C
Formula F & R
Ford Engine Technical Rules

The word "stock" as used in these rules is understood to mean the part in question will be used as it was supplied to the public by the original motor manufacturer.
The term "stock replacement" is understood to mean the part is sold to the public as a direct replacement for a stock part, without modification. Its marketed purpose must be for use in rebuilding an engine to stock specifications; not to increase power. The intent of stock replacement parts being included in these rules is to keep cost down and allow the use of readily parts. No titanium parts are allowed.
Engine may be clearance. Rotating and reciprocating parts may be balanced. Points, piston rings, spark plugs, bearings, timing belts, resistors, filters, plug, wires, fuel lines, condensers may be any stock or replacement parts of any manufacturer sold over the counter to and for the general automobile trade. Gapless or other racing type non-stock configuration rings are not allowed.

(FOR HONDA ENGINE OPTION PLEASE REFER ANNEX D)

1-ENGINE BLOCK

1.1 Stock production style, Ford 2.3 OHC
1.2 Must be cast iron block with standard external measurements only.
1.3 Maximum 140 cubic inches
1.4 May not remove identification numbers. No grinding or Lightening.
1.5 External parts may be painted or chromed to enhance appearance. All unnecessary parts outside of the engine may be removed to allow installation into the boat except for the carburetor and distributor.
1.6 Water passages may be blocked or modified.
1.7 Oil passages may be blocked, lifter valley baffles, standpipe and screen are allowed. in a stock engine.
1.8 Block may be sleeved to repair worn or damaged cylinder bores.
1.9 Flywheel must be aluminum only, wall thickness 0.468 inches, must be maintained throughout the aluminum plate, except for the pilot and mounting holes. No additional holes allowed. Spot removal of material for balancing purposes only is allowed.
1.10 Ring gear: 132 teeth or 135 teeth (Pinto 2000)
1.11 Windage tray or crankshaft wipers are allowed.
1.12 Starter: any starter that functions like the stock starter. Blocks may be clearance to allow for starter installation only.
1.13 Maximum cylinder bore 3.825.
1.14 Top of piston must be below the top surface of the compressed head gasket a minimum of 0.040".
1.15 When using Ford 2.3 Litres option parts must be used as supplied by Ford. Alterations not allowed except as specified herein. If other parts from other manufacturers are to be

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allowed, they will only be those listed in these specifications.

1.16 NOT ALLOWED for Ford 2.3 Litres engine: gear boxes or devices that alter the speed or direction of power from the motor to propeller.

1.17 Configuration changes in any way on the Ford 2.3 Litres engine are prohibited.

2–CRANK

2.1 Maximum Stroke 3.126

2.2 Main bearings & rod bearings may be reground.

2.3 Stock configuration of crankshaft – must remain unaltered except for normal cleanup and balancing

2.4 Counterweights, Knife edging and chamfering is not allowed.

2.5 Rotating and reciprocation components of engine may be balanced. Total assembly may not be lightened to gain added performance.

3-CONNECTING RODS

3.1 Stock steel connecting rods.

3.2 No Titanium or aluminum rods are allowed.

3.3 Maximum length of rod: 5.2047 plus or minus .010

3.4 May be bushed for use of floating pins.

4-PISTONS

4.1 Federal Mogul part numbers are H435P or H495P

4.2 SRP part numbers are 148221 or 148222.

4.3 Piston may not be reversed.

4.4 The minimum distance from top of piston to top of first ring Federal Mogul 0.245 SRP 0.195

4.5 Straight wall pin only as received from piston manufacturer shall be used.

4.6 Piston ring must be type supplied by Ford.

4.7 Ring one and two rings must be one piece design third ring must be three-piece design consisting of rail and one extender which must be uniform

4.8 No gapless rings are allowed.

5-CAMSHAFT & VALVETRAIN

5.1 Any aftermarket camshaft may be used providing it meets the profile under these rules.

5.2 Maximum lift at valve 0.406" plus or minus 0.004

5.3 See inspection procedures to check camshaft.

5.4 Cam may be advanced or retarded.

5.5 Lifter: Any stock or stock replacement hydraulic lifters or anti pop-up lifters are allowed

5.6 Rocker arm: Must be stock or stock replacement.

5.7 Rocker ratio must be 1.64 to1.

5.8 No roller rockers are allowed.

5.9 Stock replacement followers with wear pad

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5.10 Valve spring: Any valve spring may be used 1.460" OD maximum.
5.11 Spring retainer: Any steal spring retainer may be used 1.460" OD maximum.
5.12 Keepers - Any steel keeper may be used. No titanium is allowed.
5.13 No conical valve springs are allowed.

Procedure: Cam Degree

- *Check cam/valve action.*
- *Install adjustable lifters in place of hydraulic lifters on one intake and one exhaust valve.*
- *Set dial indicator on intake valve spring retainer.*
- *Install an 8-inch degree wheel on cam pulley bolt.*
- *Install a pointer on block.*
- *It is recommended that the degree wheel have one-degree markings.*
- *To read angles to one degree, rotate the cam until the lobe is clear of the rocker arm.*
- *Adjust the valve to zero lash and set the dial indicator to zero.*
- *Set the degree wheel to zero degrees and rotate the cam in normal direction of rotation to 0.050 inches valve lift.*
- *Set the degree to 17 degrees. Repeat for each 0.050 of increasing and decreasing valve lift as shown in the table.*
- *At the point of maximum lift, note the angular width of the flat area.*
- *Repeat with the exhaust valve and compare recorded data with the table data 5.15.*
- *Check lobe spacing (Use setup of prior check):*
- *Set dial indicator on intake valve spring retainer.*
- *Rotate the cam until the heel is clear of the rocker arm.*
- *Adjust valve to zero lash and stop at .0005 inches valve lift. Set the degree wheel to zero degrees.*
- *Rotate the cam in normal direction of rotation to 0.050 inches valve lift.*
- *Record the degree wheel reading.*
- *Repeat the above procedure on the exhaust valve except that the degree wheel is not reset to zero. The two angle recordings are subtracted to obtain lobe spacing: 111 degrees.*

5.14 Cam Table Data:

Valve Lift Thousandths Intake Angle Degrees Exhaust Angle Degrees

.050 17 17
.100 22 22
.150 27 27
Opening 200 32 32 Opening
Ramp 250 37 37 Side
.300 43 43
.350 51 51
.400 67 67
.402* 70* 70*
Max lift at valve with zero lash
.402* 73* 72*
.400 75 74
.350 91 90
.300 99 99
Closing .250 105 104 Closing
Ramp .200 110 110 Side
.150 115 115
.100 120 120
.050 126 126
*Edge readings for "flat" area.

6-HEAD:

Head Option 1

6.1 Any cast iron head supplied by Ford or OMC with correct valve size.
6.2 No alteration is allowed except as specified herein.
6.3 No grinding and polishing and no changes are allowed in the valve area.
6.4 No angle Milling.
6.5 Bronze wall guides are allowed.
6.6 Valve guides must be machined to accept stock or stock replacement valve stem seal.
6.7 Replacement valve seats are allowed and must meet OEM specifications.
6.8 Cylinder head 61 CC (except for the heart-shaped chambers which do not meet the minimum)
6.9 The following Ford 2.3 conversion head plates may be used: Goodson Automotive part number FAP-2300-EFI or K-Line part number KL9661. This plate may be fitted to the cylinder head.
6.10 Total thickness of adapter mounting flange and 2 gaskets (1 each side) not to exceed .500" total combined.
6.11 Valve head diameter: Intake 1.735" plus or minus 0.005" (45° face) - Exhaust 1.500" plus or minus 0.005" (45° face).
6.12 Back cut: Intake valve back cut 20° cannot exceed 0.205" width, no back cut on exhaust valve.
6.13 Intake and exhaust valve: Seat may be narrowed by cutting at 90° or less not exceed 0.250" from combustion surface into Bowl area (face angle 45°)
6.14 Valve stem diameter minimum 0.340" all the way

6.15 Valves: Any stock or stock replacement steel valve or stainless-steel valves may be used.
6.16 Swirl, titanium, hollow stem, or sodium filled valves are not allowed.
6.17 Valve Springs: Any spring that fits the head without machining. Maximum spring O.D. 1.460".
6.18 Teams are required to provide the name of the manufacturer and the part number of the cylinder head gasket used, as well as all technical details relating to the Hydroplane Racing League – HRL by email at administration@hrlhydroplane.com

Head Option 2:

6.19 Esslinger Ford Aluminium D-port, Ford part number M-6049-E23A.
6.20 Casting flash may be removed from the lifter valley.
6.21 Heads must remain UNALTERED in any way. No changes are allowed in the valve area.
6.22 Valve Guide - bronze liner allowed.
6.23 Combustion chamber: minimum 61 cc. No angle milling.
6.24 Valves: Exhaust: Manley # 11793 and 11795. Single 45-degree angle only. Intake: Manley#11792 and 11794. Single 45-degree angle only.
6.25 Spring seat may be machined to hardened spring seats and 1.460" valve springs.
6.26 Intake and exhaust valve seats may be reworked (valve job) but touching and/or altering the aluminum part of the bowl is prohibited.
6.27 Teams are required to provide the name of the manufacturer and the part number of the cylinder head gasket used, as well as all technical details relating to the Hydroplane Racing League – HRL by email at administration@hrlhydroplane.com

Head Option 3

6.28 Any cast iron D-port cylinder head supplied by Ford and modified by BoPort Racing Heads (www.BO-PORT.com,775.884.3000). Heads must have "BOPORT, CNCST3" marking on it.
6.29 Except for the work done by BOPORT, head must remain unaltered in any way. No changes are allowed in the valve area.
6.30 Combustion chamber volume: 61cc minimum.
6.31 Intake and Exhaust valve seats may be reworked (valve job) but touching and/or altering any area of the bowl is prohibited. 43.6.5.3.1 Valves: Exhaust Manley # 11793 and 11795 (dia. 1.590" ±0.010"). Single 45-degree angle only. Intake: Manley # 11792 and 11794 (dia. 1.890" ±0.010"). Single 45-degree angle only. 43.6.5.3.2 Valve Springs: Maximum spring O.D. 1.460", no conical springs allowed.
6.32 Any steel replacement retainer (1.460" max diameter) and keepers allowed no titanium.
6.33 Spring seat may be machined to accept hardened spring seats and 1.460" valve springs.
6.34 Teams are required to send the manufacture's invoice as well as its technical data sheet of the BoPort cylinder head to the Hydroplane Racing League – HRL by email at administration@hrlhydroplane.com

7-INTAKE MANIFOLD:

7.1 Intake manifold OMC part number #912470 or Esslinger engineering part# 2724.5 (626-444-4919).
7.2 Port matching of the intake and the spacer is allowed by grinding the inside of the intake

plenum to a maximum of 0.750" deep.

7.3 Any evidence of sanding, polishing, relieving, grinding, porting, chemical treating abrasive blasting, ceramic work, addition of material or any alteration and modification of the original form is prohibited.

8-CARBURETOR

8.1 HOLLEY 500 CFM 2300, Part#0-4412 and HP 0-80583-1 venturi diameter 1.380 max., throttle bore diameter 1.690 max.
HOLLEY 350 CFM 2300, Part #0-7448 and HP 0-80787-1 two jet venturi size 1.190 max., throttle plate size 1.502 max.
ROCHESTER 2GC venturi diameter 1.320 max., throttle bore diameter 1.690 max.

8.2 Removal of air cleaner base for installation into boat is allowed

8.3 Must be a booster type carburetor. No polishing allowed.

8.4 Choke plate may be removed but choke horn must remain untouched.

8.5 Only the original components of the carburetor manufacturer may be used.

8.6 No billet metering blocks, or boosters.

8.7 Fine tuning of jets, power valves, float bowl, metering block, accelerator pump and nozzles and standard booster are allowed.

8.8 No annular booster is allowed.

8.9 Epoxying or safety wiring of boosters recommended.

8.10 Throttle shaft may be altered or modified for connecting to the throttle cable.

8.11 No thinning of throttle shaft is allowed; must maintain stock diameter.

8.12 Two (2) return springs mandatory. An over-center throttle stop is recommended.

8.13 A carburetor wedge may be used. The total dimension of wedge and gaskets measured from the intake manifold to carb base shall not exceed 1.250 inches.

8.14 Velocity tube or ram type air scoop on carburetor is allowed.

9-IGNITION

9.1 Distributor: any single fire electronic or point distributor that fits the engine without modification is allowed.

9.2 No Magneto crank triggered, or multiple spark discharge systems are not allowed.

10–OIL SYSTEM

10.1 Any oil pan may be used.

10.2 Any oil pump that fits in the stock location

10.3 Oil cooler is allowed.

10.4 One oil accumulator with two-quart maximum volume is allowed, connected by a single oil line.

10.5 Oil pickup may be modified as required but must remain a wet sump.

10.6 Any remote filter is allowed.

10.7 Any Baffle, scraper, windage tray & crankshaft wiper in oil pan is allowed.

11-FUEL

11.1 Fuel is restricted to gasoline.
11.2 Any pump fuel is allowed.
11.3 Specific gravity must fall within the range: .715 to.765 at 60 degrees F.
11.4 Ethanol content must be less than 15% by volume.
11.5 Maximum oxygen content is 4% by weight.
11.6 No alcohol or additives allowed.
11.7 Fuel lines must mount in a position to reduce damage, usually on front side of pump.
11.8 No fuel lines shall pass through the driver's compartment.
11.9 No plastic fuel filters.
11.10 No plastic pressure lines - No pressurized fuel tanks.
11.11 Any type of fuel pump allowed. (Electric pump must be connected to oil pressure switch).
11.12 Fuel pump: must be original stock or stock replacement mechanical or electric fuel pump sold on open market for general automobile trade. A fuel pressure regulator may be used.

12-MISCELLANEOUS.

12.1 Gaskets, spark plugs, wires, bearings, filters, fuel lines, hoses, fittings, valve covers, timing belt covers, breathers, nuts, bolts, washers, fittings, and exhaust system may be of any manufacturer. Studs may be used in place of bolts.
12.2 Grinding, polishing, or blasting any internal part that result in smoothing, recontouring or enlarging is prohibited.

ANNEX D
Formula F & R
Honda Engine Technical Rules

The word "stock" as used in these rules is understood to mean the part in question will be used as it was supplied to the public by the original motor manufacturer.
The term "stock replacement" is understood to mean the part is sold to the public as a direct replacement for a stock part, without modification. Its marketed purpose must be for use in rebuilding an engine to stock specifications; not to increase power. The intent of stock replacement parts being included in these rules is to keep cost down and allow the use of readily parts. No titanium parts are permitted.
Engine may be clearance. Rotating and reciprocating parts may be balanced. Points, piston rings, spark plugs, bearings, timing belts, resistors, filters, plug, wires, fuel lines, condensers may be any stock or replacement parts of any manufacturer sold over the counter to and for the general automobile trade.
Gapless or other racing type non-stock configuration rings are not allowed.

(FOR FORD ENGINE OPTION PLEASE REFER ANNEX C)

1-ENGINE BLOCK

1.1 Stock production Honda K20A 160HP, 1998cc (2 liters).
- K20A or A1 156HP ECO engine, 1998cc (2 liters).
- -K20A3 160HP USDM North America 2002-06 Acura RSX base model, K20A3 2002-05 Civic SI US Hatchback, 2002-05 Civic SIR Hatchback for Canada, all are 1998cc (2 liters).

All other engine above 160 hp not allowed.

1.2 External parts may be painted or chromed to enhance appearance. All unnecessary parts outside of the engine may be removed to allow installation into the boat.

1.3 Original identification numbers must remain present and visible.

1.4 Genuine OEM steel Flywheel is mandatory. Part number 22100-PND-003 Luk LFW407 (14.0 lbs.) minimum. No additional holes are allowed.

1.5 Water passages may be blocked or modified.

1.6 Block may be surfaced see rule 7.2

1.7 Top of piston must be below the top surface of the compressed head gasket a minimum of -0.025".

1.8 Bore 86@86.60 mm (3,385" @3,409")

1.9 Cylinder steel sleeve replacement is permitted only if dry Sleeve is use. Dry sleeve is a lining in the factory aluminum factory sleeve allowed is dry since there is no coolant contact.

2-GEARBOX:

2.1 The gearbox allowed is the Honda Engine option only.

2.2 No multi-speed or adjustable speed gearbox.

2.3 No clutch or belt drive system is allowed.

2.4 The gearbox configuration must be as follows – (see image below).
2.5 Must have no more than 2 gears.
2.6 Gears must be 6 splines and 1 inch wide and purchased “over the counter” – no custom gear is allowed.
2.7 No conical or exotic gear is allowed.

2.8 The gearbox must be installed in the engine compartment and visible to the inspector.

3–ORIGINAL CRANKSHAFT

3.1 Crankshaft OEM 13310-PNA-000
3.2 Stroke 86.00 mm +- 0,254 mm (3,385” +-0.010”)
3.3 The crankshaft configuration cannot be modified. No knife edging allowed. Tungsten insert can be added to balance the weight
3.4 Inspection of the crankshaft and bearings are authorized.
3.5 Crank rod & main Journals could be machined to correct wear, but compression ratio & stroke should stay in specifications rules.
3.6 The lightest of the 4 connecting rods should be unaltered, the 3 others could be adjusted for balancing purpose.

4-ORIGINAL CONNECTING RODS

4.1 Steel connecting rods OEM 13210-PNA-000
4.2 Aftermarket connecting rods are not allowed
4.3 Length of 7.0 x 2.7 x 0.8 inches. Center line 5.473 +- 0.010
4.4 Weight: 1.050 lbs. (476.4 grams) with bearing and bolts.
4.5 Connecting rod bolt OEM 13204-P8A-A01
4.6 All bearings (connecting rods, main bearing and trust washer OEM or aftermarket are allowed)

5-PISTONS

5.1 WISECO 86.50 mm oversize PN: K631M865
5.2 Standard configuration rings only no gapless
5.3 Top ring to top of piston - .275". Top ring size - 1MM Secondary ring size - 1.2mm Oil Ring Size - 2.8mm Piston weight 315g Piston.
5.4 Straight wall pin only as received from piston manufacturer shall be used. Minimum pin weight 91.10g

6-CAMSHAFT & VALVETRAIN

6.1 Intake CAMSHAFT must be unaltered 14110-PPA-010, 14110-PPA-000, 14110-RAH-H00, 14110-PNE-000, 14110-PNE-010
Exhaust CAMSHAFT must be unaltered 14120-PPA-010, 14120-RAH-H00, 14120-PNA-010, 14120-PPA-000, 14120-PNA-020

6.2 Camshaft specification (intake duration 270-degree lift 9.45mm) (exhaust duration 276-degree lift 9.73mm) Camshaft timings may not be changed from stock.

6.3 The valves' angle guide and seats cannot be modified and must be stock. No changes are permitted in the valve area.

6.4 No race performance job is allowed on the valves. Valves must remain stock, no back cutting, chamfering or radiuses permitted

6.5 Supertech Valve Spring and retainer SPRK-M1007S-K2 (tested at 74 pounds and must be less than 39.8 mm) Shimming/thicker valve spring base of installed springs is permitted, and spring pockets must remain stock.

6.6 Intake valves FERREA: F5510 Head diameter: 35mm, Stem diameter: 5.47mm, overall length: 109.3mm, Tip length 2.5mm

6.7 Exhaust valves FERREA: F1546P Head diameter: 33.5mm, Stem diameter: 5.47mm, overall length: 102.35mm, Tip length 2.5mm

7-ORIGINAL HEAD

7.1 Cylinder head casting punch number should be PNC or PNL.

7.2 Cylinder head surfaced below OEM limits. Combustion chamber volume:49 cc minimum. Limit point for shaving is under the head, if gasket surface is under reference points (there is 2), the head is not legal. See photo below for reference.

7.3 Heads must remain **UNALTERED** in any way

7.4 Adjustments to the valves are allowed

7.5 No grinding and polishing and no changes are allowed. Touching the aluminum around the valve in combustion chamber is prohibited

7.6 No angle milling

7.7 Head gasket brand is at the owner's choice, must be multi-layer gasket (MLS) and must be minimum 0.025" compressed.
7.8 Sparkplug NGK PN: 4644
7.9 Injectors permitted: Honda 16450-PPA-A01, 16450-PNE-G01, 16450-RAA-A01, recommended part number Hitachi FIJ0061. The ECU is configured with the locked calibration file specifically calibrated for these injectors. Use of non-compliant injectors may lead to suboptimal performance or failure.
7.10 Replacement of valve guides is permitted, provided they are aftermarket, made of brass, and are full-length replacements only. No other modifications to the cylinder head are permitted.
7.11 Replacement of valve seats is permitted, provided they are aftermarket and made of non-exotic materials only. No machining, modification, or alteration beyond the replacement of the valve seats is allowed

8-ORIGINAL INTAKE MANIFOLD

8.1 OEM 17100-PNC-J0 and 17100-PPA-A01 Plastic only, no milling and no polishing.

9-THROTTLE BODY

9.1 PN: OEM 06160-PND-A62, OEM-06160-PND-A12, OEM-16400-PND-Q01
9.2 No grinding or polishing of the air inlet port is allowed
9.3 The inner diameter of the throttle body should be 62 mm (2.44") at the entrance.
9.4 Only original components of the throttle body from the manufacturer may be used
9.5 The air intake and air filter inlet hoses must be of a uniform round diameter of 63.5mm inlet (2.5"). The material and its length are free, so teams can fit.

10-IGNITION

10.1 Ignition coil OEM 30520-RRA-007
10.2 Ignition coil Denso 673-2301
10.3 Ignition coil Hitachi IGC4030
10.4 Ignition coil Hitachi IGC4030D

11–OIL SYSTEM

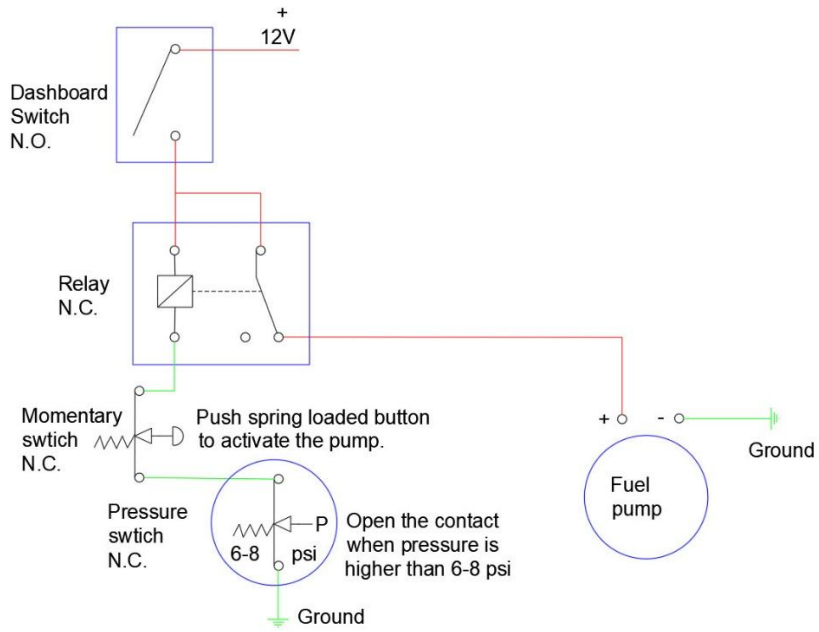
11.1 Any oil pan can be used but only those made of steel are allowed.
11.2 The oil pump must be OEM 15100-PRB-A01
11.3 Oil pickup may be modified as required but must remain a wet sump.
11.4 Any deflector, scraper, winding plate and crankshaft wiper in an oil pan is allowed.

12-FUEL

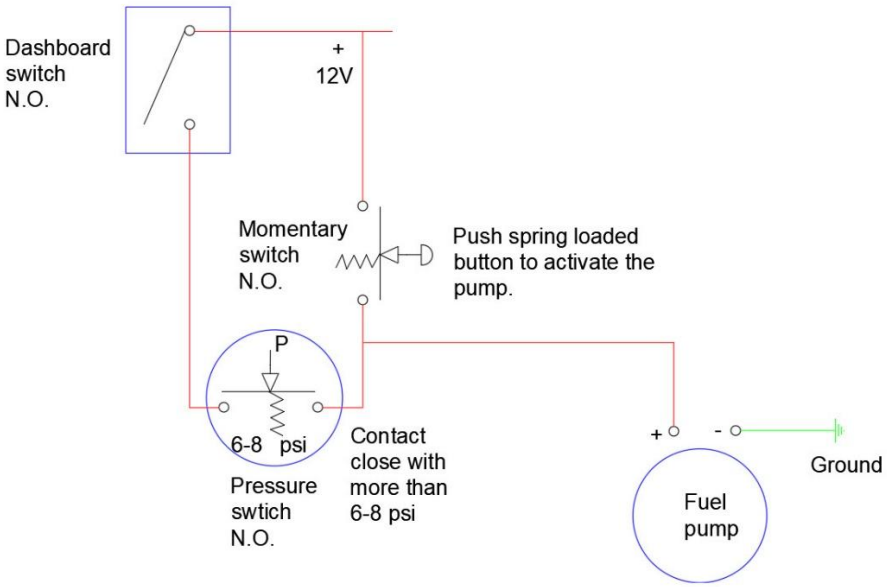
12.1 Fuel is restricted to gasoline
12.2 Any pump fuel is allowed. Must remain within the specification of article 12.4 and 12.5
12.3 Race fuel is allowed. Must remain within the specification of article 12.4 and 12.5
12.4 Specific gravity must fall within the range: .715 to.765 at 60 degrees F

12.5 Ethanol content must be less than 15% by volume
12.6 Maximum oxygen content is 4% by weight.
12.7 Fuel lines must be mounted in a position to reduce damage.
12.8 No fuel lines shall pass through the driver's compartment
12.9 No plastic fuel filters
12.10 Any type of fuel pump allowed. (mandatory Electric pump must be connected to oil pressure switch). The following diagrams shows the methods that should be used

12.10.1 Electric Fuel Pump Method 1



12.10.2 Electric Fuel Pump Method 2



12.11 Any fuel unit can be used

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13-MISCELLANEOUS

13.1 Gaskets, spark plugs, bearings, filters, fuel lines, hoses, fittings, valve covers, timing chain, guide, tensioner, breathers, nuts, bolts, washers, crank pulley/damper, fittings, may be of any manufacturer. Studs may be used in place of bolts.

13.2 Grinding, polishing or sanding of any internal part that results in smoothing, repair or enlargement is prohibited.

13.3 Any type of oil can be used.

13.4 All types of alternators are allowed

13.5 All Types of dash display (racepak) are allowed

13.6 Any brand of starter is allowed.

13.7 All sensors must be connected to the ECU with no additional electrical components between the sensors and the ECU.

13.8 **For 2027 season** Maximum propeller diameter: 10 3/4 inches.

14-ENGINE ELECTRONIC MANAGEMENT (ECU UNIT)

14.1 The PCM / ECM / ECU must be a Link G4+ or G4X Moonsoon.

14.2 Engine programming is supplied by **PrecisionAutoCanada** and installed by **HRL**, Class R shall operate under a specific ECU configuration distinct from Class F. Two (2) official programs are available:

- HRL Formula R Program
- HRL Formula F Program

Each program contains a distinct RPM limit specific to its class. Team must use the program corresponding to their registered class. Use of an incorrect program or unauthorized modification of the calibration file is stric

14.3 PCM / ECM / ECU serial number must be provided to HRL. HRL could swap ECU at any time.

14.4 Fuel pressure must be logged by the ECU using an AEM 30-2130-100 fuel pressure sensor. The sensor must be connected to the ECU directly by a 3-wire harness. The sensor harness must be separate from the engine harness and terminating at the ECU connector for ease of inspection. Fuel pressure must be between 46 and 54 PSI. The sensor and wiring harness are available from HRL as a kit if desired (HRL PN: HRL-FP).

14.5 Oxygen sensor BOSCH PN: 17025 connected to the Link CAN Lambda PN: 125-1000 is mandatory.

14.6 All the following motor sensor data is mandatory and must be working properly in all your data log files provided after each racing heats.

- IAT : Intake Air Temp
- ECT : Engine coolant Temp
- TPS : Throttle Position Sensor
- MAP : Manifold Absolute Pressure
- Fuel Pressure: AEM 30-2130-100 fuel pressure sensor
- Lambda1: Lambda reading air/gas mixture (Link Lambda sensor)

14.7 Teams must provide data from the PCM / ECM / ECU after each heat to the inspector on a USB key provided by HRL.

14.7.1 Mandatory Sensors, Team Responsibility and Sanctions

Teams are fully responsible for providing the required data and for ensuring the proper operation of all mandatory sensors throughout the duration of races and finals.

Teams must also ensure that the data transmitted by the fuel pressure sensor complies with the authorized operating range, as defined in Article 14. 4..

Following a breach of this article, the following sanctions will be applied depending on the nature and recurrence of the offenses.

Sensor malfunction during a race

If one of the mandatory sensors stops functioning during a race, a warning will be issued to the offending team. The team must then correct the situation and ensure that all mandatory sensors are fully functional.

No data provided during an entire race

If a mandatory sensor provides no data for the entire duration of a race, a first official warning will be issued.

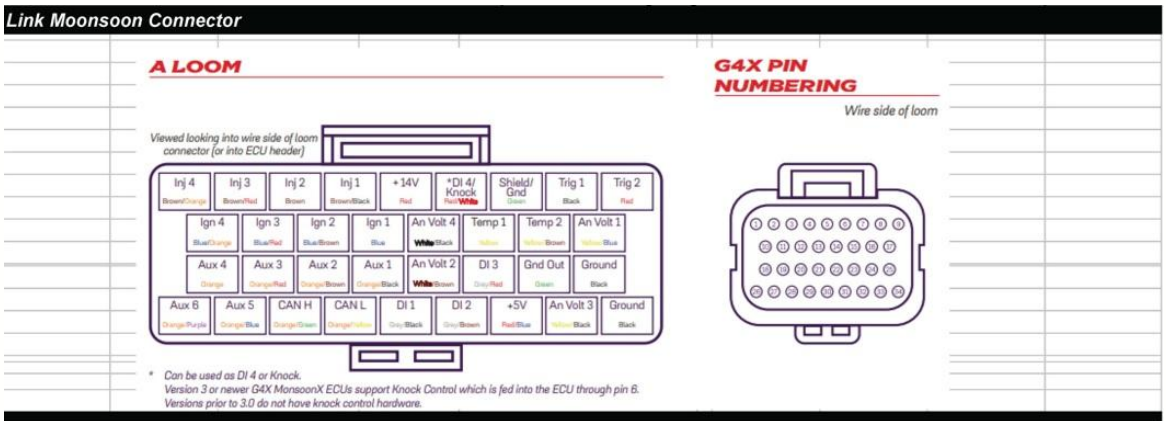
Repeated offense after a first official warning

If the same issue persists after the issuance of a first official warning, the team will be automatically disqualified.

Finals

If a mandatory sensor provides no data for the entire duration of a final, the team will be automatically disqualified, without prior warning.

14.8 Honda wiring diagram:



PIN	COLOR	Used for	LINK Function		PIN	COLOR	Used for	LINK Function
#1		INJ4	INJ		#18		NOT USED	Aux 4
#2		INJ3	INJ		#19		Tachoeter Output	Aux 3
#3		INJ2	INJ		#20		Vtec output	Aux 2
#4		INJ1	INJ		#21		VTC output	Aux 1
#5		IGN +12V	+14 V		#22		MAP	An Volt 2
#6		NOT USED	DI 4		#23		NOT USED	DI 3
#7		Sensor Shield	Shield		#24		Sensor GND	GND Out
#8		Crank Position Senso	Trig1		#25		ECU Ground	Ground
#9		Cam Pos Exhaust	Trig2		#26		NOT USED	Aux 5
#10		Ign Coil #4	Ign 4		#27		NOT USED	Aux 6
#11		Ign Coil #3	Ign 3		#28		CAN H Output	CAN H
#12		Ign Coil #2	Ign 2		#29		CAN L Output	CAN L
#13		Ign Coil #1	Ign 1		#30		Cam pos Intake	DI 1
#14		Oil Press	AN Volt 4	OPTIONNAL Trought PrecisionAutoCar	#31		NOT USED	DI 2
#15		ECT	AN Temp 1		#32		Sensor +5V	+5v
#16		IAT	AN Temp 2		#33		TPS	AN Volt 3
#17		Fuel Press	AN Volt 1	HRL 2025 mandatory	#34		ECU Ground	Ground

15 EXHAUST MANIFOLD

15.1 Schoenfeld Headers exhaust PN: F9284V3M-HP or F9284V3M-NP is mandatory, ceramic coating is permitted, no other modification is allowed (when ordering you need to specify for HRL Serie)

15.2 The extension at the end of the collector shall not exceed 28 inches in length and 3 inches in outside diameter, It is possible to install welded fittings for sensors such as mandatory Lambda sensor at the end of the collector prior to the extension

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ANNEX E

Pro Hydro Class Technical Rules

The objective of the rules for the Pro-Hydroplane Class to promote and govern a professional class of propeller driven Inboard Racing Hydroplanes that bridges the gap between the H-350 and Grand Prix classes. The class will use high performance versions of readily available, big block automotive and marine engines with parts available over the counter or OEM and utilizing recognized manufacturer racing gasoline.

1-ENGINE BLOCK

1.18 Spec Chevrolet 510 cubic inch Pro-Hydro engine
1.19 Any cast-iron block: 4.500 bore. Tolerance +/- 0.005"
1.20 **No** oversize is permitted. Block may be sleeved if damaged. Maximum 4 sleeves allowed.
1.21 Standard deck 9.800, standard cam location, no roller bearing
1.22 **No** aluminum block is permitted

2–CRANK

2.6 Stroke: 4 inches +/- .005"
2.7 Standard main: 2.750", Rod 2.200" (undercut maximum .030")
2.8 Minimum weight: 70 lbs which includes balancing
2.9 Unaltered, except for normal cleanup and balancing of crank
2.10 **No** knife edge contoured sculptured allowed

3-CONNECTING RODS

3.5 Rod length: maximum 6.385"
3.6 Minimum weight: **795 Grams** (includes caps & bolts) no bearing.
3.7 **No** Titanium or aluminum Rods permitted
3.8 Full floating pin **ONLY**

4-PISTONS

4.9 Spec piston – JE Piston Part # 258261, 42 CC Dome
4.10 Compression ratio 12.5 to 1 Maximum
4.11 Ring thickness: Top and Second: 1/16", Oil ring: 3/16 "No ring spacers and Dykes top rings are allowed.
4.12 Gapless and gas ported rings allowed.
4.13 JE Pin : Part # 990-2930-18-51S (174g) Minimum wall thickness of pin .180
4.14 Piston compression height: 1.395"
4.15 No portion of the piston (flat surface) may protrude above the top of the block and that

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without any head gaskets.

5-CAMSHAFT & VALVETRAIN

5.1 Any roller cam shaft that fits comp cam Part #11-852-9 specs with 1.7 rocker Lift: Intake 0.739" Exhaust 0.742"
5.2 Advertised Duration: 300 deg/Intake 309 deg/Exhaust
5.3 Lobe separation angle: 110 deg.
5.4 Must follow the valve lift chart cam rotation angle
5.5 **No** alteration is permitted
5.6 May be purchased through any distributor/manufacturer
5.7 Valve lift chart:

Exhaust Lobe		Intake Lobe	
Camshaft:	Comp Cam	Camshaft:	Comp Cam
Lift	Rule Degrees	Lift	Rule Degrees
0,050	0	0,050	0
0,100	6	0,100	6
0,150	11	0,150	11
0,200	15	0,200	15
0,250	19	0,250	18
0,300	25	0,300	22
0,350	28	0,350	25
0,400	32	0,400	28.5
0,450	36	0,450	32
0,500	40	0,500	36
0,550	44	0,550	40
0,600	48	0,600	45
0,650	54	0,650	51
0,700	61	0,700	60
0,742	75	0,739	69
0,700	89	0,700	82
0,650	96	0,650	90
0,600	102	0,600	96
0,550	106	0,550	100
0,500	110	0,500	104
0,450	114	0,450	108
0,400	117	0,400	111.5
0,350	121	0,350	115
0,300	124	0,300	118
0,250	128	0,250	122
0,200	132	0,200	125
0,150	136	0,150	129
0,100	141	0,100	134
0,050	148	0,050	140

5.8 Roller lifter: .842"
5.9 No alteration to lifter is permitted. Keyed lifters and/or bushings are prohibited
5.10 If damaged bronze lifter bushing is permitted. Maximum 8 (no index bore lifter)
5.11 Magnetic steel lifter
5.12 **Any** pushrod is permitted
5.13 **No** titanium, exotic material or handmade rod is permitted

5.14 Timing chain **ONLY**

5.15 **No** Gear Drive or belt drive is permitted

6–HEAD

6.1 Part # DART CNC-PRO1-355cc. Purchased heads will be bare and have the authorized HRL logo highly visible stamped on them. **No** alteration or modification to head is permitted
OR Performance world #90360 360cc runner as cast is permitted.
OR AFR Part #2010-TI 357CC magnum cylinder heads. The heads can be purchased fully assembled or bare. The part number must be highly visible.

6.2 Milling: Rocker stud **only** for guide plate, Port Matching and CC combustion chamber

6.3 Repairs to a head is permitted but need to keep specs of original head.

6.4 **No** angle milling

6.5 Combustion chamber: Minimum 119cc

6.6 Valve Springs: Any type and any manufacturer may be used. **No titanium or exotic material is permitted**

6.7 Valves: **Any manufacturer Stainless valves permitted. Suggested Manley** Part # Exhaust 11843-8, Intake 11854-8. No titanium valves,

Type	Head Diameter	Steam Diameter	Installed Height	O/A Length	Tip Length	Under head Angel/Radius	Margin	Seat Width	Top of Head	Wgt/ Grams
EXH.	1.880	3415	Stock	5.422	.250	10°x 3/8''	.075	.085	6° dish	122
INT.	2.300	.3415	.250 longer	5.494	.250	12°x 3/8''	.050	.100	7° dish	149

6.8 Roller rocker ratio: 1.7". **Any** manufacturer may be used

6.9 Screw rocker stud: 7/16. **Any** manufacturer may be used

6.10 Guide plates are permitted. **Any** manufacturer may be used

6.11 Stud girdles are permitted. **Any** manufacturer may be used

6.12 Valve spring retainer must be titanium or steel **Only**

6.13 Jessel or T&D bracket are **NOT permitted**

6.14 Port Matching - **Intake to Head to be determined at a future date. A diagram will be made**

6.15 With the exception of port matching, a**ny** evidence of sanding, polishing, relieving, grinding, porting, chemical treating ceramic work, abrasive blasting, and alteration of the original form or the addition of material to the ports or combustion chambers are prohibited

6.16 **Minimum thickness of head gasket compressed will be .040" minimum**

7-INTAKE MANIFOLD

7.1 **Only the Edelbrock "Super Victor" aluminium intake is permitted. Part # 2927**

7.2 Cooling bleed line is permitted.

7.3 Port matching is permitted **to be determined at a future date. A diagram will be made.**

7.4 With the exception of port matching, **any** evidence of sanding, polishing, relieving, grinding, porting, chemical treating ceramic work, abrasive blasting, and alteration of the original form or the addition of material to the ports or combustion chambers are prohibited

8-CARBURETOR

8.1 **Gas Carburator :** Venturi size: 1.690" – Throttle bore: 2.00"
8.2 **Alcohol Carburator** : Venturi size: 1.800" – Throttle bore: 2.00"
8.3 **No** vacuum leaks. No turtles or other induction performance enhancing devices. **No** other systems allowed
8.4 Two (2) return springs mandatory. An over-center throttle stop is recommended
8.5 The carburetor must pass top and bottom dimension tool specs.
8.6 Spacer with gasket is permitted

9–IGNITION

9.1 MSD Distributor only. Part # 85551
9.2 MSD Box 6ALN only. Part # 6430
9.3 MSD coil blaster SS only. Part # 8207
9.4 A 7600 RPM chip will be supplied by HRL at each race weekend. Teams **must return** this chip at the end of weekend

10-OIL SYSTEM

10.1 **Any** aftermarket oil pan and breather is permitted
10.2 Wet sump must remain in a stock location
10.3 Dry-sump is permitted. Maximum (4) four stage
10.4 "Aeroquip type" oil lines **only**

11-FUEL

11.1 **This specific Fuel spec must be respected. Reference Sunoco Supreme 112 Octane**
11.2 Specific gravity must fall within range 0.715 to 0.765 at 60 degrees Fahrenheit
11.3 **No** alcohol additives
11.4 **No** oxygen blend is permitted
11.5 Pure Methanol can be used
11.6 Mechanical fuel pump or electric fuel pump only. **Any** manufacturer may be used.
11.7 **No** plastic fuel filters are permitted.
11.8 **No** alcohol, additives or oxygen blend is permitted
11.9 "Aeroquip type" fuel lines **only**
11.10 **Not permitted**: Plastic pressure line or pressurized fuel tank

12-EXHAUST.

12.12 Headers **only**. **Any** manufacturer is permitted

13-MISCELANEOUS

13.1 The following items may be of any manufacture: gaskets, spark plugs, wires, bearings, filters, fuel lines, hoses, fittings, valve covers, breathers, nuts, bolts, washers, and exhaust system unless specified in these rules.

13.2 Gear boxes **are allowed** but multiple speed gear boxes are not permitted.

13.3 The maximum skid fin surface area (to be finalized prior to May 1st 2025) must be adhered. The HRL inspector will also have a template (box rule) that will also be used skid fin size inspections. A concave or convex skid fin surface is not permitted.

13.4 There will be a maximum rudder dimension (length and width) for the pro-hydro class.

13.5 Hull specifications

Min Length	Min Weight	Tunnel Width	Box Size	Comments
20 ft	2500 Lbs (with driver)	72.5 in	12 ft	
20 ft	TBD	76.5 in	TBD	
20 ft	2500 Lbs (without the driver)		12 ft	Any grandfathered GNH hull running the Option 3 motor

***Note: The weight of 2650 for boats width between 72.5 and 76 applies only to boats built before January 1st, 2025.**

Hull, cavitation plates and drive shaft shall not be adjustable while boat is in motion. Propulsion will be by one underwater propeller. Said propeller shall be no more than three blades and must be of cast material.

It is mandatory that all Grand National Hydroplanes competing have two-way radio communications.

13.6 It is mandatory to have onboard oxygen for the driver

13.7 Type 4 safety cell is mandatory, no exception.

Optional Motors for the 2026 Season

468 CID Engine Option 1

- Engines are to be of U.S. manufacture, cast iron block, supplied by OEM, automotive or marine, 4 cycle, internal combustion type. Total cubic inches not to exceed 468. Engine must be normally aspirated utilizing any Holley 600 CFM carburetor with a throttle bore of 1-9/16 max. both primary and secondary. Ignition may be any type, except crank driven. No overhead camshafts
- Inspection Procedure: Length of hull, weight of hull, fuel check, cubic inches, carburetor size

468 CID Engine Option 2

- Block: Only cast-iron OEM or aftermarket short deck blocks permitted.

- The bore, stroke combination allowed will be: 4.310 x 4.00 (454 Chevy) or 4.440 x 3.760 (427 Chevy).
- Rods: Stock length rods, 6.135 in.
- Carburetor: Holley 4 barrel carburetor with throttle bore 2 inch max.
- Cams: Roller cams may be used.
- Rocker arms: Stock 1.7: 1 rocker arm ratio only. Roller rockers may be used.
- Valves: Valve head diameter: Intake 2.300" max, Exhaust 1.900" max.
- Cylinder heads: Only Chevrolet common wall intake cylinder heads allowed. No Brodix, Pontiac, Darts, etc.
- No grinding or polishing of any kind in the intake ports, exhaust ports or combustion chambers.
- The following are not inspectable: intake manifold, cam, compression ratio, piston and rings, carburetor body and venturi.

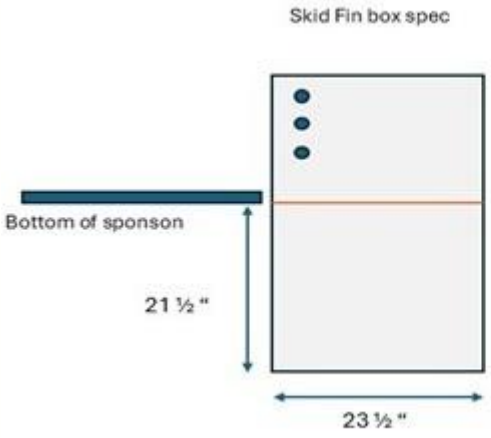
511 CID Engine Option 3

- US manufacture, automotive or marine, 4 cycle internal combustion type cast iron blocks only.
- Total cubic inches not to exceed 511.
- 47.6.3.3 Engine to be normally aspirated utilizing any American-made carburetor with a throttle bore as follows:
    a. Primary: 1 9/16" maximum.
    b. Secondary: 1 9/16" maximum.
    c. A 0.250 inch thick restrictor plate, located a maximum distance of 1.5 inches below the carburetor, with these dimensions will be acceptable. These holes shall not be conical in shape; must be straight cut. Plate thickness shall include gaskets. All other adapters or spacers shall be included in the maximum distance.
- Ignition may be of any type.
- No overhead camshafts.
- Two valves per cylinder maximum.
- Cast intake manifold only. Must be available from a major manufacturer.
- No symmetrical port heads permitted.
    a. Allowed: common wall type including Chevrolet, Dart 320 and 360, Brodix -1, -2, -3, -4, and other non-symmetrical port cylinder heads.
    b. Not Allowed: Pontiac Prostock, Dart Big Chief, Oldsmobile DRCE, Dart Oldsmobile, Brodix EPD, and other symmetrical port cylinder type heads.

Note: *In order to run this engine, the hull must weigh a minimum of 2,500 pounds excluding driver and must be 20 feet minimum length and maximum length of 26 feet.*

14-SKID FIN

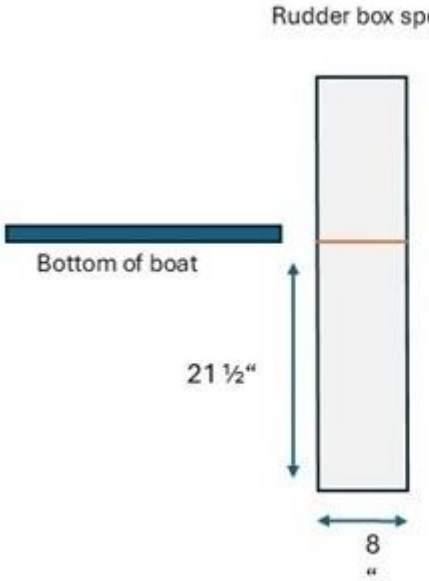
14.1 A concave or convex skid fin surface is not permitted
14.2 Aluminium only (7075-T6)
14.3 Diagram Skid fin dimension box rule.



Skid fin depth shall be measured from the lowest riding surface of the bottom of the sponson. Width shall be measured from the leading edge of the fin to the widest point on the trailing edge of the sponson

15-RUDDER

15.1 Diagram Rudder dimension box rule



Rudder depth shall be measured from the lowest riding surface at the transom of the boat to the longest bottom edge of the rudder (pickup tube included. The rudder width shall be measured from the leading edge of the rudder to the widest trailing edge of the rudder (pickup tube included)

ANNEX F
Air System

All competing boats must always be equipped with air.

No manually activated mechanisms shall be allowed.

The mask must cover the mouth and nose and be attached in such a way as to prevent its being dislodged or removed inadvertently and must be worn by the driver anytime the boat is under power.

The rescue diver must be able to easily remove the mask and supply the driver with a diving regulator at all times, especially in the event the driver is in a critical situation.

Any air mask accepted by HRL must be approved in writing by the original manufacturer for use in boat racing. The mask must safely allow the driver to continue breathing should water submersion occur. The mask must also be equipped a purge button that allows the driver to pressurise the mask and to expel any water that may have entered the mask.
The following is the current list of HRL accepted original manufacturers.

- Tiger Performance products
- ·Datersystems
- Lifeline Race Gear
- SRP Security Race Products

All inboard boats with a permanent onboard system must carry a minimum 30 cubic feet of air tank. The air tank must be installed in the center section of the boat by two supports or moulded support straps.

All inboard boats with an ambient air system must have a minimum 6 cubic feet of air and held in place by adjustable leg holsters or moulded support straps.

All boats must have identification on the bottom of the boat to indicate which air system is being used. The word AIR and the letter corresponding to the system used:

- **Permanent air system – AIR/P**
- **Ambient air system – AIR/A**

Air hoses must be between ten (10) and fifteen (15) feet long measured starting at the center of the steering wheel and doubly protected.

Two quick connect male couplers must be installed between the first stage regulator and the second stage regulator located between twelve (12) and twenty-four (24) inches from the driver's mask or helmet except when using leg holsters.

When using stainless couplers use the Parker 60 series part number SH1-62/SH1-63. When using brass couplers use part number BH1-60/Bh1-61 with ball stop mechanism.

All connections in the air system must be done with commercially accepted or SCUBA type high pressure crimped at both ends. Hose clamps are not allowed.

ANNEX G
Capsule Training Procedures

IMMERSION TEST WITH AIR SYSTEM

The immersion test simulates being turned upside down in a safety capsule under water in a controlled environment. The test is to be done using a reinforced Type 4 capsule and/or a Type 3 Capsule and is equipped with a harness and a steering wheel such as those used in hydroplanes. The capsule will be turned over in such a manner that the strapped in driver is completely submerged under water._Under the supervision of the diver the driver must get out of the capsule in the manner listed in STEP 3. The rescue team and chief referee oversee the procedures.

The rescue team must ensure that the divers are professionally trained to get drivers out in panic situations. Furthermore, the team must have someone qualified in CPR present for the entire test session. Every sequence will be explained to the driver before the test begins.

It is recommended that drivers have access to a professional training course on assembling and using proper equipment. PADI, BSAC and SAA are organisations that offer this type of training. By mentioning the criteria for the test, you must take, it will be possible for them to set up a training schedule to meet your needs.

All drivers taking part in HRL events must first pass an immersion test using their air system. The driver must bring their own equipment that they intend to use during races. Borrowed equipment might result in a test refusal. All drivers who have passed the immersion test with the APBA are accepted under the CBF/APBA agreement but will still have to pass STEP 1 of the HRL procedures before the first race of the season.

HRL will supply the necessary air bottle for the test. However, drivers will need to obtain air bottles for races that meet safety standards and are in good condition.

PERFORMANCE EVALUATION

The test is done in 3 distinct stages. Each step will be done in order planned. To pass the test, the driver must complete each step in order as describe below:

The test is considered successful when a driver remains calm and comes to the surface following the steps in order as described in STEP 3.

Exam failure can occur at any stage if criteria or procedures are not followed properly.

PROCEDURES

STEP 1- Physical and visual verification of the driver's equipment

Items listed below will be part of the Inspection of driver's equipment (for more details see Capsule Training verification chart)

Racing suit.	Shoes.
Gloves, if normally worn by the driver.	Mask.
Helmet	Air system
Head and neck restraint system	Life jacket

STEP 2 – Under water breathing and equipment test

1- The DRIVER will enter the pool with all their OWN equipment tested at STEP 1 and will go underwater for a minimum of 2 minutes with a safety diver to ensure that the equipment is working properly and that they are comfortable breathing. ** (any DRIVERS wearing contact lenses should let the safety diver know before entering the pool)
2- A test underwater of the hose and mask movement will be made to ensure the driver's trust of his equipment.
3- The safety diver will attach the emergency air hose to the DRIVER'S primary hose via the "T" connector to demonstrate the procedure to the DRIVER. This will ensure the DRIVERS confidence of the safety procedure if it were needed.
4- The DRIVER will go with a safety diver into the shallow end of the pool (4 feet maximum) and will have to remove his mask, will then have to put it back in place and purge it and breathe underwater.
5- The DRIVER will have to remove their mask and receive regulator from the diver and breathe.

STEP 3 – Dunk Test

1- The driver will be comfortably installed in the cockpit.
2- The driver will do a verification of the air supply and the proper functioning of his breathing equipment. (not ambient air)
3- The driver will have to familiarize with the capsule safety equipment and function and demonstrate his ability to release steering wheel, harness and canopy.
4- The driver will be asked to review extrication procedures (1- canopy 2- wheel 3- arm pin removal 4- safety harness 5- Exiting the cockpit on the side 6-Demonstrate okay signal)
5- The driver will be asked if ready (thumbs up)
6- The capsule will be overturned.
7- The driver needs to wait until the water fills the cockpit
8- The diver will signal the driver to begin.
9- The driver will unhook the canopy straps and open the canopy.
10- The driver will take off the steering wheel.
11- The driver will undo the arm pin to remove the arm.
12- The driver will undo the safety harness
13- The driver will place his hands on the sides of the canopy and do a forward roll to get out of the cockpit and move to the surface to the side and not the back of the capsule.
14- The diver will inform the rescue team if uninjured, should clasp hands above head as an "okay" signal

2026 HRL Capsule Training Evaluation Chart

Driver's Name: _____

Boat # / Class: _____

HRL Representative _____

TEST RESULT: PASS FAIL

DRIVERS SIGNATURE: _____ DATE: _____

STEP 1- Physical and visual verifications of the driver's équipment					
Racing suit	HRL Logo positionned on the upper front right side				
	Handles on shoulders	Pass	Fail	N/A	
Shoes/gloves	Shoes	Pass	Fail	N/A	
	Gloves	Pass	Fail	N/A	
Helmet Max 12 years *refer to UIM list of authorized helmet	Manufacturer				
	serial number				
	Model				
	Homologation				
	Date of manufacture				
	50% or more contain one or more highly visible color	Pass	Fail	N/A	
Mask	Brand an type				
	Any defect or damages :				
	In visual working order	Pass	Fail	N/A	
Air System	Hose and T-connector and are in good working order	Pass	Fail	N/A	
	hoses are in fluorescent yellow color	Pass	Fail	N/A	
	hoses are secured to the helmet	Pass	Fail	N/A	
Head and neck restraint system	Brand and date of manufacture				
	Certified SFI 38,1 or FIA 8858-2002/8858-2010	Pass	Fail	N/A	
Life Jacket	Brand and date of manufacture				
	Categorie (circle) Capsule Jacket Capsule Suit Racing Uniforme	Pass	Fail	N/A	

STEP 2- Underwater breathing and equipment test				
Verifications	Mask is properly adjusted to the face of the driver (no leak)	Pass	Fail	N/A
	The driver is comfortable breathing underwater for a minimum of 2 minutes	Pass	Fail	N/A
	Hose is in working order (no air leak)	Pass	Fail	N/A
	The driver is confortable during the process of switching air supply	Pass	Fail	N/A
	The driver is able to remove, replace and purge his equipment underwater	Pass	Fail	N/A
	The driver is able to remove his mask, receive a regulator from the diver and breathe	Pass	Fail	N/A

STEP 3- Immersion test		Small capsule			Big capsule		
Drivers mandatory task	The driver is comfortably installed in the cockpit	Pass	Fail	N/A	Pass	Fail	N/A
	The driver did a verification of the air supply	Pass	Fail	N/A	Pass	Fail	N/A
	The driver familiarize with the capsule safety equipment	Pass	Fail	N/A	Pass	Fail	N/A
	The driver demonstrate his ability to release stering wheel, harness and canopy	Pass	Fail	N/A	Pass	Fail	N/A
	The driver reviewed the extirpation procedures (6 mandatory steps)	Pass	Fail	N/A	Pass	Fail	N/A
	The driver show with a thumbs up that he is ready to flip	Pass	Fail	N/A	Pass	Fail	N/A
	The driver waited until the capsule is filled with water and the diver sign to begin	Pass	Fail	N/A	Pass	Fail	N/A
	The driver unhooked and opened the canopy	Pass	Fail	N/A	Pass	Fail	N/A
	The driver took off the steering wheel	Pass	Fail	N/A	Pass	Fail	N/A
	The driver undoed the arm pin and removed the arm	Pass	Fail	N/A	Pass	Fail	N/A
	Thr driver undoed the safety harness	Pass	Fail	N/A	Pass	Fail	N/A
	The driver extirped himself from the cockpit to the side	Pass	Fail	N/A	Pass	Fail	N/A
	The driver informed the rescue team with a clasp of hand above head as an "okay" signal	Pass	Fail	N/A	Pass	Fail	N/A

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ANNEX H

Safety Inspection

Hull safety inspectors must inspect all hulls registered with HRL once a year using the official document “Safety Inspection Control” supplied by HRL. The Inspectors shall at the first race of the season or the first time a competitor participates in a race verify that the hydroplane meets all the regulations pertaining to safety. If a hydroplane does not meet all the safety requirements it may not participate until the necessary corrections are made and approved. Once a hull has been approved by the inspectors an adhesive safety sticker will be affixed to the back of the boat.

The Inspectors reserve the right to proceed with a safety inspection the moment a hydroplane enters the pits. If an irregularity is observed the inspectors will classify the problem as follows:

Level 1- Nonconformity noted – hydroplane not authorized to race.
Level 2- Divergence found – authorized to race / repair before next race.
Level 3- Involved in an accident – repairs must be done before the next event.

The Inspector must fill out a report concerning the irregularity and remove the safety sticker. Copies of the report shall be submitted to the Referee, HRL and the Owner/Driver. The hydroplane must be re-inspected at the following event. The Owner/Driver must present his copy of the inspection report to the HRL inspector or chief referee before he can be authorized to race. Only HRL Inspectors are authorized to approve any corrections.

When an Inspector approves the modifications, he will place a new safety inspection sticker on the hydroplane. The Inspector will also take a copy of the report of non-conformance from the owner, fill out the section regarding the correction and send it to the HRL office to be filed.

On no occasion shall a hydroplane be given a second chance to participate with a Level 2 infraction. Falsification of inspection documents results in an automatic suspension and will be discussed by the HRL committee. A decision will be made after examining the facts.

It is the drivers or owner’s responsibility to ensure that the hydroplane passes a safety inspection. At the referee’s discretion a new inspection may be ordered or after an accident before returning to competition.

Where a boat is damaged in an accident an inspection must be made by one of the inspectors before the boat can return to competition. The driver must point out to the inspectors any non-conformity to the rules.
Following a major accident of a hydroplane the inspectors must do a thorough inspection of the hull and send a copy of the report to the HRL group. At the owners request a copy of the report will be given to him.

HRL Safety Inspection Form

Helmet rating no greater than 12 years from SNELL date		Brand			
		Type			
	1	Dot	Pass	Fail	N/A
	1	Snell number	Pass	Fail	N/A
	1	Head and neck restraint system certified SFI 38,1 or FIA 8858-2002/8858-2010	Pass	Fail	N/A
		Brand Fabrication Date Recertification date	Pass	Fail	N/A
Drivers suit	1	Handles on shoulders	Pass	Fail	N/A
	1	SFI Certified	Pass	Fail	N/A
Restraint belt	4	Material (polyester)	Pass	Fail	N/A
	1	5 points / Type Latch Rotary	Pass	Fail	N/A
	1	SFI Certified	Pass	Fail	N/A
	4	Belt bolt attach (grade 8)	Pass	Fail	N/A
	3	Expiry date must be followed	Pass	Fail	N/A
Air System		Mask brand			
	4	Air bottle cubic feet 13 ft cube (Air ambiant)	Pass	Fail	N/A
	1	Air bottle cubic feet 30 ft cube (Air permanent)	Pass	Fail	N/A
	1	Air hose feet (between 10 and 15 feet long)	Pass	Fail	N/A
	1	Leg holster system (6 ft cube)	Pass	Fail	N/A
	4	Air tank holder (in center section of the boat)	Pass	Fail	N/A
Life Jacket	1	Brand			
	1	Categorie Capsule Jacket Capsule Suit Racing Uniforme	Pass	Fail	N/A
Hull	3	Critical information on bottom Hull	Pass	Fail	N/A
	3	Trailer identified with boat number in front	Pass	Fail	N/A
	1	Fire extinguisher 5 Lbs (min 3A40BC with in service date) with boat number	Pass	Fail	N/A
	3	Strut (accessible for viewing)	Pass	Fail	N/A
	4	RH Rollover Bracket (Min 3/4 Hole)	Pass	Fail	N/A
	1	Sling Attachments (accessible for viewing)	Pass	Fail	N/A
	3	Cowling flotation (must float by itself)	Pass	Fail	N/A
	1	Mirrors	Pass	Fail	N/A
	1	External Release or hand hold opening for cockpit lid	Pass	Fail	N/A
	3	Backwater valve / Check valve	Pass	Fail	N/A
	3	Front towing Hook	Pass	Fail	N/A
	3	Front wing bushings	Pass	Fail	N/A
	1	Poppeller cover made of cut-resistant fabric or a protective guard/cage	Pass	Fail	N/A
	3	Skid Fin and Mounting bracket (accessible for viewing)	Pass	Fail	N/A
	4	Inside cockpit white (2024 build and more)	Pass	Fail	N/A
Engine	1	Cockpit area sealed from engine bay	Pass	Fail	N/A
	1	Auxiliary Throttled Return Spring 2 no idle screw (gas pedal is optional)	Pass	Fail	N/A
	3	Engine Mounts	Pass	Fail	N/A
	3	Battery Mounts	Pass	Fail	N/A
	1	Fuel Tank / fuel pick up must be accessible for viewing	Pass	Fail	N/A
	1	Gas tank vent	Pass	Fail	N/A
	1	Fuel lines	Pass	Fail	N/A
	3	Oil / Water lines	Pass	Fail	N/A
	1	Prop shaft collars 2 (screw or split)	Pass	Fail	N/A

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Cockpit		**Steering**	Pass	Fail	N/A
	1	Integrity of components and attachments	Pass	Fail	N/A
	1	Steering wheel and rudder properly coordinated / tumbuckles double wrap	Pass	Fail	N/A
		Cockpit Padding	Pass	Fail	N/A
	3	Minimum 2" behind driver's head	Pass	Fail	N/A
	3	Energy absorbing foam in cockpit	Pass	Fail	N/A
		Cockpit / Canopy	Pass	Fail	N/A
	4	Min of 2" clearance above driver / rider to cockpit/canopy	Pass	Fail	N/A
	4	No wing pedal activation rods permitted to pass through the capsule	Pass	Fail	N/A
	3	No Sharp edges in cockpit	Pass	Fail	N/A
	1	Accuclock	Pass	Fail	N/A
	4	Air hold / entry and exit	Pass	Fail	N/A
	1	Canopies must have internal release and handhold	Pass	Fail	N/A
	1	Lanyard on seat belt latch bright yellow	Pass	Fail	N/A
	3	Release pin on steering column bright yellow	Pass	Fail	N/A
	1	Escape hatch open and close easily	Pass	Fail	N/A
	3	Capsule lid hinge and latch bright yellow	Pass	Fail	N/A
Formule R & F					
Slings	1	2 legs	Pass	Fail	N/A
	1	Certified HRL Surlock hook system	Pass	Fail	N/A
Hull	3	Skid Fin and Mounting bracket + (backing plate 1/8 minimum)	Pass	Fail	N/A
	3	Rudder bracket (backing plate 1/8 minimum)	Pass	Fail	N/A
	1	Hull numbers (Min 12" High / 2" width)	Pass	Fail	N/A
Canopy	4	polycarbonate material 3mm (1/8")	Pass	Fail	N/A
	3	clear side window (min 12"clear / front can be tinted)	Pass	Fail	N/A
Cockpit	4	Polycarbonate material 6mm (1/4")	Pass	Fail	N/A
	3	clear side window	Pass	Fail	N/A
Hydro 350					
Slings	1	3 legs	Pass	Fail	N/A
	1	Certified HRL Surlock hook system	Pass	Fail	N/A
Hull	3	Skid Fin and Mounting bracket +(backing plate 3/16 minimum)	Pass	Fail	N/A
	3	Rudder bracket (3/16 minimum)	Pass	Fail	N/A
	1	Hull numbers (Min 12" High / 2" width)	Pass	Fail	N/A
Cockpit	4	Polycarbonate material 6mm (1/4")	Pass	Fail	N/A
	3	clear side window	Pass	Fail	N/A
Pro Hydro & Grand Prix					
Slings	1	3 or 4 legs	Pass	Fail	N/A
	1	Certified HRL Surlock hook system	Pass	Fail	N/A
Hull	3	Skid Fin and Mounting bracket + (backing plate 1/4 minimum)	Pass	Fail	N/A
	3	Rudder bracket (1/4 minimum)	Pass	Fail	N/A
	1	Hull numbers (Min 12" High / 2" width)	Pass	Fail	N/A
Engine	1	Fire extinguisher 9 pound a minimum of two spray nozzles on board	Pass	Fail	N/A
Cockpit	4	Polycarbonate material 9mm (3/8")	Pass	Fail	N/A
	3	clear side window	Pass	Fail	N/A

Legend:

1- Mandatory to race. No exception
2- Mandatory for the next race
3- Mandatory for the next racing weekend
4- Mandatory for the next season

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ANNEX I

Boat on Restriction – Specifications

The hull suffers damage that punctures the inner and outer surface of the hull that sits below the water when a boat is stationary.

Ex.: inside of the tunnel, sponson, chine.

Delaminating occurs on a surface that comes in contact with the water during racing condition (Outside edge of sponson, outside rear chine, sponson bottom, bottom of the boat between the break point and the transom).

Damage occurs to any area of the hull that the skid fin and / or rudder is attached to fin bracket control arm area/bracket, rudder bracket.

Other situations where the inspector, chief referee and a builder agree on.

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ANNEX J

Lane Assignment

2 Groups

Q1			Q2			Q3		
Cr	1A	1B	Cr	2A	2B	Cr	3A	3B
1	1	2	1	15	16	1	16	15
2	4	3	2	13	14	2	13	14
3	5	6	3	11	12	3	12	11
4	8	7	4	9	10	4	9	10
5	9	10	5	7	8	5	8	7
6	12	11	6	5	6	6	5	6
7	13	14	7	3	4	7	4	3
8	16	15	8	1	2	8	1	2

3 Groups

Q1				Q2				Q3			
Cr	1A	1B	1C	Cr	2A	2B	2C	Cr	3A	3B	3C
1	1	2	3	1	23	22	24	1	24	23	22
2	6	5	4	2	19	20	21	2	19	20	21
3	7	8	9	3	16	18	17	3	18	17	16
4	12	11	10	4	14	15	13	4	13	14	15
5	13	14	15	5	12	11	10	5	12	11	10
6	18	17	16	6	9	7	8	6	7	8	9
7	19	20	21	7	5	4	6	7	6	5	4
8	24	23	22	8	1	2	3	8	1	2	3

4 Groups

Q1					Q2					Q3				
Cr	1A	1B	1C	1D	Cr	2A	2B	2C	2D	Cr	3A	3B	3C	3D
1	1	2	3	4	1	29	32	31	30	1	32	31	30	29
2	8	7	6	5	2	27	28	25	26	2	25	26	27	28
3	9	10	11	12	3	23	22	21	24	3	24	23	22	21
4	16	15	14	13	4	17	18	19	20	4	17	18	19	20
5	17	18	19	20	5	13	16	15	14	5	16	15	14	13
6	24	23	22	21	6	11	12	9	10	6	9	10	11	12
7	25	26	27	28	7	7	6	5	8	7	8	7	6	5
8	32	31	30	29	8	1	2	3	4	8	1	2	3	4

Ligue de Régates d'Hydroplanes (HRL)

395, rue Victoria, Salaberry-de-Valleyfield, QC J6T 1B7, Canada

ANNEX K

Safety Commission Chart

The Hydroplane Racing League takes their safety rules very seriously and requires high standards to make their races as safe as possible for all participants.

2026							
	Topics	S/F	JSS	H	V	GP	Notes
2.1	Release straps on head and shoulder device and seat belt must be bright yellow or glow in the dark	x	x	x	x	x	
2.2	Air hose must be bright yellow	x		x	x	x	
2.3	Scott's mask are banned	x		x	x	x	Air mask must be easily removed and purged
2.4	Side windshield must be clear	x		x	x	x	Mandatory
Recommandation and R&D							
	Topics	S/F	JSS	H	V	GP	
	Inside of cockpit must be white	x		x	x	x	Highly recommended
	All cockpits should have a form fitting foam insert	x	x	x	x	x	

Ligue de Régates d'Hydroplanes (HRL)

395, rue Victoria, Salaberry-de-Valleyfield, QC J6T 1B7, Canada

ANNEX L

Grand Prix Technical Measurements

A. Class letter designation shall be “GP”

B. **1- <u>New construction</u>:**

Minimum length shall be 24' 0" excluding projections not integral parts of hull structure.

Box rule: Maximum length shall be 26' 0" including projections not integral parts of hull structure.

Maximum width shall be 12’6". Maximum tunnel width 76”.

2- <u>Hulls:</u>

To be eligible to race with HRL GP Series you must submit the Hull and Motor Specs to Hydroplane Racing League – HRL by email administration@hrlhydroplane.com

3- <u>Color schemes:</u>

Dark colors are not acceptable unless offset by highly visible colors. Predominant grey and/or black colours are prohibited.
Example: Navy blue decks with bright yellow cowlings.

For safety reasons it is important to submit your color scheme to HRL for approval. Hydroplane Racing League – HRL by email administration@hrlhydroplane.com

4- <u>Numbers:</u>

The numbers are to be a minimum 15” high by 2” wide and on both sides of boat in a highly visible area.

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

No forged propellers shall be allowed. HRL reserves the right to purchase your propeller for $ 3,000 CAD for inspection purposes.

D. All current inspection procedures outlined here and in the APBA Inboard racing rules apply. Only HRL inspectors are authorized to inspect all HRL hydroplanes participating in a sanctioned HRL event.

E. Two-way radio communications are **mandatory.**
All Hydroplanes built after January 1st, 2020, must meet the new cockpit reinforcement standards approved by HRL ***see Annex I***. (Safety commission chart).

F. Racing teams who participate in the HRL series with hulls built before January 1st, 2020 that do not meet the new HRL cockpit reinforcement standards, must sign a release and waiver of liability form.

For safety, canopy must be painted orange inside.

G. All boats must have an on-board 9 pound minimum manual or automated Fire boy (or approved equal) fire extinguisher securely mounted outside the cockpit area. A minimum of two spray nozzles will be installed in the engine compartment. The activation of the fire system will be either automatic and /or manual with an accessible handle. The handle will be marked with a **red triangle and the word FIRE**.

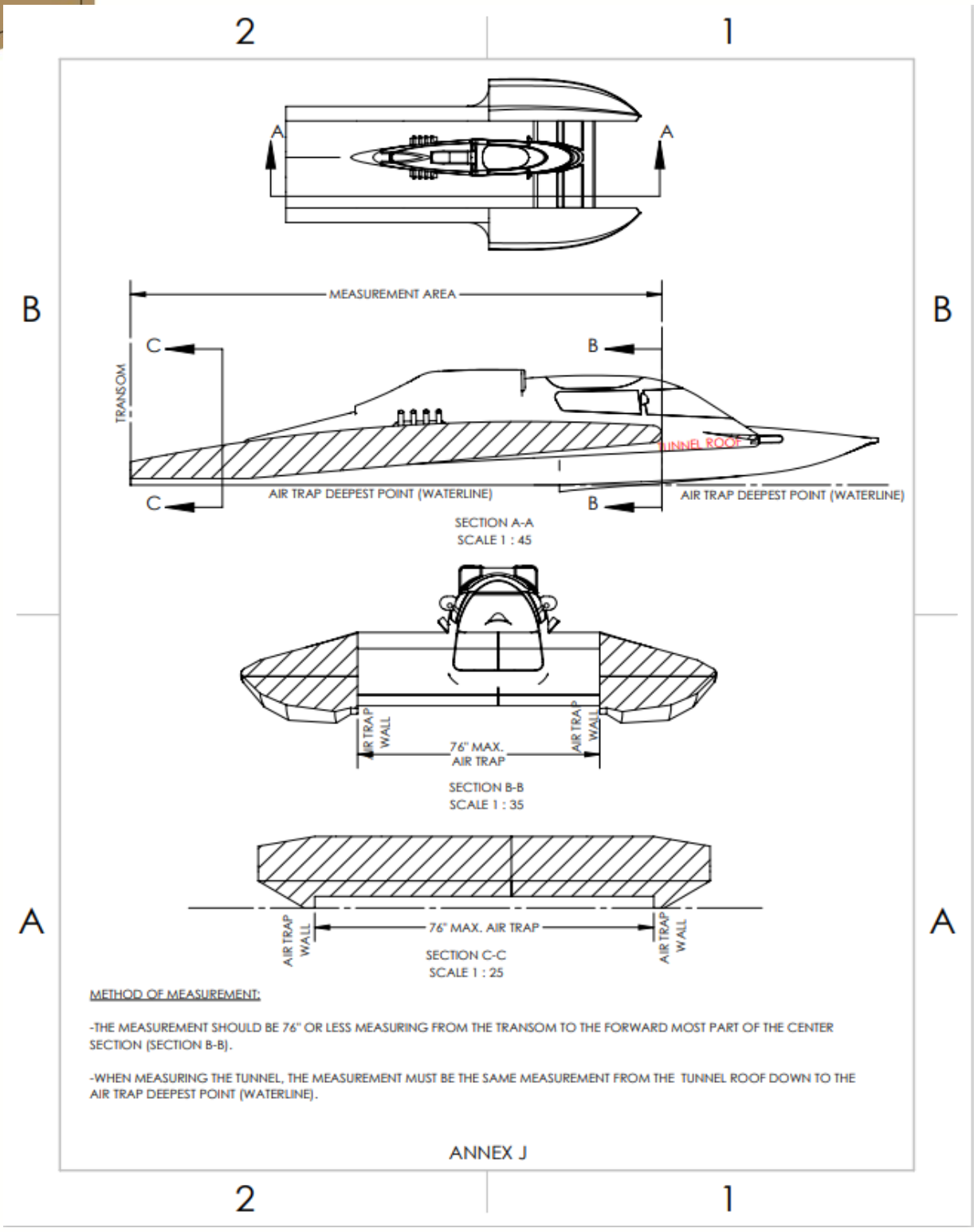
H., **Please note that this rule is slightly different from the APBA rule.**

New constructions:

All rudders must be made of 17-4 with a minimum heat treatment of 38 Rockwell and a maximum of 48 RC (Rockwell C scale) or equivalent strength. For 4130 and 4140 steels, quench, and temper to a hardness of 325 HB (Brinell hardness) the use of material of equivalent strength is also allowed. It is the responsibility of the builder to obtain certification from the supplier.

The pin must be made of 17-4 H900 or higher (the H number). The rudder brackets and quadrants must be made of either 6061 T6 aluminum or 7075 aluminum (7075 is stronger) materials of equal strength may be used. It is the responsibility of the builder to obtain certification from the supplier.

Skid fins:
Measuring from waterline (bottom of primary of sponson) any skid fin made of 7075 or 7475 T651 must have a minimum thickness of .750". + -.0025" to allow for straightening, if a skid fin is made of 17-4 stainless steel or 4340/4140 the skid fin must be heat treated to a minimum of 36 Rockwell c optimal strength of 17-4 stainless steel / 4140 steel / 4340 steel would be hardened to 43 Rockwell c.
The minimum thickness at the waterline (bottom of primary sponson) would be .6250". If using 4140 or 4340 the steel must be zinc plated to avoid rusting. Only continuous leading edges on a skid fin is allowed. Jagged edges are not allowed.
I. Gear boxes are allowed but multiple speed gear boxes are not allowed.
J. Minimum hull weight: after a race, 3250 lbs. with the driver and the equipment completely drained of water. During the weighing process no one can touch the boat.



Ligue de Régates d'Hydroplanes (HRL)
395, rue Victoria, Salaberry-de-Valleyfield, QC J6T 1B7, Canada

ANNEX M

Protest Form

HRL PROTEST FORM

Exact event: _____

Class: _____

Boat Number & Driver name: _____

Date & Time protest was filed: _____

Signature of the applicant: _____

Reason for the protest:

_____

_____

_____

Proposed solution:

_____

_____

_____

Which technical rules support your protest: _____

(this section is reserved for the board committee)

Decision date & time: _____

Approved ☐ Refused ☐

Comments:

_____

_____

Signature of the Commissioner: _____ Date: _____

Signature of the Chief referee: _____ Date: _____

Ligue de Régates d'Hydroplanes (HRL)

395, rue Victoria, Salaberry-de-Valleyfield, QC J6T 1B7, Canada

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ANNEX N

2026 Novice Hydro Rules

The objective of the Novice Class is to be a foundation to build and inspire a future generation of boat racers. The class is designed to give young drivers between the ages of 9 and 16 the experience needed to prepare them for the larger and faster classes in the adult categories. The Novice class is an entry level class within the Inboard Division and has no affiliation with the CBF/APBA Junior classes in the Outboard Division.

1. Race Logistics

1.1. The racecourse shall consist of the following:

1.1.1. Soft turn buoys that do not damage, deflect or upset boats.

- bus with the entrance pin at each turn being larger than the rest of the turn buoys for ease of visibility. It is recommended that the distance from the starting line to the entrance buoy of the first turn be approximately between 500 and 1,000 feet.

1.1.2. Novice Class heats will start at 9:00 am each race day. (unless otherwise specified)

2. Driver Registration

2.1.1. Only boats registered with the Inboard Division shall be allowed to participate in the Novice Hydro championship points. *(Note: Points for Novice class events are NOT eligible towards CBF/APBA Outboard Division Junior class high points)*

2.1.2. The maximum number of Novice entries per HRL event is fifteen (15).

2.1.3. Non-registered Novice class drivers must submit a written request to: administration@hrlhydroplane.com seven (7) days prior to the event and must be approved by Inboard committee to participate in a race weekend.

2.1.3.1. Non-registered Novice Hydro drivers

Pay a registration fee of $50.00 (for the weekend)

Points will not count towards the Novice Hydro championship.

2.1.4. Registration of the boat is mandatory every weekend on Friday from 12:00 to 7:00 pm. Drivers will need to sign-in Saturday and Sunday morning between 7:30 to 8:00 am. A driver who fails to sign in within the given time will be sanctioned as per article 11.2.

- **No boat registration will be accepted on Sunday.**

2.1.5. A mandatory drivers meeting will be held at 8:00 am on the first day of the race weekend. Attendance will be verified by the chief referee and/or the race director. An absence will result in a warning for the first offence and possible further sanctions as per HRL Rules 11.2 for a subsequent offence.

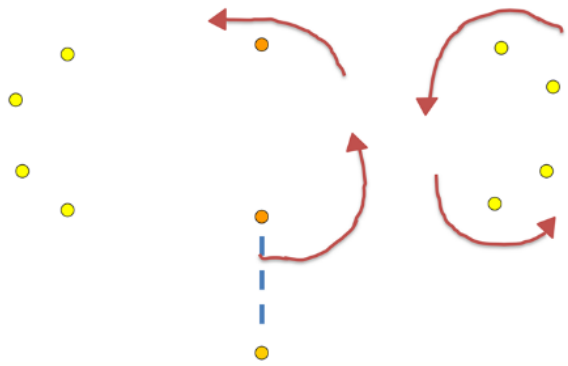
2.1.6. At the completion of the drivers meeting, drivers will draw a number for the Propeller they will be assigned for the event. The propeller must be returned to the Novice class rep or a race official 30 minutes after the Novice class final. Teams are not permitted to put identification marks on the propeller. Any team found to be marking the propeller will be sanctioned as per Inboard rule 11.2.

3. Start and Finish Procedure

3.1.1. The boats may leave the pits only after the four (4) minute countdown has started (green flag) and must pass at least one (1) time in front of the start/finish line before the official start of the race. If a driver is unable to get the boat on plane, they may return to the pits during the four (4) minute countdown for assistance. No boats shall be allowed to leave the pits after one (1) minute to the start is indicated (white flag). Non-compliance results in a P11. Note: no external assistance is permitted to return the boat to the pits to try and get the boat back on plane. If the boat is more than 10 feet away from the crew they are not permitted to swim to the boat. Use of a rope to retrieve a boat within 25 feet of the original launch location will be permitted.

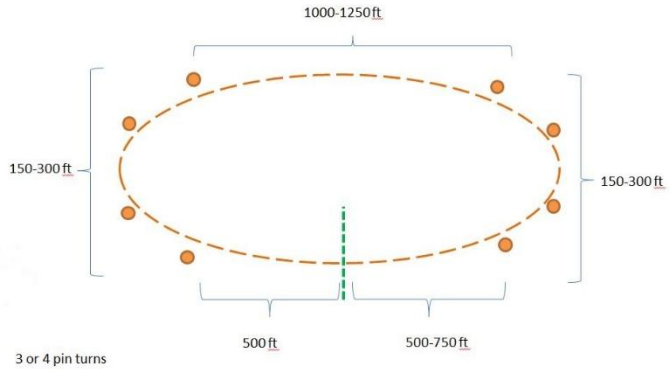
3.1.1.1. If a boat does not get on plane before 2 minutes to the official start of the race, the heat will be black flagged and the boat(s) causing the black flag will receive a DNS and are not eligible for the restart of the heat.

3.1.2. During the four (4) minute countdown period before the official start of the race, drivers may only cut the racecourse on the backstretch between the exit buoy of turn one (1) and midcourse marker buoy or on the front stretch after the start line and entrance to turn 1. Once inside the racecourse, it is strictly forbidden to cross the center line of the course. The only area a boat may re-enter the racecourse is between the start/finish buoy and the entrance buoy of turn one (1) or the center course marker and the exit pin of turn one (1). Boats on the racecourse have priority over boats re-entering the racecourse. (see diagram below)



3.1.3. The boat(s) passing the start buoy between ten (10) and five (5) seconds before the start will automatically be disqualified (DNQ) from the race. (P2); this time period may be shortened by the referee when local conditions warrant. Those who pass the start buoy between five (5) seconds and zero (0) seconds before the start of the race will be considered as “jumping the gun” (P1).

3.1.4. Any boat passing the 500-foot marker is committed to the start and must be on plane and maintain a straight line (failure to maintain a straight line will result in a P11 penalty); this time period may be shortened by the referee when local conditions warrant.



3.1.5. Race Officials will only be able to use the video replay footage taken by the judges stand camera(s). The viewing of the video must confirm, beyond any doubt, the offence. When in doubt, the referee's judgment will prevail.

3.1.6. The first boat to finish the race receives the checkered flag as well as all following boats that cross the start/finish line without any external assistance. Once the first boat finishes the race (regardless of whether it has a penalty or not, except a (P2) as it will be disqualified (DNQ)), other participants will have 2 minutes to complete the full distance of the race. If participants cannot complete the remainder of the race, the black flag will be raised, and the remaining boats scored based on their position on the last completed lap.

3.1.7. When the black flag is given, the race is considered finished for all participants and boats must return to the pits as per instructions of the chief referee explained at the drivers meeting. Drivers who do not abide by these instructions will be sanctioned as per Inboard Rule 11.2 A.

3.1.8. At any time, the chief referee may give the checkered flag to end the race.

3.1.9. The warmup period prior to the 1 minute (white flag) can be between 2 to 4 minutes in duration.

3.1.10. Once a timing run has been completed the drivers will go to the milling area in turn 2 as instructed by the chief referee at drivers meeting.

Flag Start

3.1.11. In the event of a clock malfunction or should the Referee and Race director deem a relocation of the course setup is required a flag start will be used. The referee or Race director with the participation of the class rep will conduct a brief driver's meeting to explain the starting procedure.
When the four (4) minute signal is given (green flag), the drivers may enter the racecourse. Drivers are to head directly to the milling area, Once the white flag is displayed, the drivers approach the starting chute and head towards the start line as a pack at reduced speed and line up as close as possible in a row. If the referee approves

the line-up of the pack, the white flag will be dropped to signal the start of the race. If the chief referee does not approve the start they shall leave the white flag up, wave the green flag and the drivers will carefully proceed to the milling area for another run at the start line as a group. The official timing of the heat starts once the white flag is dropped.

4. Points System

4.1.1. Point distribution chart..

Position	Qualification	Final
1	25	25
2	21	21
3	18	18
4	15	15
5	13	13
6	11	11
7	9	9
8	8	8
9	7	7
10	6	6
DNS/DNF/ DNQ	0	0

DNS: Did not start.
DNF: Did not finish.
DNQ: Did not qualify or disqualified.

4.1.2. The final positions of a race are determined by:

- The number of laps completed after the penalties are applied.
- By the boat position on the same completed lap.
- In the case of a tie at the finish line, the same number of points will be awarded to all boats tied for this position. The following boats will receive points according to the rank where they crossed the finish line.

4.1.3. If a race day is cancelled by the race officials for a specific class during the weekend, all registered boats in this class will receive 30 points toward the championship for each day cancelled.

5. Practice, Qualifications and Finals

5.1.1. Novice class will have 10 minutes of practice time on the first day of competition to ensure they are able to get their boat on plane with the Novice class propeller. Once on plane they will do 1 lap and return to the pits. If the boat does not go on plane, they will be permitted to make a setup adjustment and/or a prop change and go back out.

5.1.2. Qualification Heats

For the first race event of the season, there will be a random draw to establish the first set qualification heats. Boats that are not registered in the Novice Class championship will be placed after the registered boats with a second random draw. Once the Novice class season has begun, the boats with no points in the championship or tied points, after applying Inboard General Rule 5.6.2, will be ranked by a random draw.

5.1.3. Groups for qualification A & B will be determined by the championship standings before the start of the race weekend event. If a class does not run any qualification heats on Saturday, the qualification heat draw from Saturday will be applied on Sunday. In the event an additional heat is added on Sunday it will follow the selection process for heat 2 will apply to heat 4.

5.1.4. The number of boats per qualification group and final is determined by the Race Director. There will be a maximum of 10 boats per elimination heat and a maximum of 10 boats in the final.

5.1.5. There will be only one final for the Novice Hydro class per day.

5.1.6. If a final cannot be presented, the final standings for the weekend will be determined by the number of points accumulated during the qualifications each day.

5.1.7. If there is a tie in the accumulation of points, the best time of the qualifications will determine the standings/winner. If the tiebreaker cannot be broken by the times, the standings will remain as they are and there will be more than one boat in the same position.

6. Racing Rules

6.1.1. A pre-determined committee of four (4) Inboard division members including the Novice class rep, Race Director, chief referee and a designated experienced adult driver (familiar with racing Novice class type boats) will decide if the weather conditions are favorable to race the Novice class.

6.1.2. If a race is stopped by the Race Director and/or by the chief referee, it is considered official when the boat in first (1st) place has completed two (2) laps.

6.1.3. All qualifications and finals will be a maximum of three (3) laps.

6.1.4. The chief referee and/or race director may delay a race if circumstances demand it.

6.1.5. In the case where race is stopped, the boats that caused and/or are implicated in its stoppage will be excluded from the restart.

6.1.6. A race will automatically be stopped if a driver boat goes into the water, or a boat goes dead on the water in a location deemed by the officials as unsafe for the driver's safety.

6.1.7. Race teams are not permitted to communicate to their driver via electronic devices during a race. Teams who do not abide by these instructions will be sanctioned as per Inboard Rule 11.2 A.

6.1.8. Overlap

- When there is less **than two boat lengths of** open water between a leading boat and a following boat, an overlap is established. In a position of overlap, the following rules shall apply:
    a. The front boat shall not alter its course across or into the established path of the rear boat.
    b. The outside boat must give the inside boat room to clear any course marker.
    c. Any violation of the overlap rules listed above will result in the application of penalties as listed in section 7.1.1.

6.1.9. Flags

Flag signals are used to designate specific time or to give instructions to contestants. The flag and their purposes are as follows:

- BLACK or BLACK & YELLOW X: Return to the pits.
- RED: Race is stopped – Boats are to go off plane on the water. If a boat does not go off plane, a warning will be issued by the referee.
- WHITE: One (1) minute before the start of the race – Last lap for the race.
- GREEN: Between the five-minute and one-minute signal before the start of the race – During the race except for the last lap.
- YELLOW: Caution, problem on the racecourse.
- CHECKERED: End of the race.

7. Penalties

7.1.1. There will be a one (1) lap penalty for all infractions. A P2 will result in automatic disqualification. During qualifications A & B, a boat who receives a penalty during a heat will receive a maximum of six (6) points. If several boats receive penalties, a number of points corresponding to the number of penalized boats having finished before him/her will then be deducted from the six (6) points maximum.

P1 – A boat that passes in front of the start buoy between five (5) and zero (0) seconds left on the countdown clock.

P2 – A boat that passes in front of the start buoy between ten (10) and six (6) seconds left on the countdown clock.

P3 – A boat that changes lanes with less distance **than two (2) boat length lead**.

P4 – A boat that did not pass at least one (1) time in front of the start buoy before the official start of the race.

P5 – A boat that pushes another boat towards the inside or outside, two (2) lanes or more.

P6 – A boat destroying or dislodging a buoy for no apparent reason.

P7 – A boat that misses a buoy for no apparent reason.

P8 – A boat that goes outside of the out of course markers or in a designated no go zone.

P9 – At the start of the race, a boat that changes lane without a 1 boat length overlap.

P10 – not applicable to Novice class

P11 – All situations judged unacceptable by the chief Referee.

8. Restrictions

8.1.1. The restrictions are under the responsibility of the chief referee. The drivers must pass their restrictions in the presence of a recognized HRL official on duty. However, Inboard committee will recognize restrictions passed at sanctioned CBF/APBA events. If a driver passes fifty percent (50%) of his/her restrictions in the same year, the driver will have the opportunity to complete his remaining restrictions the following season.

8.1.2. New drivers must, for ten (10) heats of racing which are sanctioned place a white cross (X) on their helmets, with the stroke of the X to be a minimum of 2 inches wide. The cross must extend from the front tip up over the top of the helmet to the back rim of the helmet, and from the left ear up over the top of helmet to the right ear. A new driver is any CBF member in good standing who has never driven a registered Novice Hydro or similar class boat in closed course competition heat racing. The new driver must show

knowledge of course racing rules before being approved to enter a race. Any new driver's first day of participation in competition must consist of at least one (1) heat of racing during a sanctioned event in which the new driver will drive in a position at the rear of the pack and on the outside while being observed by the chief referee and course officials. If the driver is not cleared for "open competition" at the end of that heat, he/she shall run an additional heat in the same manner until cleared by the Referee. *(Note: in the event of more than one (1) new driver in a heat the referee shall have the option to assign restrictions as he/she sees fit)*

8.1.3. The Novice Class new drivers must complete the "Introduction to Boat Racing" course given by the Novice class rep.

9. Technical Rules, Safety and Inspection

9.1.1. Motor Eligibility: The following are approved legal motors for use in the Novice Hydro Class.

9.1.1.1. The 13.2 CID OMC-A with an approved restrictor opening of a maximum diameter of 0.562 inches, with an approved Inboard Novice class restrictor at a maximum diameter. All approved OMC restrictor plates are required to be manufactured by Brown Tool and Machine and must meet the dimensions called out in the Tech Manual, including the .050" ±.005" thickness. Any OMC restrictor plate that has not been manufactured by Brown Tool and Machine is not legal for competition.

9.1.1.2. The 15.9 CID Mercury 15 (produced in 1999 or later) with an approved Inboard Novice class restrictor plate. All approved Mercury restrictor plates are required to be manufactured by Brown Tool and Machine and must meet the dimensions called out in the Tech Manual. Any Mercury plate that has not been manufactured by Brown Tool and Machine is not legal for competition.

9.1.1.3. Tohatsu (MFS15E models) and Mercury (1A202101LK, 1A20301LK, 1A20302LK models) 15hp Four Stroke motors (see appendix 1)

9.1.2. Motor Rules

A. The engine shall retain the factory colors and decals, with the following exceptions:
- The powerhead may be either painted or unpainted. If it is painted, the color must be the same as the original color.
- Gearcases must be painted original factory colors or have no paint. Unpainted gearcases may be polished.

B. The engine shall be operated with the production upper and lower motor covers installed and supplied by the manufacturer. Air inlets into cowlings must remain closed as in original factory condition, either with plugs or with tape. Any year OEM motor cover may be used, i.e. Johnson or Evinrude for OMC motors, Mercury/Mariner covers for Mercury motors. It is permissible to permanently affix bracketry to the motor cover and lower pan to install cover hold downs.

C. The mounting of a fuel tank to the engine or steering bar is prohibited.

D. Any type or make of spark plug is permissible.

E. Adjustable high speed carburetor jets are not permissible. Larger or smaller fixed jets are permissible.

F. The addition or removal of material from the flywheel is prohibited.

G. Polishing or removal of material on the carburetor or exhaust system is prohibited.

H. Broken parts may be repaired by welding or use of plastic compound, if all contour and dimensions remain as original. Broken skegs and cavitation plates may be used provided that the edges of the break or breaks have not been filed or smoothed or otherwise altered.

I. It is permissible to repair stripped threads by tapping oversize, or using helicoils, or using threaded inserts.

J. The addition of engine thrust brackets is permissible.

K. Any make or type of bolt, nut, screw, stud or washer may be used (with the exception of the butterfly screw), provided it does not require alteration of the engine to permit its use.

L. It is permissible to secure the impeller to the prop shaft by any means.

M. Internal machined surfaces may be re-machined so long as minimum and maximum dimensions are met. Cast or forged surfaces must remain as cast with no alterations, bead blasting, media blasting, or polishing. It is not permissible to re-machine surfaces that do not have specific dimensions. The reed plate openings are cast surfaces and must remain as cast. 1) The Motor Inspector may compare questionable parts to known legal or new parts to determine legality.

N. Electric starters shall be permissible.

O. OMC

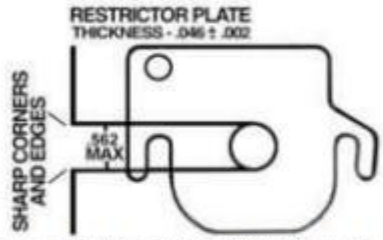
- On the OMC A motors, safety wires must be in place from the steering bar-power head bolts. Drivers will be warned once before being disqualified. A powerhead may be fitted with double threaded studs and attached to the drive housing and through the steering bar brackets and secured with washers and self-locking nuts.
- It is permissible to use non-OEM steering bars, steering bar brackets and throttle linkages. No modifications to the carburetor are permitted.
- Boyesen, Reeds part no. 122 shall be legal replacement parts.
- It shall be allowable to plug off the “water slot hole” with dimensions Z and Z11 in the engine specifications. It is also allowable to plug the small hole that is at the top of the water passage around the exhaust ports which has no dimensions in the engine specifications.
- The use of genuine OMC/BMC oversize pistons and rings is permissible. It is also permissible to use aftermarket pistons and piston rings, as long as specific specifications are met. Any oversize piston that conforms to the E, F, and M dimension is approved so long as it is 0.040” oversize or smaller and so long as the piston crown (dome) configuration conforms to the OEM piston and the maximum bore specification is maintained. (The piston crown and ring configuration on the Sierra/Napa/Dolphin 0.010, 0.020 & 0.030 oversize pistons as well as the oversize GLM, WSM, and Wiseco pistons are specifically approved.)
- Port openings may have plastic compound added for repair.
- Only those OMC restrictor plates purchased from the Inboard committee may be used in OMC motors competing in the Novice Hydro class.

POWERHEAD SPECIFICATIONS					
ENGINE MODEL				JOHNSON	JKT
				EVINRUDE	EKT
VOLUME OF COMBUSTION CHAMBER AT T.D.C.TO TOP OF SPARK PLUG HOLE				MIN. CM3	13.5
NUMBER OF CYLINDERS				2	
DISPLACEMENT (CUBIC INCH)				13.2	
CYLINDER BORE DIAMETER	STANDARD		G	2.188 +0.007 / -0.005	
	0.010 O.S.			2.198 +0.007 / -0.005	
	0.0.20 O.S.			2.208 +0.007 / -0.005	
	0.0.30 O.S.			2.218 +0.007 / -0.005	
	0.0.40 O.S.			2.228 +0.007 / -0.005	
CRANK STROKE			J	1.760 ±0.008	
ROD LENGTH			L	3.000 ±0.006	
PISTON DIMENSION			E	3.918 ±0.010	
			F	1.868 ±0.010	
			M	0.642 ±0.014	
PISTON RINGS	NUMBER PER PISTON			2	
	MATERIAL			CAST IRON	
	THICKNESS		UPPER	0.068 ±0.002	
			LOWER	0.062 ±0.002	
	DESIGN		UPPER	PRESSURE BACK	
			LOWER	RECTANGULAR	
	FREE DIAMETER		UPPER	2.235 ±0.025	
			LOWER	2.335 +0.030 / -0.070	
NO. OF PORTS PER CYLINDER	TRANSFER			3 ROUND HOLES	
	EXHAUST			3 ROUND HOLES	
PORT HEIGHT	TRANSFER		A	3.480 MAX	
	TRANSFER		A3	3.490 MAX	
	EXHAUST		C	3.680 MAX	
PORT DIMENSION	TRANSFER		A1	0.625 ±0.010 DIA*	
	EXHAUST		C1	0.625 ±0.015 DIA*	
	TRANSFER		A2	0.625 ±0.025 DIA*	
	EXHAUST		C2	0.625 ±0.025 DIA*	
CYLINDER HEIGHT			K	4.880 ±0.015	
CYLINDER WIDTH			K1	4.520 ±0.025	
CRANKCASE HEIGHT			K2	1.830 ±0.020	
INTAKE MANIFOLD HEIGHT				1.040 ±0.025	
REED BLOCK (1 PER CYLINDER)	REED MATERIAL			STAINLESS STEEL OR PLASTIC	
	REED THICKNESS			0.011 ±0.0005	
	SHIM THICKNESS			0.012 ±0.001	
	REED STOP HEIGHT		H	0.256 ±0.020	
	REED STOP RADIUS		H1	5.000 ±0.50	
	CHECKING DISTANCE		Y	1.260 ±0.030	
	PORT LOCATION		N	1.430 ±0.015	
	PORT LENGTH		N1	1.010 ±0.030	
	PORT WIDTH (DIA.)		N2	0.675 ±0.025	
CYLINDER BASE			X	1.056 MIN.	
FLYWHEEL WEIGHT (LBS.) MIN.				5 LBS. 4 02.	
CARBURETOR	VENTURI DIAMETER			0.875 ±0.005	
	BORE DIAMETER			1.000 ±0.005	
MEG. LENGTH			U	10.633 ±0.050	
			U1	10.510 ±0.050	
MEG. RELIEF HOLE (DIA.)			T	0.280 ±0.060	
INSIDE EXHAUST OUTLET HOLES			D	0.860 MIN. DIA.	
			D1	0.480 MIN. DIA.	
HOUSING RELIEF HOLE				0.310 ±0.020 DIA.	
WATER RELIEF HOLE			P	0.040 ±0.010 DIA.	

- be used in OMC motors competing in the Novice Hydro class.

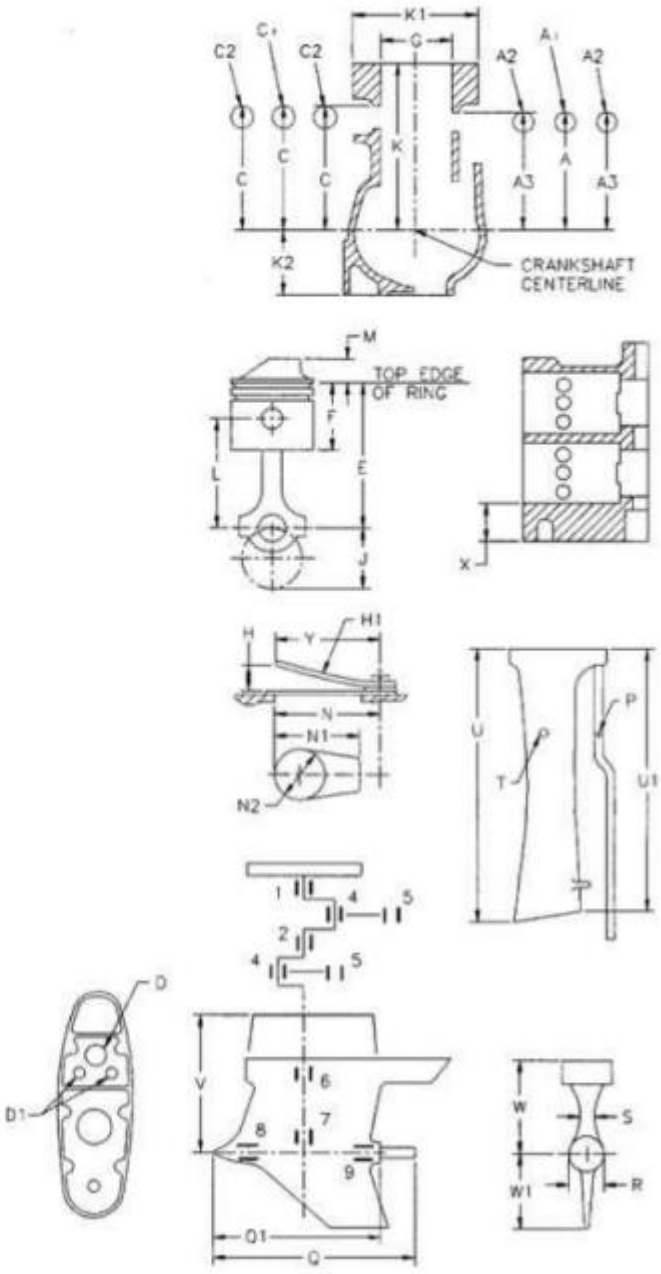
GEARCASE SPECIFICATIONS	IMPELLER BLADES	5	BEARING SPECIFICATIONS	ROLLER
	GEAR RATIO	14:19		ROLLER
	Q	11.550 ±0.200		BALL
	Q1	9.100 ±0.200		ROLLER W/RETAINER
	R	2.050 MIN.		ROLLER
	S	0.980 MIN.		ROLLER
	W	4.765 ±0.020		ROLLER/ROLLER THRUST
	W1	4.340 ±0.100		ROLLER/ROLLER THRUST
	V	18.000 ±0.060		ROLLER

HOLE DIAMETER
JH, JR 0.562"
AXH, AXR 0.650"



NOTE: IT IS PERMISSIBLE TO ADD MATERIAL TO THE FOLLOWING WATER PASSAGES:

1. THE WATER SLOT HOLE (FORMERLYCONTROLLED BY DIMENSIONS Z AND Z1); AND
2. THE SMALL HOLE AT THE TOP OF THE WATER PASSAGES AROUND THE EXHAUSTPORTS.



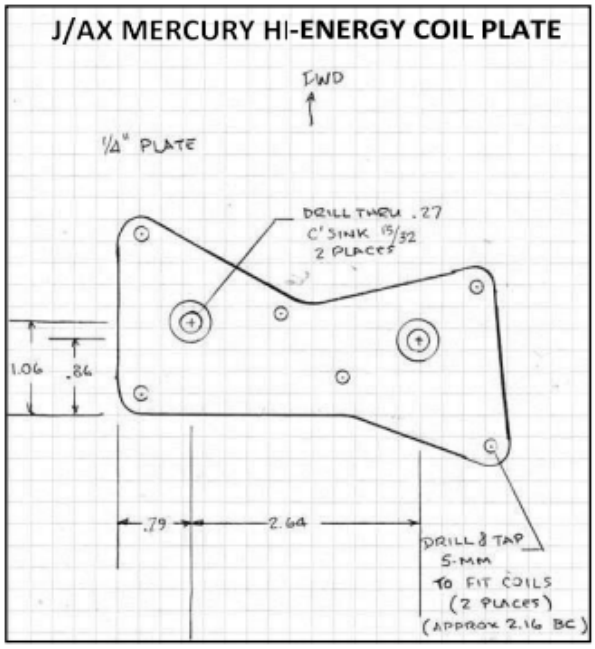
Ligue de Régates d'Hydroplanes (HRL)
395, rue Victoria, Salaberry-de-Valleyfield, QC J6T 1B7, Canada

P. Mercury

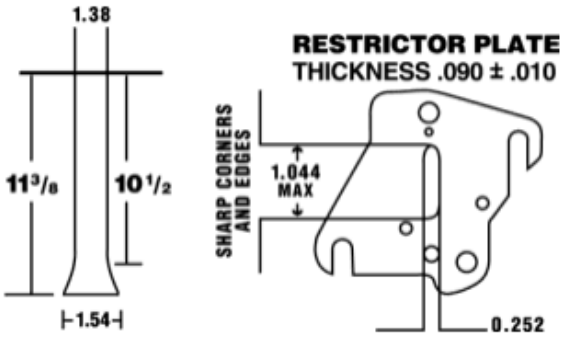
- Steering bars, brackets and throttle linkage that have been approved by CBF shall be used.
- The carburetor butterflies shall be replaced with the Inboard committee approved full butterfly (Part J55). It is also permissible to close the hole in the service carburetor butterfly with solder or epoxy.
- It is permissible to replace the upper and lower rubber tower housing bushings. Part J56.
- It is permissible to place fuel cell material (foam) in the carburetor or utilize the Inboard committee approved baffle.
- It is permissible to remove the thermostat and to restrict the water in any manner within the thermostat housing. Water may be restricted at the 1/8" diameter tuner pipe cooling hole in the powerhead adapter plate.
- It is permissible to remove the transom cleats located on the stern bracket.
- The use of genuine Mercury oversized pistons is permissible. Any piston ring may be used in the Mercury motor provided that the piston is not altered in any way to accommodate the ring. The piston shall remain as furnished by the manufacturer.
- It is permissible to remove the OEM fuel connector. 9) It is permissible to add a throttle stop to the carburetor.
- It is permissible to use Mariner engines that meet all Mercury specifications.
- It is permissible to use aftermarket or modified motor mounts. The driveshaft housing and brackets may not be modified to accept aftermarket or modified motor mounts.

- It is permissible to use any bearing or seal. It is permissible to replace the OEM bearings with bearings of the same design and dimensions. It is not permissible to machine any surface to incorporate an aftermarket bearing or shim. The crankshaft and lower main (ball) bearing must be positively retained in their axial position in the cylinder block as originally manufactured, and the lower main (ball) bearing must be retained on the crankshaft by its original interference fit. Machining or other means, including wear, to allow the lower main (ball) bearing to move axially in relation to the cylinder block is strictly forbidden.
- It is permissible to hone connecting rods as long as all specifications are met.
- It is permissible to hone the center main bearing shell as long as all specifications are met.
- It is permissible to use any Bowden cable clamp when electric start is used.
- It is permissible to use Mercury's "High Energy Ignition Kit" (Mercury part number: 339-7370A40).
- It is permissible to remove foam from inside of the motor cowling. It is permissible to use any mounting plate in replacement of the mounting plate supplied with Mercury's "High Energy Ignition Kit." The mounting plate must be installed in the factory location.
- It is permissible to replace the OEM fuel line with any fuel line.
- It is permissible to replace the OEM tell-tale hose with any hose of equal or greater inside diameter. The OEM fitting at the block and the OEM tell-tale outlet nozzle must remain in place.
- It is permissible to countersink the three (3) reed plate cover holes.
- During the manufacturing process, Mercury Marine removed aluminum flashing from the exterior lower corner of number two (2) cylinder lower exhaust port. Blocks with this deburring are legal for use in the Novice Class.
- In non-production Mercury J/AX engines, any decal that says Mercury or Mariner and matches the OEM size and style is legal.

MERCURY 15 ENGINE SPECIFICATIONS (References are the same as the Mercury 25XS specifications)			
ITEM		**REF.**	**SPEC.**
Displacement	CID		15.9
No. of cylinders			2
Compr. Vol. @ TDC	min. cc		16.00
Transfer Ports	Timing	A	3.640+/-0.015
	Height	A1	0.630+/-0.010
	Width		0.950+/-0.020
Exhaust Ports	Timing	C	3.781+/-0.015
	Height	C1	0.630+/-0.010
Cylinder #1	Width		1x0.900; 1x0.950+/-0.020
Cylinder #2	Width		2x0.950+/-0.020"
Port Edge Radius			0.020 maximum
Exhaust Relief Hole		C	4.305 +/- 0.020
	Width/Height	C1	0.195 +/- 0.010
Comb. Ch. Corner Ht.		H	5.713+/-0.010
Cylinder Bore	(ref.)	G	2.376
	max.	G	2.41
Stroke		J	1.800+/-0.010
Piston	Material		Aluminum
	Deck Ht.	E	4.180+/-0.015
	Defl. Ht.	E1	0.563+/-0.005
	Total Ht.	F	2.653+/-0.030
Conn. Rod Length		L	3.100+/-0.005
Reed Block	no. of opens per cyl.	3	



length		M	0.906+/-0.015
width		N	0.510+/-0.015
stop ht.		P	0.325 MAX
stop lt.		P1	1.23 MIN
petal th.		O	0.008+/-0.002
Flywheel Weight	lbs/oz.		7.9 LBS. MIN.
CARBURETOR	VENTURI		1.00+/-0.01
BOOST VENT		N/A	
THROAT			1.13+/-0.01
EXH. ADAPTER & PIPE		D	13.28+/-0.125
GEAR CASE SPECS — SAME AS OMC A SPECS (ALSO, SEE BELOW)			
DSHSG.		V	16.0+/-.25
G/C ADAPTER HEIGHT			0.50+0.010/-0.025



Ligue de Régates d'Hydroplanes (HRL)

395, rue Victoria, Salaberry-de-Valleyfield, QC J6T 1B7, Canada

Novice Hydro Class Four Stroke Motor Rules

The current production 4 Stroke, 15 HP Mercury/Tohatsu Engines are legal for the Novice Hydro category.

Motor Rules

Current production 4 Stroke, 15 HP Mercury/Tohatsu engines, built starting in 2023 and newer are legal motors. These motors must be run in the "as produced" form, other than removing the tiller bar, installing a steering bar and changing propellers. The year of manufacture can be found on one side of the transom clamps. The second box from the top contains the date of manufacture.

Novice Class Propellers (four stroke motor)

The Novice Category has a 4-stroke propeller program which is equivalent to the 2-stroke propeller program currently being used. The 4 stroke teams will use a draw process for an HRL 4 stroke prop.

HULL SPECIFICATION

Novice Hydroplanes using the four-stroke motor shall meet the following dimensions:

- The minimum boat length for use of a 4-stroke motor **105"** on a hydroplane as follows:
    a. For 4-cycle hydroplanes, the measurement is a minimum and shall be taken from the aft most trailing edge of the bottom to the front of the forward deck line. Picklefork and cockpit/nose extensions are not included in this measurement.
    b. In the event a hull has afterplanes, assuming the afterplanes are flush to the bottom of the boat then the measurement is from the end of the afterplane to the forward deck line.

TECHNICAL INSPECTION

The minimum weight for the 4 stroke boat will be 345lbs with the driver. The height restriction will be 1 ¾" to to the middle of the prop shaft.

9.1.3. Technical rules (inspection procedures) will be listed below.

- All Novice Hydro hulls shall meet the minimum weight requirement of 300lbs for 2 stroke hulls and 345lbs for 4 stroke hulls.
- The minimum overall weight shall include driver, hull, motor, steering bar, steering wheel, with cables and pulleys, motor controls, propeller, permanently attached speedometers and tachometer, permanently attached cushions and hardware, securely fastened weights, securely fastened fuel tank with remaining fuel, helmet, goggles, life jacket, cut gear, driving suit.
- For Novice Hydroplanes hulls will maintain a minimum of 1" setback distance between the leading tip of the gear case and the aft portion of the planning surface.

9.1.4. Basic technical inspection at an event shall be:

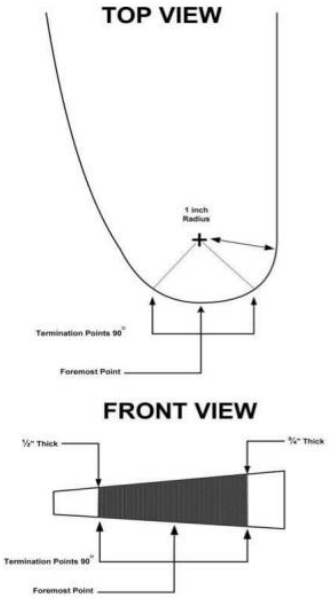
- Height
- Weight
- Tuck
- Set-back
- Fuel with Digitron meter. *(Note: a sample of fuel may be taken from a local fuel supplier, and the readings deemed the fuel measurement of the day)*
- Removal and measurement of restrictor plate (at the inspector's discretion)
- Boats must have an adequate towing hook or handle, positioned at the front of the boat.

9.1.5. Safety Rules - Equipment

- Unless explicitly specified in this annex the CBF safety rules apply.
- All boats must have an operational steering system. Steering cables must be attached to the steering bar with fully enclosed interlocking hooks; or by use of clevis and bolt, said bolt to be secured with cotter pin or wire. "S" hooks are specifically prohibited. Two cable clamps will be required at both terminations of the steering cable. Steering cable anchors must be bolted to the boat.
- Any boat's windshield or cowling must have a protective molding on the exposed edge.
- All windshields must be made from polycarbonate; acrylic is not permitted.
- All boats must have an automatic device to close the throttle and completely close the carburetor butterfly when the throttle is released. All engines must be equipped with full carburetor butterflies and must shut down when the throttle is released.
- All Novice boats will have a tether-activated operational ignition cutoff switch (kill switch). When activated, kill switches must cut off the ignition to all cylinders of the engine. The tether switch should be mounted forward of the driver and use a minimum length cord, which at full extension from the switch, may not come within 12" of the top of the transom. The tether must be attached to the life jacket or wrist while racing. Taping of either kill switch cap or tether in a manner which interferes with the functional operation of the kill switch is prohibited.

- Drivers must wear closed footwear, life jackets, helmets, eye protection and cut-resistant, wrist-length sleeves and cut-resistant, ankle-length pants at all times while on the water for the purpose of driving racing equipment. In closed course racing, when stopped on the course, the driver's helmet only may be removed when no other racing craft are underway anywhere on the course or when the driver's boat is tethered to a towboat. All drivers in Novice Class must wear impact/flak material incorporated into the life jacket. The impact/flak material will provide full coverage of the front and back of the torso. The intent is to provide impact/flak coverage of vital internal organs. The referee or inspector has the power to prohibit the use of any helmet or life jacket that he/she determines to be potentially unsafe.
- Each boat must be equipped with a device enabling it to be towed, such as a bow handle or screw eye capable of handling a rope.
- A permanently fixed fin or fins may be used on the hull. No Novice Class boats may have a fin or mounting hardware that protrudes beyond the maximum beam of the boat.
- Hulls used in Novice Class may not utilize the following:
    - hull surfaces that are adjustable while underway
    - fins that are adjustable while underway
    - water brakes
    - trim that is adjustable while underway (power trim)
- Engines must remain firmly clamped and/or bolted to the transom at all times.
- It is recommended that gear cases be maintained and contoured, if necessary, within class technical specifications. Gouges, breaks and hollows should be sanded or filled.
- On the OMC J motors, safety wire must be in place on the steering bar-powerhead bolts. Drivers will be warned once before being disqualified.
- The driver must be able to exit the cockpit without moving or removing any windshields, canopies or cockpit cowlings.
- An annual technical inspection of all boats is required prior to competition. A sticker shall be affixed to any boat that meets all safety requirements. Such approval expires each October 31.
- Novice Class Hydroplane Pickleforks and Cockpit Noses (ALL HYDROPLANES MUST COMPLY)
    - The foremost points of the pickleforks shall have a minimum radius of 1" in one view. This minimum radius shall extend at least 45 degrees to both sides of the foremost point. At one termination point, the thickness must remain at ¾", at the other the thickness must remain at ½". (SEE DIAGRAM)
    - All Novice Class hydroplane hulls built where the cockpit nose extends forward of the body of the hull, shall have a cockpit nose that conforms to the same requirements for

shape as the picklefork foremost points described in the image above.



9.1.6. Safety Rules - Engine Mounting Height

- Novice Hydro has a limitation on where the engine's propshaft may be mounted. The distance between the center of the propshaft at its aft end, and the planning surface, must be no less than 1-3/4" . The planning surface shall be flat (with a tolerance of 1/16 inch for inspection purposes) transversely between the air traps and forward for 18".
- In Novice Hydro the difference between the propshaft location, as measured at the aft end of the propshaft, and the foremost end of the gear case and the planning surface, as measured at the split line of the gear case, shall not exceed 1/2".
- The measurement of the engine height shall be "as raced" with the engine turned straight (propshaft in-line with the fore-aft centerline of the boat).

9.1.7. Safety Rules - Operation

- Locked throttles are prohibited in competition. While getting on plane, drivers must keep one hand on the throttle and one foot in the cockpit. No driver may assume a driving position which requires that he/she remove his/her hand from the throttle. While racing, one knee must remain below the top of the cockpit at all times, unless the driver is in a sitting position. While racing, standing in the boat or sitting on or straddling the engine are specifically prohibited. The final decision regarding driving safety will be made by the Referee and Race Committee.
- No motor shall be started when affixed with a propeller, nut, washer or pin — any part of which is out of the water — unless it is hand-held over the water prior to a launch. Boat stands are permitted for this function only if they are specifically designed as launching stands. For the purpose of testing or warming up, motors with propellers affixed may be started under the following conditions: The boat must be on a secure stand or dolly with the bow pointing directly towards shore, and adequate warning must be given to participants

nearby prior to startup. Engines required to use gasoline as fuel must have at least half of the propeller in the water. Violation of this rule will result in the driver's disqualification for the remainder of the day. This prohibition shall not apply during the five minutes immediately preceding the start of a race using a "wharf".

- Drivers shall not drag feet, legs, hands, or arms through the water to aid in turning, this will result in the assessment of a P11 penalty.
- No driver shall leave the pits after the one-minute signal has been given. Violation of this rule will result in a P11 penalty.
- Any driver who is off plane at the start of the race or during the race and pursues a position on the racecourse in an unsafe manner shall be assessed a P11 penalty.

9.2 Prop Covers are mandatory in the pits, as soon as the prop is installed on the motor.

10. General Rules

The general appearance, cleanliness of the racing equipment and the dress code will be enforced upon the arrival of the team at a race site. The dress code is intended for members with HOT PIT passes of participating teams in a competition, Directors and Officials.

Mandatory dress code for crew members with HOT PIT passes in the pit area: Otherwise, there will be sanctions as per article 11.2.

- Shirt (Team shirt or not) - For men's: Shirt with or without sleeves. - For ladies: Shirt with or without sleeves including tank top exception for strappy tank top that is not permitted.
- Closed shoes.
- Pants, Bermuda shorts or skirts.

To standardize the visual/professional aspect of the race teams and reflect a unified image of the League, the HRL Logo must be positioned:

- Team shirt: on the left sleeve or on the front right side.

10.1.1. All boats participating in Novice class events must display in a highly visible location (vertical surface) on the right side of the boat an approved HRL logo. Teams must also display a CBF Logo anywhere on their boat.

10.1.2. No boat may display an obscene or dubious name that could shock spectators or damage the sport's reputation.

10.1.3. Boat numbers shall be assigned by the CBF office when first time drivers submit their memberships. There must be a vertical number on both sides of the boat. Numbers must be a minimum of six (6) inches in height and one (1) inch stroke where space permits and should be black on white or white on black. The background must be solid. There shall be at least one (1) inch background border around each number and letter, where space permits. There shall be a minimum of one (1) inch spacing between each number and letter, where space permits.

10.1.4. In the Novice Class, the same boat and motor must be used in all heats of a race where points of a heat are counted in the final standings. It shall be legal to change engines between elimination heat and/or final heats only if there is irreparable damage

to the engine. However, the driver/owner must notify the Inspector/race official, make proper notification and registration prior to the finals with the inspector/race official, and present both engines to the Inspector for inspection immediately following the final heat if requested. It shall not be legal to change boats between elimination heats and/or final heats unless the boat is deemed damaged and unsafe by the Inspector or Referee. Drivers in different qualifying heats may not use equipment previously used in qualifying for the same event.

10.1.5. The chief referee will be available for thirty (30) minutes after the last race of the day at the location specified during the drivers meeting. If a Novice driver/member has been summoned by the chief referee to meet, he/she must be present. Failure to appear will result in sanction as per article 11.2 A.

10.1.6. A maximum of 2 crew members per boat will be permitted in the water at the start of an event. Once the black flag is raised only 1 member of the crew is permitted in the water to receive the boat.

10.1.7. All crew members that are going in the water must wear waders or cut resistant leg protection.

10.1.8. A parent from the Novice class will be nominated by the Novice Class Director and approved by the HRL board to assist the class Director as needed.

10.1.9. All rules will be interpreted by the officials, not by the drivers and/or owners. If there is a disparity, the French version will take precedence over the English version.