7. P1 AQUAX PRO ENDURO TECHNICAL RULES

IF THE RULES SAY - YOU CAN DO THIS - YOU CAN. IF THE RULES DO NOT SAY YOU CAN DO IT, THEN ASSUME THAT YOU CANNOT UNTIL YOU CHECK WITH THE SERIES ORGANIZER.

AX52. PRO ENDURO CLASS RULES

(a) The AquaX Pro Enduro is open to personal watercraft designed for two or more people and have a seat. The craft must remain strictly stock as supplied by OEM except where rules allow.

The Pro Enduro class is open to all models of seated PWC, though the rules will favour the use of higher rated HP craft.

PRO - all 4-stroke craft up to and including 310bhp when furnished by the manufacturer are allowed to compete in the Pro class.

Once a specific race series/championship has started new craft that are produced and launched before the completion of the series will not be accepted to race in that series.

To clarify - If a series starts in April and finishes in November, new models produced and launched by the manufactures in September will not be allowed to compete in the remainder of the series. New models can be used in competition in events that begin after September. This ruling only affects brand new models and not current models that have received no performance enhancing upgrades from the previous year.

AX53. CRAFT COMPLIENCE

(a) Watercraft competing Pro Enduro must conform to the specifications that follow.
All watercraft must remain strictly stock as supplied by OEM except where rules allow. Changes or modifications not listed here are not permitted. The Series Organizer may allow additional modifications to stock classified PWC to parts and components that have known risks of failure in race conditions. Updates will be issued on the website.

(b) Hull & engine identification numbers must be displayed as furnished by the manufacturer.

(c) When rules permit, or require equipment to be installed, replaced, altered or fabricated, it is the sole responsibility of the rider to select components, materials and/or fabricate the same so that the watercraft operates safely in competition.

(d) Original equipment parts may be updated/backdated to original equipment parts of the same make and model providing there is no performance gain. The part must be a bolt-on requiring no modifications to that part or any other parts except where rules allow substitutions or modifications.

(e) Like for like parts that do not offer any performance enhancing characteristics may be used. If unsure contact the Series Organizer for assistance.

(f) Bonding agents may be used on threads and shafts.

(g) Engine fuel - must consist of unleaded gasoline only. “Gasoline,” for the purpose of this Rule Book, is defined as a mixture of hydrocarbons and oxygen bearing compounds with the following clarifications:

1. Oxygen content must not increase the specific energy of the gasoline.
2. Oxygen content must not exceed 3.7% by weight.
3. Oxygen content must have been blended in by the refiner or the fuel manufacturer.
4. Specific gravity must be between: .715 - .770 at 60°F (15°C).
5. The only allowable oxygenates are ethers and alcohols. Epoxides (e.g., propylene oxide) will not be considered ethers
6. Nitrogen-bearing compounds are not allowed.

NOTE: Most commercially-produced unleaded fuels and oils will meet these criteria. However, some may contain additional additives which do not to meet these criteria. Additional rules pertaining to fuel regulations can be found at AX19.

(h) Watercraft must conform to the following criteria:

1. The OEM published dry weight for model.
2. Hull length cannot exceed 394.0cm (156 in.)
3. Hull width must be greater than 96.5cm (38 in.)

(i) The decision of the AquaX Technical Director and/or AquaX Race Director regarding modifications will be final. Any question regarding the legality of modifications should be directed to the Series Organizer prior to the use in competition.

AX54. HULL

(a) All watercraft must have a flexible tow loop attached to the bow eye. The tow loop should be made of a flexible material (e.g., nylon strap, rope, etc.) so as not to create a hazard. Tow hooks, which protrude beyond the plane of the hull, must be removed.

(b) Hull and deck repairs may be made. Hulls can be internally reinforced. However, these repairs must not alter the standard configuration by more than 2.00mm (0.08 in.).

(c) Replacement bumpers may be used provided a hazard is not created. If a bumper comes loose during a race the rider will be black flagged.

(d) Water-spray deflector - A soft, flexible water-spray deflector may be attached to the hull sides or to the bond flange provided a hazard is not created. No part of the deflector may extend beyond the perimeter of the original equipment bumper or side moldings as measured by a plumb line. When a spray deflector is used the tow loop must be extended in length allowing for easy hook up should the craft need towing.

(e) Padding and/or mat kits may be added and custom painting is allowed. The surface finish of any metal component outside the hull area above the bond flange may be polished, shot peened or painted.

(f) Original bilge pump may be modified or disconnected. Aftermarket bilge draining systems that do not create a hazard are allowed.

(g) Buckets, hatches, mirrors, speakers and instrument cowlings may be modified or aftermarket (removed) provided seals are intact and no extra air intake or air-flow is provided and a hazard is not created.

AX55. HANDLING

(a) Ride Plate - Pump cover plate may be modified or aftermarket. An extension may be added to the rear of the pump cover plate but shall not exceed the width of the original equipment plate. Modified and aftermarket plates must not extend more than 177.80mm (7.00 in.). The sides of the extension must be connected to the radiused portion of the pump plate so as not to create a hazard. Fins, rudders, skegs and other appendages that may create a hazard will not be allowed.

(b) All watercraft may be equipped with a maximum of two sponsons. Stock sponsons may be modified or aftermarket. Sponsons shall not exceed 91.45cm (36.00in.). Sponsons shall not protrude from the side of the hull by more than 100.00mm (3.94 in.) when measured in a level horizontal plane. The vertical channel created by the underside of the sponson shall not exceed 63.5mm (2.50in). No part of the sponson shall extend downward below the point at which the side of the hull intersects the bottom surface of the hull by more than 38.00mm (1.50 in.). Aftermarket or modified sponsons must exceed 6mm (0.24 in.) in thickness. All leading edges must be radiused so as not to create a hazard. Sponsons may not be attached to the planing surfaces of the hull. Fins, rudders, skegs and other appendages that may create a hazard will not be allowed.

(c) Intake grate may be modified or aftermarket. Intake grate is required and must be the full-length type with at least one bar running parallel to the drive shaft. Grates may not extend more than 12.00mm (0.47 in.) below the flat plane of the pump intake area. All leading edges must be radiused so as not to create a hazard.

(d) Steering system may be after market. Handlebar, throttle, throttle cable, and grips may be modified or aftermarket. Handlebar cover may be modified or removed. Aftermarket switches and switch housings may be used. Steering shaft, steering shaft holder and handlebar holder may be aftermarket. The handlebar must be padded at the mounting bracket or, if it has a crossbar, the crossbar must be padded. Aftermarket steering cables are allowed.

(e) Seat structure must remain stock. No additional air intake allowed special dispensation may be allowed. Please contact the Series Administrator.

1. Seat cover maybe aftermarket.
2. The OEM seat height cannot be raised by more than 50mm (2in). The original shape and design, including the back rest, must not change.

a Sea-Doo RXPX 2021 only

Seat height cannot be changed by more than +/-12.7mm (0.5 in). Seat configuration must remain in two pieces as supplied by the manufacture and maintain the original fixings. Seat covers maybe utilised. Exception - if back rest is not utilised rule AX.54(e)2. with apply.

3. Sea-Doo RXTX 2017 models are required to have the removable rear seat in position while racing.
4. Yamaha FX SVHO cannot use the FX cruiser seat. Cruiser may use the FX seat.
5. Kawasaki Ultra 300/310 - Additional air intake is allowed via the rear seat only. The seat must resemble the same shape and size as the original.

(f) Original equipment braking devices may be disabled for safety purposes.

(g) Seats and supporting structure must not be discarded during a race. Riders may remove seats to attend to their engine but must not discard and continue racing. Riders that discard seat/s and continue racing may be disqualified.

(h) Reverse buckets may be removed or disabled (modified to disable reverse function is acceptable so long as a hazard is not created) but reverse control cables, motors, and mechanisms must remain in place.

AX56. AIR AND FUEL DELIVERY

(a) Craft will be allowed to utilize an aftermarket catch-can. Excess oil/fuel exiting the catch-can must be caught and not spill into the engine compartment.

(b) Flame arresters that meet USCG, UL-1111 or SAE J-1928 Marine backfire flame arrester test standards must be installed. If not equipped with an airflow sensor, the ducting between the flame arrestor and throttle body may be modified or aftermarket. If originally equipped with an airflow sensor, the ducting may be modified or aftermarket between the flame arrestor and airflow sensor. Modifications to the airflow downstream of the airflow sensor are not allowed. No modifications to the turbocharger and supercharger system, if applicable, are allowed. All portions of the intake manifold, including screens or other filtering or spark suppressing devices, must remain as originally equipped.

(c) Internal or external reinforcement of mesh ribbon filters in the flame arrestor system will be allowed.

(d) Kawasaki Ultra 300/310 only

1. Aftermarket fuel regulator and fuel pump may be used.

AX57. DRIVELINE/PUMP AREA

(a) Driveline, pump stator, nozzles must remain stock as furnished by the OEM.

(b) Impeller may be modified or aftermarket, providing that the original diameter is maintained.

(c) Replacement wear rings that are within OEM internal diameter specifications may be used. Silicone adhesive sealant may be used in addition to original equipment seal to seal pump inlet.

(d) Yamaha models - Sound suppression plate and bracket (around pump area) may be removed. Exhaust flap must remain in position.

(e) Visibility spout must be removed or plugged.

AX58. ENGINE

(a) Engine must remain stock as furnished by the OEM. The plastic engine cover must remain in position.

(b) Engines may be bored. Replacement piston assemblies may be used provided the original port timing, compression ratio, dome profile, skirt length and shape and type of material are not changed. Chamfering of cylinder ports must not exceed 1.00mm (0.04 in.) at a 30-degree maximum angle. Cylinder head combustion chambers may be cleaned by bead blasting with valves seated in place. Intake and exhaust ports may not be bead blasted or cleaned with abrasive material such as steel wool or Scotch-Brite®. Repairs to the cylinder head affecting one-cylinder bank are allowed.

(c) An aftermarket blow off value (BOV) may be used.

(d) Aftermarket spark plugs with a different heat rating may be used.

(e) Replacement batteries are permitted but must fit into the original equipment battery box and be securely fastened.

(f) Replacement fuel lines may not provide any other function than original equipment hoses. Changes in temperature tolerances are allowed.

(g) Aftermarket valve retainers may be modified or aftermarket.

(h) Sea-Doo RXPX and RXTX 300 models - Aftermarket springs may be modified or aftermarket.

(i) Additional cooling - Sea-Doo and Yamaha models only

1. An additional thru-hull cooling supply line and fitting may be added to the pump.
2. Pump water inlet covers and water strainers (filters) may be modified or aftermarket.
3. Additional water-cooling lines and aftermarket water bypass fittings may be added.
4. Yamaha models may utilize anode fitting on the engine block for additional cooling.
5. Existing fittings may be aftermarket or modified so long as the OEM thread diameter is maintained.

(j) Kawasaki Ultra 300/310 only

1. Pulleys and tensioners may be modified or aftermarket.
2. Oil cooler kit and fittings and hoses may be aftermarket.
3. Exhaust flange may be removed

(k) Yamaha SVHO Models only

1. Supercharger shafts may be welded. Rule to be reviewed Dec 2021.
2. Plastic intake manifold may be backdated to its metal predecessor.

AX59. IGNITION AND ELECTRONICS

(a) All electronics must remain stock as furnished by the OEM except for the following.

(b) Aftermarket connectors may be applied to OEM wiring harnesses. Connectors may only improve the existing system by decreasing the risk of breaking or severing connection. Absolutely no additional signals, inputs, or outputs may be provided by the use of aftermarket harness connections.

(c) The original electronic control unit may be reprogramed so long as it does not offer any additional inputs or outputs than the original unit, and it must connect with the original connections. No additional sensors may be added (e.g., exhaust gas temperature, detonation sensors, etc.). Engine temperature sensors may be disabled.

AX60. ELECTRONIC TRANSMITTAL DEVICES

(a) Electronic transmittal of information, including radio communication to or from a moving watercraft, is prohibited with the following exceptions:

1. AquaX timing and GPS transponders utilized for scoring and technical scrutineering purposes (mandatory equipment assigned by P1 AquaX).
2. Data or video transmitted for the sole use of P1 approved event television production.
3. Data logging is permitted; however, the information may not be downloaded in real time from a moving watercraft. Information downloaded from the watercraft may be reviewed by the Chief Technical Inspector at any time.
4. Direct radio comms between rider and pit team during the race is allowed. All communication maybe be recorded and used in P1 approved event television production and/or reviewed by P1 tech inspectors.

APPENDIX 3 **HOMOLOGATED CRAFT**

YAMAHA WAVERUNNERS	KAWASAKI JETSKI	BRP SEADOO	HONDA AQUATRAX	HYDROSPACE	POLARIS
PRO SPRINT ONLY – CRAFT MUST MEET IJSBA HOMOLGATION REQUIREMENTS					

APPENDIX 4 **GLOSSARY OF TERMS**

AQUAX GLOSSARY OF TERMS TABLE	
AFTERMARKET PART	A part replacing or used in addition to the original equipment part. Aftermarket parts are not limited to providing the same function as their original equipment counterparts.
AQUAX RACE JURY	Group of 3 persons whose sole responsibility is to resolve rider appeals and protests.
DECK	The upper structural body of the watercraft located above (and including) the upper bond flange.
DRY PIT	An area used by riders and mechanics to make machine repairs, refuel and make rider changes.
HIN.NUMBER	Hull Identification Number. A unique serial number generated by the manufacturer and affixed to each watercraft.
HOMOLOGATION	The process of officially approving or allowing a component or watercraft to compete in an AQUAX events.
OEM	Parts that were installed on each model of watercraft at the time of manufacture
HULL	The lower structural body of the watercraft located below the bond rail.
TECH AREA	An impound inspection area marked out by the technical inspector
PFD **PPE** **PWC**	Personal Flotation Device (life vest), Personal Protection Equipment Personal Watercraft
RACE INSTRUCTION	Information document sent out to competitors pre-event. The race instruction includes important information pertaining to the race site, race times and course diagrams and championship.

AQUAX GLOSSARY OF TERMS TABLE	
REPLACEMENT PARTS **(LIKE FOR LIKE)**	Non-original equipment part used to replace an original equipment part. Replacement parts are limited to providing only the dimensions, performance and function that their OEM counterparts provide. Replacement parts must not offer any performance enhancing characteristics.
SCORERS	A person who scores the riders and watches for penalties and liaises with the Race Secretary and Race Director over scoring issues.
TECHNICAL DIRECTOR	The person who checks all competing watercraft for rules compliance and eligibility.
SERIES ORGANIZERS	The body controlling a facility where events are organised, promoted and staged.
SPONSON	A special surface which may be attached to the hull sides or transom for stability
SAFETY MARSHAL	Waterborne PWC rider that helps the Race Director control the race by use of flags, whistles and radios. Assists fallen riders back to their watercraft or injured riders back to shore.
TOW LOOP	A flexible tow loop attached to the bow eye.
VISOR/FACE SHIELD	A clear, sometimes tinted plastic face shield attached to the helmet to protect eyes and face from spray. NOTE: VISORS/SHIELD are not legal for AquaX racing.
WET PITS	An area close to the launch site – beach or slipway - that serves as a temporary base between races.

APPENDIX 5 CLASS STRUCTURE

APPENDIX 6 AQUAX CHAMPIONS – 2011

Visit Hall of Champions https://p1aquax.com/AquaX-Champions