

18 SKI SUPERSTOCK CLASS

18.1 SKI SUPERSTOCK CLASS COMPETITION

Competitors in this class are allowed modifications to gain maximum machine and engine performance while restricting the build costs by prohibiting aftermarket hulls. This category of competition is intended to encourage innovation above Stock Class Ski PWC divisions with some degree of cost control. Watercraft competing in this class must conform to the specifications which follow. The Ski Superstock Class is exclusively for 2017-2018 Kawasaki SX-R.

NOTE: Due to the speed capabilities of Ski Superstock, it is highly recommended that all competitors must possess an Expert or Pro license prior to participating.

DISPLACEMENT: The maximum displacement that may be achieved in the Ski Superstock Class is 1500 cc.

- 18.1.1 All watercraft must remain strictly stock, except where rules allow or require substitutions or modifications. Creating a Modified Class watercraft begins with a stock OEM watercraft even where the hull, top deck, and engine may come from other sources; these are changes made to an original OEM starter unit. Changes or modifications not listed here are not permitted. Some original equipment components may not comply with IJSBA rules. **NOTE:** 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.
- 18.1.2 Original equipment parts may be updated or backdated to newer original equipment parts of the same model. The part must be a bolt-on requiring no modifications to that part or any other parts except where rules allow substitutions or modifications.
- 18.1.3 Sound level shall not exceed 86 dB(a) at 22.86m (75 ft.). See Section 19.5 (pg. 76).
- 18.1.4 Engine fuel must consist of gasoline meeting the criteria defined in Section 34.4.

18.2 HULL

- 18.2.1 All watercraft must have a flexible tow loop attached to the bow. 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.
- 18.2.2 Hull and deck repairs may be made. However, these repairs must not alter the original configuration by more than 2.00mm (0.08 in.). Other than for the use of fasteners and the placement of allowable relocated parts (i.e., ECU), the bulkhead may not be modified.

- 18.2.3 All watercraft may be equipped with a maximum of two sponsons. Original equipment sponsons may be modified, aftermarket, repositioned or removed. Overall length of each sponson shall not exceed 91.45cm (36.00 in.). 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. (See diagrams in Appendix.) Sponsons may be attached to the inside of the bond flange, but no part of the sponson may extend more than 38.00mm (1.500 in.) below the lower part of the bond flange (bumper removed). Sponsons attached to the inside of the bond flange shall not protrude outside the bond flange (bumper removed) when measured in a level horizontal plane.
- 18.2.4 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.
- 18.2.5 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 100.00mm (3.94 in.) beyond the end of the original equipment plate. 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. (See diagram in Appendix.)
- 18.2.6 Replacement trim plates may be used. Only replica parts that offer handling characteristics the same as stock are allowed. Material shall not be restricted to original equipment provided a hazard is not created (i.e., aluminum in place of plastic). See Glossary of Terms for definition of Replacement and Replica.
- 18.2.7 Replacement bumpers may be used provided a hazard is not created.
- 18.2.8 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 mouldings as measured by a plumb line.

- 18.2.10 Hood, 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. Quick-turn steering modifications to alter steering ratio are allowed. Aftermarket steering cables will be allowed.

Handlepole (and mounting bracket) may be modified or aftermarket provided it functions as originally designed. Handlepole attaching point may be reinforced.

- 18.2.11 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.
- 18.2.12 Original bilge pump may be modified or disconnected. Aftermarket bilge draining systems that do not create a hazard are allowed.
- 18.2.13 Engine compartment ventilation tubes may be modified, aftermarket, or removed. Inlet and outlet openings may not be enlarged (i.e., when the tube is removed, the opening may not be larger than stock). Vents may be shielded or plugged. No other modifications to the hood will be allowed.
- 18.2.14 Ballast weight may be added within the normally exposed areas of the hull to alter the handling of the watercraft provided a hazard is not created. Only weight consisting of constant mass (i.e., water or other fluid is not allowed) that does not require the modification or relocation of any parts will be allowed unless such modification or relocation is specified by other rules.

18.3 ENGINE

- 18.3.1 Engine blocks may be interchanged between homologated watercraft of any OEM manufacturer except in the case of the 2017 Kawasaki SX-R which must use the engine block furnished by the manufacturer. Original OEM engine blocks must be used. Internal modifications to the oil and/or water exposed surfaces will be allowed. The head gasket surface of the cylinder block may be machined.
- 18.3.2 The original cylinder head casting must be used. Intake and exhaust runners may be modified. Material may be added to the runners. Intake and exhaust ports may be modified. Port diameters and shapes may be changed. Combustion chambers may be modified. Material may be added to the combustion chamber. The original number of intake and exhaust valves must be the same as original.

Repairs to the cylinder head affecting one cylinder bank are allowed. The head gasket surface may be machined.

- 18.3.3 Aftermarket valve train components are allowed, providing the original method of activation is maintained (e.g., if originally activated by a camshaft, they may not be converted to solenoid activation). Valves may be shimmed with OEM or aftermarket shims. Valve springs may be modified or aftermarket.
- Camshaft(s) may be aftermarket. The number of camshafts must be the same as original. Original bearing type and dimensions must be used. Cam timing may be changed. Cam gears, tensioners, chain or belt may be modified or aftermarket.
- 18.3.4 Engines may be bored. Aftermarket piston assemblies are allowed. Engine displacement must not exceed class designation.
- 18.3.5 Crankshaft may be modified or aftermarket. Total weight of the crankshaft must be within +/5.00% of original equipment. Replacement bearings or bearing shells are allowed, providing they maintain their original type and dimensions.
- 18.3.6 Engine balancing assemblies may be modified, aftermarket, or removed.
- 18.3.7 Aftermarket connecting rods made of ferrous materials are allowed. Rod length may be changed.
- 18.3.8 Exhaust system (i.e., manifold, connecting pipes, hoses, muffler(s), etc.) may be modified or aftermarket. Through-hull exhaust may be modified or aftermarket, providing a hazard is not created. No tuned portion of the exhaust system may protrude outside of the hull. Exit location of the exhaust gases may be relocated to the transom below the bond flange.
- 18.3.9 Cooling system may be modified or aftermarket. Additional cooling lines may be added. Aftermarket water bypass systems may be used. Cooling system bypass fittings may be modified or aftermarket and/or relocated but must be directed downward and/or rearward so as not to create a hazard for other riders. Any valves used within the entire cooling system must be of the fixed type or automatic (e.g., thermostats, pressure regulators, solenoids, etc.). Manually controlled devices (by means of actuation) that alter the flow of cooling water during operation are not allowed. Original cooling system thermostat may be removed, modified or aftermarket. Cooling system flush kits are allowed.
- 18.3.10 Baffles in oil reservoir may be modified. The addition of baffles in oil reservoir is allowed. Oil pump may be modified or aftermarket.
- 18.3.11 Valve cover may be replaced for cosmetic purposes and/or weight reduction only.
- 18.3.12 Replacement starter motor and bendix may be used.
- 18.3.13 Replacement engine mounts may be used.
- 18.3.14 External modifications to the engine finish (e.g., plating, polishing and/or painting) are allowed for cosmetic purposes only.

- 18.3.15 Replacement of general maintenance parts (e.g., gaskets, seals, spark plug wires, spark plug caps, wiring, water hoses, fuel lines, fuel filters, oil filters, clamps and fasteners) shall not be restricted to original equipment. Stripped threads may be repaired. Fasteners may integrate locking mechanisms.

18.4 AIR/FUEL DELIVERY — FOUR-STROKE

- 18.4.1 The original fuel injectors may be modified to increase fuel-flow rate. Aftermarket fuel injectors that increase fuel flow are allowed provided they must not increase airflow into the combustion chamber. Fuel rail and fuel regulator may be modified or aftermarket. Additional fuel injectors may be added. Aftermarket fuel pumps are allowed provided that when the engine is shut off or stops, the fuel pump must automatically stop. No manually operated on/off fuel pumps are allowed. High-pressure fuel hose meeting SAE J30R9 must be used; only metal type fuel filters may be used on the high-pressure portion of the system; all other in-line filters must be installed on the low-pressure portion of the system.
- 18.4.2 Flame arresters that meet USCG, UL-1111 or SAE J-1928 Marine standards must be used. Airflow sensor may be modified, aftermarket or removed. Ducting between the flame arrestor and throttle body may be modified or aftermarket.
- 18.4.3 Throttle body may be modified or aftermarket. The number of butterflies may be increased but may not exceed the number of cylinders. Intake manifold assembly may be modified or aftermarket.
- 18.4.4 Carburetor(s) may be modified or aftermarket provided they do not vent or spill fuel at any attitude with or without the engine running. Carburetors may be used in addition to or in place of the fuel-injection system. The number of venturis cannot exceed the number of cylinders. No slide-type carburetors. Aftermarket primer may be used. Intake manifold assembly may be modified or aftermarket. Aftermarket air-pulse-pressure operated fuel pumps may be used.
- 18.4.5 The entire fuel system is a closed system. The watercraft must not vent or spill fuel at any attitude with or without the engine running. The fuel tank shall not be restricted to the original equipment, as supplied by the manufacturer, so long as the replacement is an unmodified tank from another homologated PWC and the tank fits securely in the watercraft without causing a hazard. Original equipment fuel filler and relief valve must be used and cannot be modified. The fuel pickup, fuel filter and fuel petcock may be removed and/or aftermarket parts may be used. Additional fuel filters may be used and fuel cell foam may be added to the original equipment fuel tank. Fuel tank filler cap may be modified or aftermarket provided a hazard is not created. Aftermarket fuel tanks not coming from another homologated PWC may be allowed by the race director so long as it is demonstrated that the aftermarket fuel tanks meet or exceed the strengths and safety standards of an OEM fuel tank.

18.6 DRIVELINE

- 18.6.1 Impeller, impeller housing, stator vane assembly, pump mounting plate and/or pump shoe may be modified or aftermarket. Pump nozzle and directional nozzle may be modified or aftermarket. Overall length of the complete pump and nozzle assembly may be no more than 50.00mm (1.97 in.) longer than original equipment. Aftermarket nozzle trim systems may be used. Additional cooling fittings may be installed. Visibility spout must be removed or plugged. Silicone adhesive sealant may be used in addition to original equipment seal to seal pump inlet.
- 18.6.2 Couplers, bearing housing and driveshaft may be modified or aftermarket provided they maintain a 1:1 drive ratio between the engine and the pump.