Under 1049cc RUNABOUT REC LITES CLASS COMPETITION

Runabout Rec Lites is a Stock Class designed for runabouts that are intended for the entry level recreation market. To be eligible for the Rec Lites division, the qualifying runabout must be powered by a naturally aspirated four stoke engine. In 2019, there are two models eligible for participation in the Runabout Lites Class: The Sea-Doo Spark (all years and models) and the Yamaha EX (all years and models excluding the EXR).

1.1 All watercraft must remain strictly stock, except where rules allow or require substitutions or modifications. **Changes or modifications not listed here are not permitted.** The NZJSBA may allow additional modifications to Stock Classified PWC which provide for replacement/reinforcements to parts and components (i.e. intercooler end caps, brackets, fittings, etc.) that have known failure risks in race conditions. Such changes will only be allowed if the replacements/modifications result in no volume or performance gains. Some original equipment components may not comply with NZJSBA rules. Clarify all changes with NZJSBA and official Tech Director. Hull Identification Numbers must be displayed as furnished by the manufacturer.

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.

1.2 Original equipment parts may be updated 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. Unless reoffered to as the same identical part in the OEM parts/repair manual, parts may not be backdated.

1.3 Sound level shall not exceed 86 dB(a) at 22.86m (75 ft.)

2 HULL

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.

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.). The interior portion of a hull may not be reinforced. The texture of the exterior surface of the hull need not be consistent with OEM characteristics so long as the shape(s) remain exactly the same as OEM.

Drop-in type storage buckets may be modified, aftermarket or removed provided a hazard is not created.

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 planning surfaces of the hull. Fins, rudders, skegs and other appendages that may create a hazard will not be allowed. (See diagrams in Appendix.) The decision of the Technical Director and/or Race Director regarding modifications will be final. Any question regarding the legality of modifications should be directed to the IJSBA or IJSBA affiliate prior to use in competition.

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.

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 177.80mm (7.00 in.) beyond the end of the original equipment. 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.)

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., aluminium in place of plastic). See Glossary of Terms for definition of Replacement and Replica.

2.7 Replacement bumpers may be used provided a hazard is not created.

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.

2.9 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.

2.10 Original equipment seat base must be used. Seat cover may be changed. The OEM seat height cannot be changed by more than +/- 12.7mm (0.5 in). Seat must remain OEM, seat cover can add no more than .5 inch in thickness in any direction.

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.

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

2.13 Engine compartment ventilation tubes must remain as originally equipped.

2.14 Original equipment braking devices may be disabled for safety purposes. Reverse buckets may be removed or disabled (modified to disable reverse function is acceptable so long as a hazard is not created) but trim motors must remain in place.

3 ENGINE

3.1 Engines may be bored. Replacement piston assemblies may be used provided the original 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. (See diagram in Appendix.). 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.

3.2 Repairs may be made to cracked or damaged cylinders by installing a cylinder sleeve. The head gasket surface of the cylinder block may be machined only to allow for the installation of the new sleeves (see appendix for description). A thicker head gasket must be utilized to return the block deck height to within .155mm (.006in) of original height. The repair must offer no additional performance gains.

3.3 Crankshaft must remain stock. Replacement bearings or bearing shells are allowed, providing they maintain their original type and dimensions.

3.4 Camshaft(s) must remain stock. Replacement bearings or bearing shells are allowed, providing they maintain their original type and dimensions. Camshaft timing may be changed.

3.5 Engine and Oil Cooler water cooling systems must remain as OEM. Water strainers (filters) may be modified or aftermarket. Intercooler assembly/housing must remain OEM. Existing fittings may be aftermarket or modified so long as the OEM thread diameter is maintained. Fittings may not be added to the cylinder head, cylinder, or crankcase. Electronically controlled valves or water injections systems are not allowed unless originally equipped. Manually controlled devices (by any means of actuation) that alter the flow of cooling water during operation are not allowed. Cooling system flush kits are allowed. .

3.6 Replacement of general maintenance parts (e.g., gaskets, seals, spark plugs, spark plug wires, spark plug caps, wiring, water hoses, fuel lines, clamps and fasteners) shall not be restricted to original equipment providing the following: 1) Replacement gaskets may be used but must be of the same type (e.g., sheet, o-ring, etc.) as their OEM counterparts. With the exception of head gaskets and base gaskets, all replacement gaskets must maintain a thickness of plus or minus 20% of the OEM gasket thickness as furnished by the manufacturer. Base gasket cannot be thicker than 0.8mm (0.032in). Head gaskets must be no thinner than .005mm (0.002in) than the OEM thickness as supplied by the manufacturer. Head gaskets must be no thicker than 1.55mm (0.06in) than the OEM thickness as supplied by the manufacturer. 2) Stripped threads must be repaired to the original size. 3) Fasteners (e.g., bolts, nuts and washers) may not be substituted with titanium pieces unless originally equipped. Fasteners may integrate locking mechanisms. 4) Replacement hoses and fuel

lines may not provide any other function than original equipment hoses. Changes in temperature tolerances are allowed. 6.4.6 Exhaust manifolds that have previously been drilled or tapped may be used so long as the holes are filled or capped.

5 AIR/FUEL DELIVERY

RLS.5.1 Electronic fuel-injection systems: 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. All portions of the intake manifold, including screens or other filtering or spark suppressing devices, must remain as originally equipped.

5.2 Carburetted induction systems: Flame arrestors that meet USCG, UL-1111 or SAE J-1928 Marine backfire flame arrester test standards must be installed. Carburettor jets (replaceable type), needle valves and needle valve springs may be changed. Choke may be removed provided additional air intake for the engine is not created. Aftermarket primer system may be installed. No other carburettor modifications will be allowed.

5.3 Fuel injectors and fuel pump must remain stock as furnished by the manufacturer.

7 IGNITION AND ELECTRONICS

7.1 Replacement batteries are allowed but must fit into the original equipment battery box and be securely fastened.

7.2 The original electronic control unit may be reprogrammed 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.

7.3 Aftermarket spark plugs with a different heat rating may be used.

9 DRIVELINE

9.1 Impeller may be modified or aftermarket, providing that the original diameter is maintained. 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. Visibility spout must be removed or plugged.

9.2 No internal modifications of any kind, including grinding, surfacing, polishing, machining, shot peening, etc., will be allowed on any driveline components (e.g., pump stator, reduction nozzle, etc.).