



250cc Technical Rules

250cc NATIONAL CLASS TECHNICAL RULES

Everything that is not authorised and prescribed in this rule is strictly forbidden.

These regulations apply to NATIONAL CLASS MACHINES, run under Bermuda Charge rules. All motorcycles must comply in every respect with all the requirements for Road Racing as specified in the Technical Regulations. The appearance from the front, rear and the profile of National Class motorcycles must (except when otherwise stated) conform to the original shape (as originally produced by the manufacturer).

The appearance of the exhaust system and engine case guards is excluded from this rule.

All items not mentioned in the following articles must remain as originally produced by the manufacturer for the original machine.

REAR SAFETY LIGHT:

All motorcycles must have a Functioning Red Light mounted at the rear of the seat to be used during wet races or in low visibility conditions as declared by Clerk of Course.

The rear safety light must comply with the following;

- a)** The lighting direction must be parallel to the centre line of the motorcycle (running direction) and must be clearly visible from the rear, at least 15 degrees to both the right and left sides of the centre line of the motorcycle.
- b)** It must be safely mounted on the very end of the seat/rear bodywork and approximately on the centre line of the motorcycle. In case of dispute over the mounting position of, or visibility of the Rear Safety Light, the decision of the Technical Steward or Scrutineer will be final.
- c)** 10-15W The power output/luminosity must be equivalent to approximately (incandescent) or 3-5W (led).
- d)** The light must be able to be switched on and off.

HANDLEBAR LEVERS: Motorcycles must be equipped with a brake lever protection, intended to protect the handlebar brake lever from being accidentally activated in case of collision with another motorcycle.

1. 250cc National Class

200cc - 250cc 4 stroke **AND** 100cc - 125cc 2 stroke

2. Machine Eligibility

There must be at least 1000 motorcycles available to riders, worldwide, per year and the machine must be generally available in the world market with full EPA and DOT approval to qualify a machine for the National Class categories.

Scooters and mopeds (e.g. a step through frame and/or foot rest platform) are not permitted in this category.

The decision regarding the legality of any machine entered in the National Class is the responsibility of the Chief Technical Officer for the event in progress. Legality will be determined based upon manufacturers' specifications (or comparison of similar OEM parts) for the year, model and make of the machine entered.

3. Number Plate Colours:

- The background colours and figures for National Class are yellow background with blue numbers. With the Pantone colour values being yellow 116 C and blue 5265 C.
- In case of a dispute concerning the legibility of numbers, the decision of the Technical Steward will be final. The allocated number for the rider must appear three times on the machine. The number on the front may be affixed only once, either in the centre of the fairing or to one side. The two side numbers must be located on the left and right sides of the seat on the fairing or lower rear portion of the lower fairing.
- All machines participating in Bermuda Charge events must prominently display the Bermuda Charge decal (meaning the entire 4" logo) on both sides of their machine. Points and awards may be withheld from any racer who fails to display the Bermuda Charge decals. Decals are available at the Race Registration Office.

4. Fuel:

- Only control fuel is permitted at the event. The fuel for the National Class will be C12 from VP Racing Fuels. Fuel details are contained in the Supplementary Regulations.

5. Frame Body and Rear Sub-Frame:

- Frame must remain as originally produced by the manufacturer for the original machine.
- Nothing can be added or removed from the frame body.
- All motorcycles must display a vehicle identification number on the frame body (chassis number)
- Engine mounting brackets or plates must remain as originally produced by the manufacturer for the original machine.
- Rear sub frame may be changed or altered, but the type of material must remain as original or of higher specific weight.
- Additional seat brackets may be added but none may be removed. Bolt-on accessories to the rear sub frame may be removed.
- The paint scheme is not restricted.
- The sides of the frame body may be covered by a protective part made of a composite material.
- These protectors must fit the form of the frame.

6. Front Forks:

- Forks can be replaced or modified
- Standard original internal parts of the forks may be modified or changed.
- After-market damper kits or valves may be installed.
- Fork Springs may be replaced or modified.
- Fork Caps may be modified or replaced to allow external adjustment.
- The fork tubes (stanchions, fork pipes) surface may be changed or modified. Additional surface treatments are allowed.
- The upper and lower fork clamps (triple clamp, fork bridges) can be replaced or modified.
- Steering damper may be added or replaced with an aftermarket damper.
- The steering damper cannot act as a steering lock limiting device. No bolts or restrictors may be added to restrict the range of movement for handlebars.
- Dust seal can be modified, changed or removed if the fork is totally oil sealed.
- No aftermarket or prototype electronically controlled suspension can be used.

7. Rear Fork (Swing Arm):

- Rear fork can be replaced or modified. A chain guard must be fitted in such a way as to reduce the possibility that any part of the rider's body should become trapped between the power chain and the rear wheel sprocket.
- Rear fork pivot bolt can be replaced or modified.
- Rear axle adjuster (chain adjuster) can be replaced or modified.
- Rear wheel stand brackets may be added to the rear fork by welding or by bolts. An anchorage system or point(s) to keep the original rear caliper in place may be added to the rear fork.

8. Rear Suspension Unit:

- Rear suspension unit may be changed or modified.
- Rear suspension unit spring(s) may be changed. No aftermarket or prototype electronically-controlled suspension unit may be used. If the original electronic unit is used, it must be completely standard (any mechanical or electronic part must remain as original). The original system must work properly in the event of an electric/electronic failure otherwise it cannot be used for Bermuda Charge competitions.
- Rear suspension linkage must remain as originally produced by the manufacturer for the machine.

9. Wheels:

- Wheels can be replaced or changed on condition that they remain the same size or greater than on the original machine.
- The speedometer drive may be removed and replaced with a spacer.
- If the original design included a cush drive/internal rubber boots for rear hub, this feature must be present on the machine.
- Front and rear wheel axles can be replaced or modified.
- Wheel diameter and rim width can be increased but not decreased from the original size.

10. Brakes:

- Front and rear brake discs may be changed.
- The brake disc carriers may be changed.
- Replacement brake discs must be of ferrous material.

- Front and rear brake calipers can be replaced or modified.
- Front and rear hydraulic brake lines may be changed. Steel braided or Kevlar brake lines must be used. The brake fluid reservoir may be replaced and/or repositioned. Quick connectors may be used. The split of the front brake lines for both front brake calipers must be made above the lower edge of the fork bridge (lower triple clamp).
- Front and rear brake pads may be changed. Brake pad locking pins may be modified for quick change type. Additional air ducts are permitted.
- ABS may be used only if installed on the original model for road use, however it must be completely standard.

11. Tires:

- Only commercially available tires will be permitted. The choice of tire is optional subject to the restrictions below.
- Racing slicks must be of soft compound or harder. Supersoft slicks are not permitted.
- Competitors choosing road legal tires must use H, V or Z rating. The depth of the tire tread must be at least 2.5 mm, over the whole tire tread (pattern) width, at pre-race control. Road legal tires must have an “E” mark or DOT (American Department of Transportation) approval and the DOT number must appear on the tire sidewall.
- Tires must be in good condition as determined by the Technical Inspector. No recapped or retreaded tires may be used. Glued, pre-cured retreads are not allowed. No off-road knobby tires may be used.
- Only when a race or practice has been declared “wet” the use of a special tire, commonly known as a “full wet” tire, is allowed. These tires do not need to carry the “DOT” or “E” mark and must be marked “NOT FOR HIGHWAY USE”. Wet tires must be a fully moulded tyre. No hand cutting is allowed on moulded tires. The use of hand cut tires is not allowed.

12. Foot Rest / Foot Controls:

- Foot rest/foot controls may be relocated but brackets must be mounted to the frame at the original mounting points.
- Foot rests may be rigidly mounted or a folding type which must incorporate a device to return them to the normal position.
- The end of the foot rest must have at least 8mm solid spherical radius.
- Non folding footrests must have an end (plug) which is permanently fixed, made of aluminium, plastic, Teflon® or an equivalent type material (minimum radius 8mm). The plug surface must be designed to reach the widest possible area.

13. Handlebars and Hand Controls:

- Handlebars and hand controls may be replaced (does not include brake master cylinder). Clip-on bars may be added to the original fork arrangement.
- Handlebars and hand controls may be relocated. Throttle control must be self-closing when not held by the hand.
- Electric starter switch and engine stop switch must be located on the handle bars. A functional ignition kill switch or button mounted on the handlebar that is capable of stopping a running engine must be fitted and be **RED**. It is recommended to fit a kill-cord lanyard to attach to the rider's protective clothing.

14. Fairing / Body Work:

- Fairing, front mudguards and body work must appear to be as originally produced by the manufacturer for the original machine.
- Fairing and body work may be replaced with cosmetic duplicates of the original parts. The material may be changed. The use of carbon fibre or Kevlar® materials is not allowed in fairing, fuel tank cover, seat, seat base and associated body work construction.
- Size and dimensions must be the same as the original parts without any addition or subtractions of design elements.
- Wind screen may be replaced with transparent material only.
- The original combination instrument/fairing brackets may be replaced. All other fairing brackets may be altered or replaced.
- The original air ducts running between the fairing and the air box may be altered or replaced.
- The original air ducts into the airbox may be altered or replaced. Original openings for cooling in the lateral fairing/bodywork. Sections may be partially closed only to accommodate sponsors' logos/lettering. Such modification shall be made using wire mesh or perforated plate. The material is free but the distance between all opening centres, circle centres and their diameters must be constant. Holes or perforations must have an open area ratio > 60%.
- All bikes must have catch cans fitted in case of fluid spillage e.g. motor oil, carburetor, radiator etc. The catch can has to be sufficient to hold a minimum of 8 fluid oz. Must not have any pin holes/cracks in catch cans for fluids to leak out. A catch can with a return to motor may be fitted.
- Minimal changes are allowed to permit the use of an elevator (stand) for wheel changes and to add a small plastic protective cone to the frame or engine.
- Front mudguard may be replaced. The use of carbon fibre or Kevlar composites is allowed.

- Front mudguard may be spaced upward for increased tyre clearance
- Rear mudguard fixed on the swing-arm may be replaced with cosmetic duplicates of the original parts. The use of carbon fibre or Kevlar composites is allowed.
- Rear mudguards fixed on the swing-arm which incorporate the chain guard may be modified to accommodate larger diameter rear sprockets.
- The existing rear mudguard under the seat may be removed. A mudguard may be fitted directly onto the swing-arm (it may not cover more than 120 degrees of the wheel).

15. Fuel Tank:

- It is permitted to modify the standard manufacturers tank provided the silhouette of the tank remains as original and the capacity does not exceed 24 litres.
- The sides of the fuel tank may be covered by a protective part made of a composite material. These protectors must fit the shape of the fuel tank.
- Fuel tank must contain a baffle foam kit which helps suppress explosion, absorb impact energy and control fuel sloshing, or a fire retardant material (open celled mesh e.g. Explosafe).
- Fuel tanks with tank breather pipes must be fitted with non-return valves that discharge into a catch tank with a minimum volume of 250cc made of suitable material.
- Fuel caps may be changed. Fuel caps when closed, must be leak proof. Additionally, they must be securely locked to prevent accidental opening at any time.

16. Seat:

- Seat, seat base and associated body work may be replaced with parts of similar appearance as originally produced by the manufacturer for the original machine. The use of carbon fibre or carbon composite materials is allowed.
- The top portion of the rear body work around the seat may be modified to a solo seat.
- The appearance from both front rear and profile must conform in principal to the original shape.
- The seat / rear cowl replacement must allow for proper number display.
- All exposed edges must be rounded.

17. Wiring Harness:

- The wiring harness may be altered or replaced. Additional wiring harnesses may be added. Cutting of the wiring harness is allowed.

18. Battery:

- The size and type of battery may be changed and relocated in a secure fashion.

19. Radiator and Oil Coolers:

- The radiator may be changed only if it fits in the standard location and does not require any modifications to the frame or to the fairings outer appearance.
- Modifications to the existing oil cooler are allowed only if it does not require any modifications to the main frame or to the fairings outer appearance. A heat exchange (oil/water) can be exchanged by an oil cooler.
- Additional oil coolers are not allowed.
- Radiator fan and wiring may be changed, modified or removed.

20. Air Box:

- The air box can be replaced, modified or removed.
- The air filter element may be removed, or replaced.
- The air box drains must be sealed or connected via the hose to the catch can.
- The original air ducts running from the fairing to the box may be altered or replaced.
- The original air ducts to the air box may be altered or replaced.

21. Fuel injection system:

- The fuel injection system can be replaced or modified. Fuel injection systems are defined as throttle bodies and variable length intake tract devices, fuel pump and fuel pressure regulator.
- Throttle bodies intake insulators may be modified.
- The injectors can be replaced or modified.
- Bell mouths, including their fixing points, may be altered or replaced.
- Butterfly screws and throttle shafts must be secured with a medium strength thread locker or stronger if changed or modified.
- Variable intake tracts devices can be replaced or modified.
- Vacuum slides may be fixed in the open position.
- Secondary throttle valves and shafts may be removed or fixed in the open position and all electronics may be disconnected or removed.

22. Fuel Supply

- Fuel lines may be replaced from the fuel petcock (excluded) to the delivery pipe assy (excluded). Quick connectors or dry brake quick connectors may be used. Fuel lines must be secured with metal hose clamps or high quality zip ties.
- Fuel vent lines may be replaced.
- Fuel filters may be added.
- Fuel pump pressure regulator can be replaced or modified.

23. Cylinder Head:

- Cylinder head can be replaced or modified.
- The following modifications are allowed: -
 - A. Grinding of the cylinder head surface on the side of the Gasket.
 - B. Modifying inlet and exhaust ports by taking off or adding material (welding forbidden)
 - C. Valve guides may be cut or modified, but only on the intake or exhaust port side.
 - D. Polishing of the combustion chamber is permitted.
 - E. Modifications to the shape of valve seats are permitted.
 - F. Compression ratio should be adjusted for C12 fuel.
- The combustion chamber may be modified.
- Valves and valve springs can be changed.
- The valve spring retainers may be replaced or modified.

24. Camshaft:

- The method of drive can be replaced or modified.

25. Cam Sprockets:

- Cam sprockets or cam gears can be modified or replaced to allow the degreeing of camshafts.

26. Crankshaft:

- Crankshaft can be replaced or modified to fit within the 250cc class.
- Polishing and lightening is allowed.
- Modifications of the flywheels are allowed.

27. Oil Pumps and Oil Lines and Water Pumps:

- Modifications are allowed, but housing, mounting points and oil feed points must stay as original.
- Oil lines may be modified or replaced. Oil lines containing positive pressure, if replaced, must be of metal reinforced construction with swaged or threaded connectors.
- A secondary oil vent is permitted to relieve oil pressure from the motor.

28. Connecting Rods:

- Connecting rods can be replaced or modified.
- Polishing and lightening is allowed.

29. Pistons:

- Pistons can be replaced or modified (take note of 250cc limit).
- Polishing and lightening is allowed.

30. Piston Rings:

- Piston rings can be replaced or modified (take note of 250cc limit).

31. Piston Pins and Clips:

- Piston pins and clips can be replaced or modified (take note of 250cc limit).

32. Cylinders:

- The fitting of upgraded cylinder kits is permitted. Cylinder capacity must be a minimum of 200cc and must not exceed 250cc.
- Cylinder head gasket surface may be machined to allow the adjustment of compression ratio to accommodate C12 fuel.

33. Crankcase and all other Engine Cases (i.e. ignition case, clutch case):

- Crankcases can be replaced or modified.
- Lateral (side) covers may be altered, modified or replaced. If altered or modified, the cover must have at least the same resistance to impact as the original one.
- Engine case guards in the form of strengthened engine side covers may be installed.

- All lateral covers/engine cases containing oil and which could be in contact with the ground during a crash, must be protected by a second cover made from composite materials, type carbon or Kevlar®, aluminum or steel plates and/ or bars are also permitted. All these devices must be designed to be resistant against sudden shocks and must be fixed properly and securely **and cover a minimum of one third of the original cover.**

- Vacuum pumps can be replaced or modified.

34. Transmission / Gearbox:

- All transmission/ gearbox ratios are free.
- Primary gears must remain as original.
- Countershaft sprocket, rear wheel sprocket, chain pitch and size can be changed.
- Quick shift systems are allowed.
- Chain guard as long as it is not incorporated in the rear fender may be removed.

35. Clutch:

- Clutch type (wet or dry) can be replaced or modified. The method of operation (by cable or hydraulic) must remain as original.
- Friction and drive discs may be changed. Clutch springs may be changed.
- The clutch basket (outer) may be reinforced.
- The original clutch assembly may be modified for back torque limiting capabilities (slipper type).
- It is allowed to change to an aftermarket clutch with back torque limiting capabilities (slipper type).
- The use of electro-mechanical or electro-hydraulic actuating systems are not allowed.

36. Ignition / Engine Control System:

- Ignition / engine control system (CDI) may be modified or changed.
- Spark plugs and plug wires may be replaced.

37. Generator:

- Generator is free.
- Flywheel can be replaced or modified.

38. Exhaust System:

- Exhaust pipes and silencers may be modified or changed. Catalytic converters must be removed.
- The noise limit for National Class will be 107 dB/A (with 3 DB/A tolerance after the race).
- Wrapping of exhaust systems is allowed. The number of exhaust (final) exits must remain as original.

39. Fasteners:

- Standard fasteners may be replaced with fasteners of any material and design.
- Aluminum fasteners may only be used in non-structural locations.
- Titanium fasteners may be used in structural locations, but the strength and design must be equal to or exceed the strength of the standard fastener it is replacing.
- Special steel fasteners may be used in structural locations, but the strength and design must be equal to or exceed the strength of the standard fastener it is replacing.
- Fasteners may be drilled for safety wire, but intentional weight saving modifications are not allowed.
- Fairing / bodywork fasteners may be changed to the quick disconnect type.

40. The following items MAY BE altered or replaced from those fitted to the original motorcycle:

- You may replace the ECU/Black Box with any aftermarket unit or modify to any extent the stock unit.
- Any type of lubrication, brake or suspension fluid may be used.
- Any type of spark plug and plug cap may be used.
- Any inner tube (if fitted) or inflation valves may be used.
- Instrument and instrument brackets and associated cables.
- Wheel balance weights may be discarded, changed or added to.
- Bearings (ball, roller, taper, plain, etc.) of any type or brand may be used.
- Gaskets and gasket materials
- Painted external surface finishes and decals

41. The following items may be removed:

- Speedometer and related wheel spacers
- Bolt on accessories on a rear sub-frame
- Emission control items (anti-pollution) in and around the airbox and engine (oxygen sensor, air injection devices)

42. The following items *MUST BE* altered:

- Motorcycles must be equipped with a functional ignition kill switch or button mounted on either side of the handlebar (within reach of the hand while on the hand grips) that is capable of stopping a running engine. It is recommended to fit a kill-cord lanyard to attach to the rider's protective clothing.
- Throttle controls must be self-closing when not held by the hand.
- All drain plugs must be wired. External oil filter(s) screws and bolts that enter an oil cavity must be safety wired, (i.e. on crankcases, oil lines, oil coolers, etc).
- Where breather or overflow pipes are fitted they must discharge via existing outlets.
- The original closed system must be retained, no direct atmospheric emissions permitted.
- On motorcycles that have a closed breather system, the oil breather line must be connected to and discharge into the air box.

43. The following items must be removed:

- Headlamp.
- Turn signals indicators (when not incorporated in the fairing) openings must be covered with a suitable material.
- Rear view mirrors
- Horn
- Licence plate bracket
- Tool box
- Helmet hooks and luggage carrier hooks
- Passenger footrests
- Passenger grab rails
- Safety bars, centre and side stand must be removed (fixed brackets must remain). Depending

on location, side stand mount may also need to be removed pending technical inspection.

44. Additional Equipment:

- Additional equipment not on the original motorcycle may be added (i.e. data acquisition, computers, recording equipment, etc.)
- Telemetry is not allowed