

Technical Specifications

SuperSport 250

The following rules are intended to permit limited changes to the homologated motorcycle in the interests of safety and improved competition between various motorcycle concepts.

EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THIS RULE IS STRICTLY FORBIDDEN IF A CHANGE TO A PART OR SYSTEM IS NOT SPECIFICALLY PERMITTED IN ANY OF THE FOLLOWING ARTICLES, THEN IT IS FORBIDDEN.

SUPER SPORT 250 motorcycles requires the homologation **BRIC TECHNICAL SCRUTINEER** Technical Committee. All Motorcycles must be normally aspirated. All motorcycles must comply in every respect with all the requirements for road racing as specified in these Technical Specifications (Regulations), unless they are already equipped as such on the homologated model.

Once a Motorcycle has obtained the homologation, it may be used for racing in the corresponding class for a maximum period of 8 years or until such time that the homologated motorcycle is disqualified by new rules or changes in the technical specifications of the corresponding class.

The appearance from the front, rear and the profile of SUPER SPORT 250 Motorcycles must (except when otherwise stated) conform to the homologated or originally manufactured shape (as originally produced by the manufacturer). The appearance of the exhaust system is excluded from this rule.

2.4. General Motorcycle Specifications

All parts and systems of the Motorcycle not specifically mentioned in the following articles must remain

- As originally produced by the manufacturer.
- As originally fitted or equipped on the homologated Motorcycle
- All Motorcycles must be normally aspirated.
- Interchange of any parts between the Motorcycles within same model name and or same frame VIN (Vehicle Identification Numbers) where they are homologated separately and at different years are not allowed. Wheel rims are excluded from this rule.

2.4.1. Eligible Motorcycles

The following Motorcycles are approved to compete:

- i. **Honda CBR250RR**
- ii. **Honda CBR300R**
- iii. **Kawasaki Ninja 250R**
- iv. **Kawasaki ZX25R & ZX25RR**
- v. **KTM RC390**
- vi. **TVS Apache RR310**
- vii. **Yamaha YZF-R25**
- viii. **Yamaha YZF-R3**

* Note: Motorcycle models listed above must request for a homologation with **BRIC TECHNICAL SCRUTINEER** Technical Committee.

These rules are intended for production road Motorcycles only. Production street enduro / motocross based off-road Motorcycles are specifically excluded. The **BRIC TECHNICAL SCRUTINEER** Technical Committee has the right to decide which Motorcycles will eligible be in the class.

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* Note: This list can be amended at any time by the **BRIC TECHNICAL SCRUTINEER** Technical Committee

2.4.2. Minimum Weight Limit

At any time of the event, the ***Motorcycle Weight** and the ***Combined Weight** must not be lower than the following minimum weight limit;

**Definitions;*

Motorcycle Weight – is defined as the whole motorcycle weight including the fuel inside the tank.

Combined Weight – is defined as the Motorcycle Weight plus the rider's weight while wearing their full racing gear.

Machine	WEIGHT (kg)	
	Motorcycle	Combined
Honda CBR250RR	140	205
Honda CBR300R	125	190
Kawasaki Ninja 250R	140	205
Kawasaki ZX25R & ZX 35RR	160	225
KTM RC390	125	190
TVS Apache RR310	125	190
Yamaha YZF-R25	135	200
Yamaha YZF-R3	140	205

2.4.2.1. The use of ballast is permitted to conform to the minimum weight limits stated for each motorcycle model.

2.4.2.2. The use of ballast must be declared to the **BRIC TECHNICAL SCRUTINEER** Technical Director at the preliminary checks.

2.4.2.3. If the Combined Weight is below its minimum limit although after the motorcycle weight has been increased to 5kg above of the Minimum Motorcycle Weight limit than there will not be any additional weight penalty.

2.4.2.4. During the final technical inspection at the end of the race, the selected Motorcycles will be weighed in the condition they finished the race, and the established minimum weight limits must be met in this condition. Nothing may be added to the Motorcycle. This includes all fluids.

2.4.2.5. During the practice and qualifying sessions, riders may be asked to submit their motorcycle to a weight control. In all cases the rider must comply with this request.

2.4.2.6. There is no tolerance on the minimum weight of the Motorcycle.

2.4.3. Numbers and number plates

Each rider accepted for the Asia Road Racing Championship will be able to choose their own starting number which will be valid for the whole championship. The numbers "1" until "10" will be reserved for the previous year's competitors according to their overall championship points standing.

2.4.3.1. **The background colour is white and the numbers are black.**

2.4.3.2. The sizes for all the **front numbers** are:

2.4.3.2.1. Minimum height: 140 mm

2.4.3.2.2. Minimum width: 80 mm

2.4.3.2.3. Minimum stroke: 25 mm

2.4.3.2.4. Minimum space between numbers: **10 mm**

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2.4.3.3. The sizes for all the **side numbers** are:

2.4.3.3.1. Minimum height: 120 mm

2.4.3.3.2. Minimum width: 60 mm

2.4.3.3.3. Minimum stroke: 25 mm

2.4.3.3.4. Minimum space between numbers: **10 mm**

2.4.3.4. The allocated number (& plate) for the rider must be affixed on the motorcycle as follows:

2.4.3.5. Once on the front, either in the centre of the fairing or slightly off to one side. The number must be centred on the background with no advertising within 25 mm in all directions.

2.4.3.6. Once, on each side of the motorcycle at the both side of the lower rear portion of the main fairing near the bottom (Belly Pan). The number must be centred on the background.

2.4.3.7. The approved font types for the numbers are as following;

2.4.3.8. Futura Heavy and Futura Heavy Italic

2.4.3.9. Univers Bold and Univers Bold Italic

2.4.3.10. Olivers Med and Olivers Med Italic

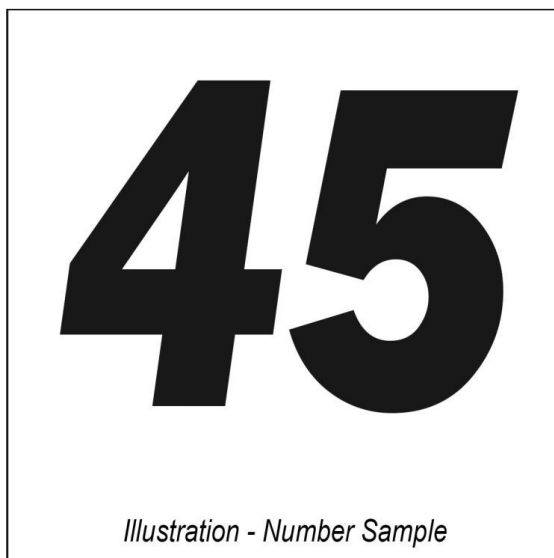
2.4.3.11. Franklin Gothic and Franklin Gothic Italic

2.4.3.12. Any numbers not using these fonts must have the design of the numbers and the layout pre-approved by the BRIC technical scrutineerTechnical Director a minimum of **2 weeks before** the first race. All digits must be of standard form.

2.4.3.13. Any outlines must be of a contrasting colour and the maximum width of the outline is 3 mm. The background colour must be clearly visible around all edges of the number (including outline). Reflective or mirror type numbers are not allowed.

2.4.3.14. Numbers cannot overlap.

2.4.3.15. In case of a **dispute** concerning the legibility of numbers, the decision of the BRIC technical scrutineerTechnical Director will be final.



2.4.4. Fuel

The fuel is controlled, only Benzene 95 Octane, E20 or E85 can be used. Fuel must be obtained at the circuit(s) or supplied by the Promoter(s). No additive is permitted. No premium gasoline 95 octane is allow

2.4.5. Tyres

2.4.5.1. Official Tyre Supplier By IRC

2.4.5.2. No other tyres are allowed.

2.4.5.3. The maximum number of front and rear tyres allowed to use during the qualifying practices and race are TWO (2) Front and TWO (2) Rear. Both front and rear tyres need to be marked with a tyre sticker.

2.4.5.4. Any modification or treatment (cutting, grooving) is forbidden.

2.4.5.5. At the discretion of the rider or team, dry-weather or wet-weather tyres may be used for the Race weekend.

2.4.5.6. The allocation of tyres will be made on a random basis by the representative from the Official Tyre Supplier. The tyres identified may not be exchanged between Riders including between team mates and may not be exchanged by the tyre supplier after the allocation except with the permission of Race Direction.

2.4.5.7. The dry-weather tyres used in the free practices, qualifying practices, warmup and race must be marked with adhesive sticker with a number allocated by the Official Tyre Supplier.

2.4.5.8. The stickers will show an identification number for each rider and it will have a different colour on each allocation.

2.4.5.9. The stickers must be applied to the right sidewall of the tyre.

2.4.5.10. Officials or Personnel nominated by the BRIC technical scrutineerTechnical Director willcheck that all the Motorcycles in the pit lane are fitted with tyres carrying the sticker. The use of Motorcycles with unmarked tyres (e.g. without the official stickers) will be immediately reported to the Race Direction which will take appropriate action.

2.4.5.11. In exceptional cases, should the sticker be damaged or applied in the wrong way, up to 1 extra sticker may be provided at the sole discretion of the **BRIC TECHNICAL SCRUTINEER** Director. However, the damaged sticker must be returned to the **BRIC TECHNICAL SCRUTINEER** Technical Director and/or the tyre it was applied to must be absolutely intact.

2.4.6. Engine(s)

2.4.6.1. All engines will be sealed after the end of the Qualifying session and may not be changed except in the case of engine damage.

2.4.6.2. The maximum number of permitted engines for each race round is limited to two (2).

2.4.6.3. Any engine changes after qualifying must be accompanied by a written request stating the reason for change, the engine seals may not be removed until approved, the BRIC technical scrutineerTechnical Director may request to examine the engine.

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- 2.4.6.4. Apart from the above requirement, engines will be requested to be sealed at any time during the event by BRIC technical scrutineer/Technical Director's when the need arises.

2.4.7. Fuel Injection System.

Fuel injection system refers to the throttle bodies, fuel injectors, variable length intake tract devices, fuel pump and fuel pressure regulator.

- 2.4.7.1. Air Funnel, Bell Mouths, Velocity Stacks are free.
- 2.4.7.2. Fuel Injector must be the originally fitted or the homologated part.
- 2.4.7.2.1. Quantity of injector must remain as the homologated.
- 2.4.7.2.2. Injector cannot be relocated and must be fitted at same location as the homologated or originally manufactured Motorcycle
- 2.4.7.3. Variable intake tract device may only be used if it is originally fitted or homologated with such system and they must remain identical and operate in the same way as the originally fitted or homologated system. All the parts of the variable intake tract device must remain exactly as the originally fitted or homologated system with no modifications allowed.
- 2.4.7.4. Fuel pump and fuel pressure regulator must be the originally fitted or homologated system with no modifications allowed.
- 2.4.7.4.1. The fuel pressure must remain the same as in the originally fitted or homologated system with no modifications allowed.
- 2.4.7.5. Fuel vent lines may be replaced.
- 2.4.7.6. Fuel filters may be added
- 2.4.7.7. Quick connectors may be used or added. E.g. Dry Break connectors.
- 2.4.7.8. Throttle Body.
- Unless specifically mentioned in the following articles, all Throttle Bodies must be the originally fitted or homologated parts with no modifications allowed.
- 2.4.7.8.1. Aftermarket or custom build throttle bodies are not allowed.
- 2.4.7.8.2. Ride By Wire - Electronically controlled throttle valves, known as 'ride-by-wire', may only be used if the homologated or originally manufactured model is equipped with
- 2.4.7.8.3. Ride by wire system including its software may be modified but all the safety systems and procedures, designed by the original manufacturer must be maintained.
- 2.4.7.8.4. Secondary throttle valves but not the shafts may be removed or fixed in the open position and the electronics may be disconnected or removed.
- 2.4.7.8.5. The maximum diameter at the venturi adjacent to the throttle valve (butterfly valve) spindle is;
- 2.4.7.8.5.1. **Honda CBR250RR, Kawasaki Ninja 250R and Yamaha YZF-R3:** 32 mm
- 2.4.7.8.5.2. **Yamaha YZF-R25:** 34 mm, only permitted to bore up the stock throttle body with the following permitted;
- 2.4.7.8.5.2.1. The stock spindle shaft can be modified
- 2.4.7.8.5.2.2. The throttle valve plate (butterfly valve) can be modified or replaced.
- 2.4.7.8.5.2.3. The fastener screws of the throttle valve plate (butterfly valve) of can be modified or replaced

2.4.7.8.5.3. Single Cylinder Machines: 46mm

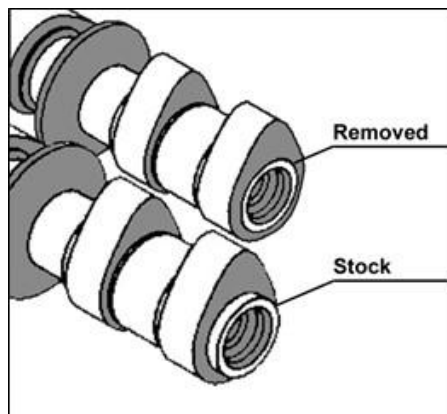
- 2.4.7.8.5.3.1.** Only Throttle Bodies from other production motorcycles can be adapted to be installed for Single Cylinder Machines. Other directly related parts for this adaptation can be changed. E.g. Rubber Spigot Mounts, Hose Clips, TPS and etc.
- 2.4.7.8.5.3.2.** These throttle bodies must be declared to the BRIC technical scrutineer Technical Team and be provided with its' detailed information and part numbers (of the throttle bodies' origin motorcycle model)

2.4.8. Cylinder Head

- 2.4.8.1.** Cylinder Head must be the originally fitted or homologated part.
- 2.4.8.2.** Redundant 'sensor hole' can be plugged or welded.
- 2.4.8.3.** NO Welding on others part of the cylinder head is permitted.
- 2.4.8.4.** Valves must be the originally fitted or homologated part with no modifications permitted.
- 2.4.8.5.** Valve lapping (the valves and valve seats) as in a normal service maintenance is allowed.
- 2.4.8.5.1.** Reshaping the Valve Seat Contour and Valve Seat Angle is NOT permitted.
- 2.4.8.6.** The head gasket is free.

2.4.9. Camshaft

- 2.4.9.1.** The camshaft must be the originally fitted or homologated part with no modifications allowed.
- 2.4.9.2.** Protrusion(s) at the end camshafts can be removed to facilities acces for dialling the cam timing. No other modifications are permitted. Refer to Illustration below.
- 2.4.9.3.** For all homologated camshaft replacements; only the genuine camshaft or their strengthened version of exactly the same lobe profile and phasing produced by the original motorcycle manufacturer can be used.
- 2.4.9.4.** The strengthened camshaft along with their part number must be pre-approved for use by the BRIC technical scrutineer Technical Committee.
- 2.4.9.5.** This is strictly approved to prevent camshaft breakage and NOT for engine performance upgrade by any means. The replacement camshaft must be of equal weight or heavier than the homologated part.



2.4.10. Camshaft Sprockets or Gears

- 2.4.10.1. Camshaft Sprocket/Gears can be changed to manually adjustable type and alternatively Stock Camshaft Sprocket/Gears may be modified to allow for such adjustment, E.g Bolt hole slotting.
- 2.4.10.2. Pressed-on cam sprockets may be replaced with an adjustable boss and cam sprocket.
- 2.4.10.3. "Variable Cam Phasing" type of camshaft Sprocket/Gears may only be used if it is already present on the production model of the homologated motorcycle.
- 2.4.10.4. Cam chain tensioner is free

2.4.11. Cylinders (Cylinder Blocks)

- 2.4.11.1. Cylinders must be the originally fitted or homologated part with the following modifications allowed.
- 2.4.11.2. ~~Machining the cylinder block deck or base surface is permitted to modify compression ratio.~~

2.4.12. Pistons

2.4.12.1. Piston of Multi Cylinder Machines.

- 2.4.12.1.1. Pistons must be the originally fitted or homologated part with no modifications allowed.

2.4.12.2. Piston of Single Cylinder Machines.

- 2.4.12.2.1. For reliability purposes, aftermarket Piston is permitted and must adhere to the following;
- 2.4.12.2.2. Shape must be similar or same as the standard unit.

2.4.12.3. It must be weigh equal or heavier than the standard unit.

2.4.12.4. Piston material and fabrication method is free (forged, billet, etc.)

2.4.12.5. Surface treatment must be as per the standard piston

2.4.12.6. These pistons, along with their part numbers and specifications must be submitted to the **BRIC TECHNICAL SCRUTINEER** Technical Committee for approval to use.

2.4.13. Piston Rings, Pins and Clips

- 2.4.13.1. Piston Rings, Pins and Clips must be the originally fitted or homologated part with no modifications allowed.
- 2.4.13.2. All piston rings must be fitted.

2.4.14. Connecting Rod Assembly

- 2.4.14.1. Connecting Rod Assembly must be the originally fitted or homologated part with no modifications allowed.

2.4.15. Crankshaft

Must be the originally fitted or homologated part with no modifications allowed.

2.4.16. Crankcases, Engine Covers

- 2.4.16.1. Must be the originally fitted or homologated part with the following modifications allowed.

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- ~~2.4.16.2. The mating surface of the crankcases to the cylinder block may be machined to allow changing of compression ratio.~~
- 2.4.16.3. Oil containing engine covers must be secured with steel bolts.
- 2.4.16.4. All engine covers (lateral covers) containing oil and which could be in contact with the ground during a crash, must be protected by an additional cover made from metal, such as aluminium alloy, stainless steel, steel or titanium
- 2.4.16.5. The additional cover must cover a minimum of 1/3 of the original cover. It must have no sharp edges to damage the track surface.
- 2.4.16.6. These covers must be fixed properly and securely with a minimum of 3 case cover bolts that also mount the original covers/engine cases to the crankcases.
- 2.4.16.7. Stick-on 'type' additional covers are NOT permitted.
- 2.4.16.8. **BRIC TECHNICAL SCRUTINEER** approved covers will be permitted without regard of the material or its dimensions and
- 2.4.16.9. The BRIC technical scrutineer Technical Director has the right to refuse any protection covers not satisfying this safety purpose
- 2.4.16.10. If the fairing covers a minimum of 1/3 of the original engine cover, no additional cover is required Plates or crash bars made from aluminium or steel also are permitted in addition to these covers. All of these devices must be designed to be resistant against sudden shocks, abrasions and crash damage.

2.4.17. Transmission and Gearbox

- 2.4.17.1. The transmission and gearbox **ratio must align with the originally homologated specifications included in the complete set** fitted to the homologated Motorcycle. The following modification is permitted.
- 2.4.17.2. Redesigning of the gears, for improving structural strength only.
- 2.4.17.3. Transmission gear material can be changed for the purpose of improving structural strength.
- 2.4.17.4. Gear ratio and number of speeds must be the originally fitted or homologated with **no variation** allowed.
- 2.4.17.5. Quick Shift systems are allowed.
- 2.4.17.6. Electronic or hydraulic actuated shifters are not permitted and gearshift must remain operated manually by foot.
- 2.4.17.7. Front and rear sprockets, chain pitch and chain size maybe altered.
- 2.4.17.8. Top chain guard may be removed as long as it is not incorporated in the rear fender.

2.4.18. Clutch

- 2.4.18.1. Clutch must remain as the "wet" type and it is prohibited to convert into a 'dry' type.
- 2.4.18.2. Clutch operation (actuation) must remain cable operated and it is prohibited to convert into the hydraulic actuation system.
- 2.4.18.3. Back torque limiting or slipper clutch **system is permitted to be incorporated.**
- 2.4.18.4. Clutch springs are free and pre-load can be changed by adding shims.
- 2.4.18.5. Clutch plates are free.
- 2.4.18.6. Clutch cable is free.

2.4.19. Oil Pumps and Oil Lines

- 2.4.19.1. Oil Pumps and Oil Lines must be the originally fitted or homologated part with no modifications allowed.
- 2.4.19.2. Oil Pan can be changed to an aftermarket unit or from another production model.

2.4.20. Radiator, Cooling System and Oil Cooler

- 2.4.20.1. Only water is permitted to be used inside the radiator and the entire cooling system.
- 2.4.20.2. No Additives, Antifreeze, "Radiator Coolant" or any other liquid is allowed.
- 2.4.20.3. Protective meshes may be added in front of the oil and/or water radiator(s).
- 2.4.20.4. The radiator may be changed with an aftermarket radiator or an additional radiator added that fits in the standard location and does not require any modifications to the main frame.
- 2.4.20.5. Additional oil cooler may be added.
- 2.4.20.6. For additional oil coolers that are fitted, all oil lines must be of a reinforced type with externally shielded material and of high quality standards matching that of the original factory OEM fitment.
- 2.4.20.7. All oil line connections must be swaged type. Screw clamps type is prohibited.
- 2.4.20.8. Extra mounting brackets to accommodate the additional radiator & oil cooler are allowed.
- 2.4.20.9. Where the oil runs in close proximity to a frame member, bolt or other protrusion it must be retained by a strap, clamp or other mechanical device.
- 2.4.20.10. All cooling system hoses and catch tanks may be changed.
- 2.4.20.11. Radiator cap is free.
- 2.4.20.12. Protective meshes may be added in front of the oil and/or water radiator(s).

2.4.21. Air Box

2.4.21.1. Ram Air System.

- 2.4.21.1.1. The air box can be modified to incorporate a Ram Air system.
- 2.4.21.1.2. The front fairing can be modified to incorporate the Ram Air System.
- 2.4.21.2. The stock Air Box must be installed and modification is permitted.
- 2.4.21.3. The air filter element is free and is permitted to be removed.

2.4.22. Exhaust System

- 2.4.22.1. Only aftermarket exhaust pipes made from steel are permitted.
 - 2.4.22.1.1. Aftermarket exhaust pipes made from titanium or similar titanium alloys are NOT permitted.
 - 2.4.22.1.2. Silencer/muffler canister can be made from titanium or carbon fibre.
- 2.4.22.2. For safety reasons, the exposed edges of the exhausts pipe(s) outlet must be rounded to avoid any sharp edges.
- 2.4.22.3. Wrapping of exhaust systems is not permitted except in the area of the rider's foot or an area in contact with the fairing for protection from heat.
- 2.4.22.4. The noise emissions of the exhaust system must not exceed 115db/A.
 - 2.4.22.4.1. A tolerance of +3db/A is permitted after the race.
- 2.4.22.5. Noise test will be made at every silencer outlet if the machine has more than One Silencer.

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2.4.22.6. The noise test RPM is fixed as in the following table:

Machine	@RPM
Honda CBR250RR	7,500
Honda CBR300R	5,500
Kawasaki Ninja 250R	7,500
Kawasaki ZX25R & ZX 35RR	10,500
KTM RC390	5,500
TVS Apache RR310	5,500
Yamaha YZF-R25	7,500
Yamaha YZF-R3	7,500

2.4.23. Ignition and Engine Control Unit (ECU)

2.4.23.1. **BRIC TECHNICAL SCRUTINEER** Technical Committee has approved ONLY the aRacer System listed below and it must be used by all competitors. The following are the approved parts;

- 2.4.23.1.1. aRacer SpecX ECU
- 2.4.23.1.2. aRacer Quick Shifter Module and Sensor
- 2.4.23.1.3. aRacer Spec SpeedTuningX – Calibration Tool
- 2.4.23.1.4. aRacer Link – Communication Cable for ECU & PC
- 2.4.23.1.5. aRacer Race Function Module – GPS and Gyro Module

2.4.23.2. At any time during the event, the BRIC technical scrutineer Technical Committee or their authorised ECU technician has the right to request for:

- 2.4.23.2.1. Data log download to check for irregularity.
- 2.4.23.2.2. To adjust rev limit of the machine for the purpose of equalizing performance.
- 2.4.23.2.3. To exchange the ECU hardware and related parts.
- 2.4.23.2.4. To change or update ECU software.
- 2.4.23.2.5. To change to another to another ECU supplier of hardware or software.

2.4.23.3. If such a change is required, all competitors ECU hardware or software will be similarly changed

2.4.23.4. It is permitted to be modify Wiring Harness and it's connectors to connect to the approved ECU, Quickshifter and all the approved module/sensors.

2.4.23.5. Unused and/or redundant wire harnesses and connectors may be removed/disconnected.

2.4.23.6. ECU map switch can be added

2.4.23.7. Ignition coils and Spark Plugs are free.

2.4.23.8. The key/ignition lock may be relocated, replaced or removed.

2.4.24. Generator, Alternator, Electric Starter

2.4.24.1. These components must be the originally fitted or homologated part with no modifications allowed.

2.4.24.2. The stator must be fitted in its original position and without offsetting.

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- 2.4.24.3. The electric starter must operate normally and always be able to start the engine during the event.
- 2.4.24.4. During parc fermé the starter must crank the engine at a suitable speed for starting for a minimum of 2 seconds without the use a boost battery.

2.4.25. Battery

- 2.4.25.1. Batteries & Battery Size is free and its mounting position can be relocated.
- 2.4.25.2. Battery must be securely mounted and must not be exposed.
- 2.4.25.3. Regulator/Rectifier is free.

2.4.26. Main Frame Body and Rear Sub-Frame

- 2.4.26.1. The frame and Subframe must be the originally fitted or homologated part with the following modifications allowed.
- 2.4.26.2. Crash Protectors may be fitted to the frame, using existing mounting points or pressed in to the ends of the axles.
- 2.4.26.3. Holes may be drilled on the frame only to fix approved components (i.e fairing brackets, steering damper mount, sensors.)
- 2.4.26.4. The sides of the frame-body may be covered by a protective part made of a composite material.
 - 2.4.26.4.1. These protectors must fit the form of the frame.
 - 2.4.26.4.2. These covers must not be the permanently bonded type that contributes and add structural stiffness to the frame.
- 2.4.26.5. Engine mounting brackets or plates must be the originally fitted or homologated part with no modifications allowed.
- 2.4.26.6. Brackets or mounting points cannot be welded onto frame.
- 2.4.26.7. Bolt on type brackets may be replaced, modified or removed.
- 2.4.26.8. Bolt-on accessories may be removed.
- 2.4.26.9. Additional seat brackets may be added, non-stressed protruding brackets may be removed if they do not affect the safety of the construction or assembly.
- 2.4.26.10. All Motorcycles must display a vehicle identification number (VIN) punched on the frame or a metal plate on the body or subframe.

2.4.27. Pre-Assembled Spare Frame

- 2.4.27.1. During the entire duration of the event, each rider can only use one (1) complete Motorcycle, as presented for Technical Control, with the frame clearly identified with a seal. In case the frame needs to be replaced, the rider or the team must make a request to the BRIC technical scrutineer/Technical Director to use the spare frame.
- 2.4.27.2. The pre-assembled spare frame must be presented to the BRIC technical scrutineer/Technical Director to receive the permission to rebuild the Motorcycle.
- 2.4.27.3. The pre-assembly of the frame shall be strictly limited to:
 - 2.4.27.4. Main frame assembly
 - 2.4.27.5. Bearings (steering head bearings upper and lower triple clamps, swing-arm and etc.)
 - 2.4.27.6. Swing-arm
 - 2.4.27.7. Rear suspension linkage and shock absorber Upper and lower triple clamps
 - 2.4.27.8. Wiring harness

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- 2.4.27.9. The rebuilt Motorcycle must be inspected before its use by the technical stewards for safety checks and a new seal will be placed on the Motorcycle frame.
- 2.4.27.10. For the remainder of the event the Motorcycle will be impounded and no part of that Motorcycle may be used for spare parts.

2.4.28. Complete Spare Motorcycle

- 2.4.28.1. Changing to a Complete Spare Motorcycle is NOT allowed.
- 2.4.28.2. Complete motorcycle can only function or serve as spare parts to be removed individually for replacement to the registered Race Motorcycle.

EXPLANATION OF THE PROCEDURES

- 2.4.28.3. Only one (1) complete Motorcycle may be presented for the preliminary technical checks and it will be the only Motorcycle permitted on the track and in the display area of pit box during the practices, qualifying, warm up and race.
- 2.4.28.4. When a team decides that a crashed or damaged Motorcycle requires a change of frame it must inform the BRIC technical scrutineer Technical Director. If the Motorcycle is damaged in a crash or in any other incident, it is permitted to use the preassembled spare frame to rebuild the Motorcycle.
- 2.4.28.5. Once the assembly of the replacement Motorcycle is completed the Motorcycle must undergo technical and safety checks and it will be officially sealed.
- 2.4.28.6. The seal on the damaged Motorcycle will be destroyed by the technical staff and the chassis of this Motorcycle must not be used for the remainder of the event.
- 2.4.28.7. The new serial number will be recorded by the BRIC technical scrutineer Technical Director.
- 2.4.28.8. Parts may be transferred from the damaged Motorcycle for the assembly of the replacement Motorcycle.
- 2.4.28.9. The replacement Motorcycle may be used on the track only after the end of the practice and qualifying sessions or race in which the damage occurred.
- 2.4.28.10. The damaged Motorcycle must be removed from the pit box as soon as possible and put in storage outside the display area of the pit box.
- 2.4.28.11. After the pre-assembled spare part frame has been used should it become necessary to replace the frame again because of a further crash or damage the assembly work must be done using a bare frame with no components attached.
- 2.4.28.12. The BRIC technical scrutineer Technical Director must inspect the bare frame and give his authorisation before work can start.
- 2.4.28.13. Any actions contrary to these procedures will result in a penalty as described in the Sporting Regulations.

2.4.29. Front Forks and Steering Damper

- 2.4.29.1. The front suspension system (including but not limited to Inner tube, wheel spindle, etc.) must be the originally fitted and homologated or originally manufactured part with the following modifications allowed;
- 2.4.29.2. The forks can be internally modified to adjust damping
- 2.4.29.3. Internal dampers can be modified, replaced or added.
- 2.4.29.4. Internal fork spring(s) can be changed to other similar springs of a different rate.

- 2.4.29.5. Internal fork spring(s) can be added or removed.
- 2.4.29.6. The upper and lower fork clamps (triple clamp fork bridges) may be replaced or modified.
- 2.4.29.7. Fork caps (on the top of the forks) can be modified or replaced to allow for external adjustment of spring pre-load and/or damping.
- 2.4.29.8. Electronic Control Steering Damper cannot be used if not originally fitted (or homologated) by the manufacturer for road use.
- 2.4.29.9. It must remain as the originally fitted or homologated system with no modifications allowed.
- 2.4.29.10. Aftermarket non-electronic steering damper is allowed. The steering damper cannot act as a steering lock limiting device.
- 2.4.29.11. Dust seals may be modified changed or removed.
- 2.4.29.12. Oil seals must remain intact and the front forks must be properly oil-sealed.

2.4.30. Shock Absorber (Rear Suspension Unit)

- 2.4.30.1. The shock absorber unit and spring is free.
- 2.4.30.2. The mounting points and links/linkages must remain as the originally or homologated location with no modifications allowed.
- 2.4.30.3. Electronically-controlled Shock Absorbers are not permitted and it must be replaced with a conventional shock absorber

2.4.31. Rear Swingarm (Rear fork)

- 2.4.31.1. The rear swingarm must be the originally fitted or homologated part with the following modifications allowed.
- 2.4.31.2. Swing arm reinforcement by adding gusset or tubes is allowed.
- 2.4.31.3. Welding is permitted for this purpose
- 2.4.31.4. Rear swingarm pivot position must remain in the original or homologated position
- 2.4.31.5. If the standard Motorcycle has inserts then the orientation/position of the original insert may be changed but the inserts cannot be replaced or modified.
- 2.4.31.6. Rear wheel stand brackets may be added to the rear swingarm by welding or by bolts. Brackets must have rounded edges (with a large radius). Fastening bolts must be recessed. An anchorage system or point(s) to keep the original rear brake calliper in place may be added to the rear swing-arm.
- 2.4.31.7. A solid protective cover (shark fin) must be fixed to the swing-arm, and must always cover the opening between the lower chain run, swingarm and the rear wheel sprocket, irrespective of the position of the rear wheel.

2.4.32. Wheels

- 2.4.32.1. Wheels can be replaced. Aftermarket wheels must be made of aluminium alloys
- 2.4.32.2. Wheel diameter must be the originally fitted size or homologated size with the following variations allowed.
- 2.4.32.3. Maximum permitted wheel rim width is as following;
 - 2.4.32.3.1. Front wheel maximum width: **3.0 inch**
 - 2.4.32.3.2. Rear wheel maximum width: **4.5 inch**
- 2.4.32.4. Wheel spacers may be modified or replaced.

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- 2.4.32.5. Wheel balance weights may be discarded changed or added to.
- 2.4.32.6. The original sprocket carrier may be replaced.
- 2.4.32.7. A non-slip coating/treatment may be applied to the bead area of the rim.
- 2.4.32.8. Any inflation valves may be used.

2.4.33. Brakes

- 2.4.33.1. If originally fitted or homologated motorcycle has ABS, it may be deactivated.
- 2.4.33.2. Front and rear brake discs may be replaced with aftermarket brake discs that must fit the original calliper and mounting.
- 2.4.33.3. However, the outside diameter, offset, wheel mounting and the ventilation system must be the originally fitted or homologated dimensions and system with no modifications permitted.
- 2.4.33.4. Internally ventilated discs are not permitted if not originally fitted or homologated.
- 2.4.33.5. Only Steel (max. carbon content 2.1 wt %) brake discs is permitted for replacement
- 2.4.33.6. The thickness of the brake disc rotor may be increased but the disc must fit into the homologated or originally manufactured brake caliper without any modifications.
- 2.4.33.7. The number or quantity (single or double) of brake disc rotor must be same as the originally fitted or homologated Motorcycle.
- 2.4.33.8. The front and rear brake calliper must be the originally fitted or homologated part with no modifications allowed.
- 2.4.33.9. The front and rear master cylinder must be the originally fitted or homologated part with no modifications allowed.
- 2.4.33.10. Front and rear hydraulic brake lines may be changed. The split of the front brake lines for both front brake calipers must be made above the lower Fork Bridge (lower triple clamp).
- 2.4.33.11. Brake pads are free
- 2.4.33.12. Brake pad locking pins may be modified for a quick-change type.
 - 2.4.33.12.1. If "b" type pins are used they must be safety lock wired.
- 2.4.33.13. In order to reduce the transfer of heat to the hydraulic fluid it is permitted to add shims to the callipers
- 2.4.33.14. Additional air scoops or ducts are NOT allowed.
- 2.4.33.15. Motorcycles must be equipped with brake lever protection, intended to protect the handlebar brake lever from being accidentally activated in case of collision with another motorcycle.
- 2.4.33.16. The technical director has the right to refuse any guard not satisfying this safety purpose.

2.4.34. Handlebars and Hand Controls

- 2.4.34.1. Handlebars may be replaced
- 2.4.34.2. Handlebars and hand controls may be relocated.
- 2.4.34.3. Clutch perch, clutch lever and brake lever may be replace with after-market parts. To adjust the lever travel an adjuster to the brake lever is permitted
- 2.4.34.4. Switches may be changed but the electric starter switch and engine stop switch must be located on the handlebars.

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- 2.4.34.5. Throttle assembly and associated cables may be modified or replaced but the connection to the throttle controls must be the originally fitted or homologated system with no modifications allowed
- 2.4.34.6. Cable operated throttles (grip assembly) must be equipped with both an opening and closing cable, including when actuating a remote ride by wire sensor.
- 2.4.34.7. Throttle controls must be self-closing when not held by the hand.
- 2.4.34.8. Motorcycles must be equipped with a functional ignition kill switch or button mounted on the right hand handlebar (within reach of the hand while the hand is on the grips) that is capable of stopping a running engine. The button or switch must be RED.

2.4.35. Footrest and Foot Controls

- 2.4.35.1. Foot brake pedals are free.
- 2.4.35.2. Footrests, brackets and their fasteners may be replaced and relocated but the brackets must be fitted to the original mounting points.
- 2.4.35.3. Footrests may be of a rigid type or folding type. All folding type footrest must be fitted with a return mechanism.
- 2.4.35.4. The end of the foot rest must have at least an 8 mm solid spherical radius.
- 2.4.35.5. Rigid type metal footrest must have an end plug which is permanently fixed made of plastic nylon or an equivalent type material.
- 2.4.35.6. The BRIC technical scrutineer/Technical Director has the right to refuse any plug not satisfying this safety aim.

2.4.36. Fuel Tank

- 2.4.36.1. Fuel tank must be the originally fitted or homologated part with no modification allowed.
- 2.4.36.2. Tank pad may be fitted to the rear of the tank with non-permanent adhesive. It may be constructed of foam padding or composite material.
- 2.4.36.3. 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 a suitable material.
- 2.4.36.4. Fuel caps may be changed. Fuel caps when closed must be leak proof.
- 2.4.36.5. Additionally they must be securely locked to prevent accidental opening at any time.

2.4.37. Fairing/Bodywork

- 2.4.37.1. Design and shape of the windsreen is FREE.
- 2.4.37.2. Design and shape of the Fairing and Bodywork is FREE.
 - 2.4.37.2.1. The fabrication of the Fairing/Bodywork using carbon fibre or carbon composite materials is not permitted.
 - Only extra reinforcements around holes and stressed mounting areas can be additionally layered with carbon fibre or carbon composite materials.
 - Original Ram-Air ducts may be removed or replaced,
- 2.4.37.3. The original combination instrument/fairing brackets may be replaced but the use of titanium and carbon fibre or other composite materials is NOT permitted.
- 2.4.37.4. The lower fairing (Belly Pan) must be constructed to hold in case of an engine breakdown a minimum 4 litres of oil/fluid. The lower edge of all the openings in the fairing must be positioned at least 70 mm above the bottom of the fairing.

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The upper edge of the rear transverse wall of the lower fairing must be at least 70 mm above the bottom. The angle between this wall and the floor must be $\leq 90^\circ$.

2.4.37.5. The lower fairing must incorporate a single opening of $\varnothing$ 25 mm diameter in the front lower area. This hole must remain sealed.

2.4.37.6. Front fender/mudguards may be replaced with a cosmetic duplicate of the original part and may be spaced upward for increased tyre clearance.

2.4.37.7. The rear mudguard may be replaced or removed

2.4.37.8. The chain guard may be separate from the rear mudguard.

2.4.38. Seat

2.4.38.1. The seat base and associated seat bodywork may be replaced

2.4.38.2. The top position of the rear bodywork around the seat may be modified to a solo seat.

2.4.38.3. The seat locking system (with plates, pins rubber pads etc.) may be removed.

2.4.39. Fasteners

2.4.39.1. Standard fasteners may be replaced with fasteners of any design and material, except when there is a specific mention that titanium or other light alloy fasteners are not permitted in specific paragraphs of this technical rule.

2.4.39.2. The strength and design must be sufficient, equal to or exceed the strength of the standard fastener it is replacing.

2.4.39.3. Fasteners may be drilled for safety wire but intentional weight-reduction modifications are not allowed.

2.4.39.4. Fairing/bodywork fasteners may be replaced with the quick disconnect type.

2.4.39.5. Aluminium fasteners may only be used in non-structural locations.

2.4.40. Following items **MAY BE ALTERED** or replaced from those originally fitted or homologated by Motorcycle manufacturer.

2.4.40.1. Any type of lubricants, brake or suspension fluids may be used.

2.4.40.2. Any types of spark plugs are allowed.

2.4.40.3. All gaskets and its materials are free.

2.4.40.4. External paintwork decals and colour scheme is free.

2.4.40.5. Instruments, instrument bracket(s) and associated cables.

2.4.40.6. Material for brackets connecting **non-original parts (steering, exhaust, etc.)** to the frame (or engine) can be made from titanium or fibre reinforced composites.

2.4.40.7. Protective covers for the frame, chain and footrests may be made in other materials like fibre composite material if these parts **do not replace original parts** mounted on the motorcycle.

2.4.40.8. Fuel tanks can be completely filled with fire retardant material (open celled mesh i.e. Explosafe).

2.4.41. Following Items **MAY BE REMOVED**

2.4.41.1. Instrument and instrument bracket and associated cables.

2.4.41.2. Tachometer and speedometer.

2.4.41.3. Radiator fan and wiring.

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- 2.4.41.4. Thermostat, thermal switches or water temperature sensor
- 2.4.41.5. Bolt on accessories on rear subframe.
- 2.4.41.6. Redundant handlebar switches.
- 2.4.41.7. Emission control items (anti-pollution) in or around the air box and engine (O2 sensors air injection devices).
- 2.4.41.8. Top chain guard as long as it is not incorporated in the rear fender.

2.4.42. Following Items **MUST BE REMOVED**

- 2.4.42.1. Head lamp, tail lamp and turn indicators lamps must be removed but profile and frontal appearance must be retained. The openings must be covered by a suitable material.
- 2.4.42.2. Rear-view mirrors.
- 2.4.42.3. Horn.
- 2.4.42.4. License plate bracket.
- 2.4.42.5. Toolkit.
- 2.4.42.6. Helmet hooks and luggage carrier hooks
- 2.4.42.7. Passenger's foot rests and it's removable mounting brackets (if any)
- 2.4.42.8. Passenger's grab rails.
- 2.4.42.9. Safety bars, centre and side stands must be removed (fixed brackets must remain).
- 2.4.42.10. Catalytic convertors.

2.4.43. Following Items **MUST BE Altered**

- 2.4.43.1. All Motorcycles must incorporate a Closed Breather System. All oil breather pipes/lines must be connected and pass;
 - a) Through an oil catch tank **MUST** exclusively discharge into the airbox.OR
 - b) Directly into an oil catch tank with capacity of 1 litre of liquid.
- 2.4.43.2. No breather pipes/lines should discharge directly to the atmosphere.
- 2.4.43.3. The usage of One-Way Valve **CANNOT** replaced the above requirements.
- 2.4.43.4. All breather or overflow pipes/lines must discharge via existing outlets.
- 2.4.43.5. The airbox drains must be sealed.
- 2.4.43.6. The following items must be securely safety wired
- 2.4.43.7. Oil drain plug
- 2.4.43.8. Oil filler cap
- 2.4.43.9. External Oil filter

2.4.44. Additional Equipment

- 2.4.44.1. Telemetry is NOT permitted.
- 2.4.44.2. NO remote or wireless connection to the motorcycle for any data exchange or setting is permitted whilst the engine is running or the motorcycle is moving.
- 2.4.44.3. Data loggers can be used and the following 'data logging sensors' (connected to the additional data logger) may be added to the original sensors on the motorcycle.
 - 2.4.44.3.1. Fork Position Sensor.
 - 2.4.44.3.2. Shock Position Sensor

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- 2.4.44.3.3. Front And Rear Brake Pressure Sensor.
- 2.4.44.3.4. Brake Disc Temperature Sensor.
- 2.4.44.3.5. Fuel Pressure Sensor (Not Temperature)
- 2.4.44.3.6. Oil Pressure Sensor.
- 2.4.44.3.7. Oil Temperature Sensor
- 2.4.44.3.8. Transponder Or Lap Time Signal.
- 2.4.44.3.9. GPS Unit (Lap Timing And Track Position)
- 2.4.44.3.10. Tyre Pressure Sensor (TPMS)

2.4.45. Balancing Various Motorcycle Concepts

BRIC TECHNICAL SCRUTINEER Technical Committee reserves the right to apply balancing methods to the Motorcycles in the class as they see fit. **BRIC TECHNICAL SCRUTINEER** Technical Committee will review the position of the performance between the Motorcycles makes.

The following are some methods that may be executed and they will be review from time to time within the race season.

- Weight Adjustment.
 - Base Maximum RPM Limit (by adjusting via **BRIC TECHNICAL SCRUTINEER** aRacer Spec ECU system)
 - Throttle Body Size Balancing.
 - Engine Parts Concessions
 - Handling and Suspension Parts Concessions.
 - And other suitable balancing methods when thee need arises.
- * Note: Refer to following articles for more details.

Table - Base Maximum RPM Limit.

Machine	RPM
Honda CBR250RR	14,000
Honda CBR300R	Unlimited
Kawasaki Ninja 250R	14,000
Kawasaki ZX25R & ZX 35RR	16,000
KTM RC390	Unlimited
TVS Apache RR310	Unlimited
Yamaha YZF-R25	14,000
Yamaha YZF-R3	12,500

2.4.46. Rider Equaliser.

2.4.46.1. **First Equaliser** - The First Equaliser will be executed on;

- 2.4.46.1.1. **TRIGGER**: Once a **25 points** lead is acquired by Rider(s) in the top 5 (ranking) over the other competitors (**6th & lower**) in the Championship.
- 2.4.46.1.2. **ADJUSTMENT**: The said Competitor(s) Motorcycle(s) will be applied a **200rpm** reduction to its' Base Maximum RPM Limit on the next Championship Round.
- 2.4.46.1.3. **DURATION**: The adjusted Base Maximum RPM Limit will stay throughout the race season or to be further adjusted if they are affected by the Second Equaliser where they will be adjusted accordingly.

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2.4.46.2. Second Equaliser. The Second Equaliser will be executed on;

2.4.46.2.1. TRIGGER: Once a **50 points** lead is acquired by Rider(s) in the top 5 (ranking) over the other competitors (**6th & lower**) in the Championship.

2.4.46.2.2. ADJUSTMENT: The said Competitors(s) Motorcycle(s) will be applied a **200rpm** reduction to its' Maximum RPM Ceiling Limit on the next Championship Round.

2.4.46.2.3. DURATION: The adjusted Maximum RPM Ceiling Limit will stay throughout the race season or to be further adjusted if they are affected by the Second Equaliser where they will be adjusted accordingly.

2.4.46.3. Third Equaliser - The Third Equaliser will be executed on:

2.4.46.3.1. TRIGGER: Once a **75 points** lead is acquired by Rider(s) in the top 5 (ranking) over the other competitors (**6th & lower**) in the Championship.

2.4.46.3.2. ADJUSTMENT: The said Competitor(s) Motorcycle(s) will be applied a **100rpm** reduction to its' Maximum RPM Limit on the next Championship Round.

2.4.46.3.3. DURATION: The adjusted Reduced Maximum RPM Limit will stay throughout the race season.

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