

5.2.5 MCRCB BRITISH SUPERSPORT TECHNICAL REGULATIONS

Machines competing in the 2010 British Supersport Championship must comply with the 2010 FIM SUPERSPORT CHAMPIONSHIP REGULATIONS. These are as follows and are correct as of the printing of these regulations but which are subject to any amendments made by the FIM or MCRCB which will be issued by means of an MCRCB Bulletin.

5.2.5 SUPERSPORT TECHNICAL SPECIFICATIONS

Rules intended to permit changes to the homologated motorcycle in the interest of safety.

EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THIS RULE IS STRICTLY FORBIDDEN

Supersport motorcycles require an FIM homologation (see Art. 5.2.9). All motorcycles must comply in every respect with all the requirements for Road Racing as specified in the Technical Regulations, unless it is equipped as such on the homologated machine.

The appearance from both front, rear and the profile of Supersport motorcycles must (except when otherwise stated) conform to the homologated shape (as originally produced by the manufacturer. The appearance of the exhaust system is excluded from this rule.

5.2.5.1 Machine Specifications

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

5.2.5.2 Balancing various motorcycle concepts

In order to equalize the performance of motorcycles with different engine configurations, changes in the minimum weight can be applied according to their respective racing performances. The decision about applying a handicap system to a respective class will be taken by MCRCB/MSVR at any time. These handicaps will follow the system like described in 5.2.4.4.2 of the Superbike regulation, but will be adapted to the Supersport class.

5.2.5.3 Engine configurations and Displacement capacities

Over 400cc up to 600cc 4 stroke 4 cylinders

Over 500cc up to 675cc 4 stroke 3 cylinders

Over 600cc up to 750cc 4 stroke 2 cylinders

The displacement capacities must remain at the homologated size. Modifying the bore and stroke to reach class limits is not allowed.

5.2.5.4 Minimum Weights

The minimum weights will be:

600cc four cylinders	158 kg
675cc three cylinders	162 kg
750cc two cylinders	166 kg

- At any time of the event, the weight of the whole machine (including the tank **and its contents**) must not be less than the minimum weight with a tolerance of 1 kg.
- In the final inspection at the end of the race, the checked machines will be weighed in the condition they were at the end of the race.
- The established weight limit must be met in the condition the machine finished the race. Nothing can be added to the machine including water, oil, fuel or tyres.
- During the practice and qualifying sessions every rider may be asked to submit his motorcycle to a weight control in any case the rider and team must comply with this request
- **The use of ballast is allowed to stay over the minimum weight limit and may be required due to a handicap system. The use of ballast and weight handicap must be declared to the Chief technical officer at the preliminary checks.**

5.2.5.5 Number Plate Colours

See MCRCB General Technical Regulations (G-3.29).

In case of dispute concerning the legibility of numbers, the decision of MCRCB will be final.

5.2.5.6 Fuel

Only MCRCB Control Fuel is permitted for all practice and race. This will be BSBK A-1 or Premium, this must be supplied by Agip, see F-Championship Conditions for details of supply.

5.2.5.7 Tyres

- **The MCRCB will impose a controlled tyre. Further conditions will be stated in F - Championship Conditions and any Bulletins issued by MSVR.**
- The use of tyre warmers is allowed.
- Any modification (cutting, grooving) is forbidden.

5.2.5.8 Engine

5.2.5.8.1 Carburetion Instruments / Fuel Injection System

Carburetion Instruments refer to throttle bodies and variable length intake tract devices.

- Carburetion Instruments must be standard units as on the homologated model.
- Throttle bodies intake insulators may be modified.
- The injectors must be standard units as on the homologated motorcycle.

- Bell mouths, **including their fixing points**, may be altered or replaced from those fitted by the manufacturer on the homologated machine.
- Butterfly cannot be changed or modified.

5.2.5.8.2 **Cylinder Head**

Cylinder head must be as homologated.

The following modifications are allowed.

- 1) Grinding of the cylinder head surface on the side of the gasket;
- 2) Modifications of the inlet and exhaust ports by taking off or adding material (welding is forbidden);
- 3) Original homologated valves guides may be cut or modified, but only on the intake or exhaust port side;
- 4) Polishing of the combustion chamber;
- 5) Original valve seats must be used, but modifications are allowed to the shape;
- 6) Compression ratio is free, but the combustion chamber can be modified only by taking material off.

It is forbidden to add any material to the cylinder head unless as described above.

- The compression ratio is free.
- The combustion chamber may be modified.
- Rocker arms (if any) must remain as homologated (material and dimensions).
- Valves may be altered or replaced and the material can be changed, but maximum diameters and minimum weights must remain as homologated.
- The use of titanium valves is permitted only if the homologated machines are equipped with such kind of valves.
- Valve springs can be changed.
- Valve spring retainers may be replaced or modified, but their weight must be the same or higher than the original ones.

5.2.5.8.3 **Camshaft**

- The method of drive must remain as homologated.
- The duration is free but the lift must remain as homologated.
- The cam chain or cam belt tensioning device(s) are free.
- At the technical checks: for direct cam drive systems, the cam lobe lift is measured; for non direct cam drive systems (i.e. with rocker arms), the valve lift is measured.

5.2.5.8.4 **Cam Sprockets or gears**

Cam sprockets **or cam gears may** be modified or replaced to allow the degreeding of camshafts.

5.2.5.8.5 **Cylinders**

- Cylinders must remain as homologated.
- Only the following modifications to the cylinders are allowed:

- Cylinder head gasket surface may be machined to allow the adjustment of compression ratio or resurfacing to repair a warped cylinder surface deck.
- Homologated materials and castings for cylinders must be used.
- The surface finish of the cylinder bore must remain as homologated.
- Cylinder capacity must remain at the homologated size.

5.2.5.8.6 **Pistons**

- Pistons must remain as homologated.
- Polishing and lightening is not allowed.

5.2.5.8.7 **Piston Rings**

Piston rings must remain as homologated. No modifications are allowed.

5.2.5.8.8 **Piston Pins and Clips**

Piston pins and clips must remain as homologated. No modifications are allowed.

5.2.5.8.9 **Connecting Rods**

- Connecting rods must remain as homologated.
- Polishing and lightening is not allowed.

5.2.5.8.10 **Crankshaft**

- Crankshaft must remain as homologated without modification.
- Polishing and lightening is not allowed.
- Modifications of the flywheels are not allowed.

5.2.5.8.11 **Crankcase/Gearbox and all other Engine Cases (i.e. ignition case, clutch case)**

- Crankcases must remain as homologated. No modifications are allowed (including painting, polishing and lightening).
- Other engine cases must be made of the homologated material **with the exclusion of the lateral side covers. (see below)**
- **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. If replaced, the cover must be made in material of same or higher specific weight and the total weight of the cover must not be less than the original one.**
- Engine case guards in the form of strengthened engine side covers may be installed. These covers must be no lighter in weight than the standard part.
- 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 of composite material, type injection moulded nylon 6.6 long fibre 60%,carbon or Kevlar® approved by the MCRCB, aluminium 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 all devices are fitted by bolts onto the engine cover/case.

All devices must be approved by MCRCB and it is recommended that for composite material, Nylon 6.6 long carbon fibre 60% is used and all devices are fixed by bolts onto the engine covers/cases not stuck.

- Holes may be added in dry clutch covers to allow additional cooling.
- The countershaft cover may be removed.
- The addition of a crankcase protector at the countershaft is allowed.

5.2.5.8.12 **Transmission/Gearbox**

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

5.2.5.8.13 **Clutch**

- Clutch type (wet or dry) and the way of operation (by cable or hydraulic) must remain as homologated.
- 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.

5.2.5.8.14 **Oil Pumps, water pumps and Oil Lines**

- Modifications are allowed **but pump 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 treaded connectors.
- The internal parts of the water pump may be changed or modified.
- The drive ratio may be changed.
- The external appearance must remain as homologated.

5.2.5.8.15 **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 main 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.
- **Radiator fan and wiring may be changed, modified or removed**

- Additional oil coolers are not allowed.
- Oil cooler must not be mounted on or above the rear mudguard.

5.2.5.8.16 Air Box

- The air box must remain as originally produced by the manufacturer on homologated machine.
- The air filter element may be removed or replaced.
- The air box drains must be sealed.
- All motorcycles must have a closed breather system.
- The oil breather line must be connected and discharge in the airbox.
- The original air ducts running from the fairing to the air box may be altered or replaced.

5.2.5.8.17 Fuel Supply

- Fuel lines may be replaced **from the fuel petcocks (excluded) to the delivery pipe assembly (excluded)**.
- Quick connectors or dry brake quick connectors may be used.
- Fuel vent lines may be replaced.
- Fuel filters may be added.
- No modifications of the fuel pump are allowed.
- Original pressure regulator may be modified or changed.

5.2.5.8.18 Exhaust System

- Exhaust pipes and silencers may be modified or changed. Catalytic converters must be removed.
- The number of final exhaust silencer(s) must remain as homologated. The silencer(s) must be on the same side(s) of the homologated model.
- For safety reasons, the exposed edge(s) of the exhaust pipe(s) outlet(s) must be rounded to avoid any sharp edges.
- Wrapping of exhaust systems is not allowed except in the area of the riders foot or an area in contact with the fairing for protection from heat.
- The noise limit for Supersport will be 107 dB/A (with a 3 dB/A tolerance after the race). **There is also an equipment tolerance of 2dB/A, the actual maximum reading before race or practice is 109 dB/A and after race or Practice 112dB/A**

5.2.5.9 Electrics and Switches

Connectors and switches are free.

5.2.5.9.1 Ignition/Engine Control System (ECU)

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

5.2.5.9.2 Generator, alternator, electric starter

- Generator may be modified, removed or replaced.
- The electric starter must operate normally and always be able to start the engine during the practices and race **(including the parc ferme)**

5.2.5.9.3 **Additional Equipment**

- Additional electronic hardware equipment not on the original homologated motorcycle may be added (**e.g.** data acquisition, computers, recording equipment, **traction control**).
- The addition of a device for infra red (IR) transmission of a signal between the racing rider and his team, used exclusively for lap timing, is allowed.
- The addition of a GPS unit for lap timing/scoring purposes is allowed.
- Telemetry is not allowed.

5.2.5.9.4 **Wiring Harness**

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

5.2.5.9.5 **Battery**

The size and type of battery may be changed and relocated. Additional batteries may be added.

5.2.5.10 **Frame and Body**

5.2.5.10.1 **Frame Body and Rear sub-frame**

- Frame must remain as originally produced by the manufacturer for the homologated machine.
- Holes may be drilled on the frame only to fix approved components (i.e. fairing brackets, steering damper mount, **sensors**).
- 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.
- Nothing else 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 homologated machine.
- 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.
- Bolt-on accessories to the rear sub-frame may be removed.
- The paint scheme is not restricted but polishing the frame body or sub-frame is not allowed.

5.2.5.10.2 **Front Forks**

- Forks must remain as originally produced by the manufacturer for the homologated machine.
- Standard original internal parts of the forks may be modified or changed.
- No aftermarket or prototype electronic ally-controlled suspensions can be used. If original electronic suspensions are used, they must be completely standard (any mechanical or electronic part must remain as homologated). The original electronic system must work properly in the event of an electric/electronic failure otherwise it cannot be homologated for FIM/MCRCB competitions.

- After market damper kits or valves may be installed.
- Fork springs may be modified or replaced.
- Fork caps may be modified or replaced to allow external adjustment.
- Dust seal can be modified, changed or removed if the fork is totally oil-sealed.
- The original surface finish of the fork tubes (stanchions, fork pipes) may be changed. Additional surface treatments are allowed.
- The upper and lower fork clamps (triple clamp, fork bridges) must remain as originally produced by the manufacturer on the homologated machine.
- Steering damper may be added or replaced with an aftermarket damper.
- The steering damper cannot act as a steering lock limiting device.

5.2.5.10.3 Rear Fork (Swing arm)

- The rear fork must remain as originally produced by the manufacturer for the homologated machine.
- A chain guard must be fitted in such a way to reduce the possibility that any part of the riders' body must become trapped between the lower chain run and the rear wheel sprocket.
- Rear fork pivot bolt must remain as originally produced by the manufacturer for the homologated machine.
- Rear axle chain adjuster can be modified or changed.
- Rear wheel stand brackets may be added to the rear fork by welding or by bolts.
- Brackets must have rounded edges (with a large radius).
- Fastening screws must be recessed.
- An anchorage system or point(s) to keep the original rear brake caliper in place may be added to the rear swing-arm.

5.2.5.10.4 Rear Suspension Unit

- Rear suspension unit can be changed or modified.
- The original attachments of the frame and rear fork must be as homologated.
- Rear suspension unit spring(s) may be changed.
- No aftermarket or prototype electronic ally-controlled suspensions can be used. If original electronic suspensions are used, they must be completely standard (any mechanical or electronic part must remain as homologated). The original electronic system must work properly in the event of an electric/electronic failure otherwise it cannot be homologated for FIM/MCRCB competitions
- Rear suspension linkage must remain as originally produced by the manufacturer for the homologated machine.

5.2.5.10.5 Wheels

- Wheels must remain as originally produced by the manufacturer at the time of sale into the dealer/distributor network for the homologated machine.
- Any inner tube (if fitted) or inflation valves may be used.
- Wheel balance weights may be discarded, changed or added.

- The speedometer drive may be removed and replaced with a spacer.
- If the original design included a cushion drive for the rear wheel, it must remain as originally produced for the homologated machine.
- Front and rear wheel axles must remain as originally produced by the manufacturer for the homologated machine.
- Wheel diameter and rim width must remain as originally homologated.

5.2.5.10.6 Brakes

- Front and rear brake discs may be changed but must fit the original caliper and mounting. However, the outside diameter, the ventilation system must remain as originally produced by the manufacturer for the homologated machine.
- Internally ventilated discs are not allowed if not homologated in the original machine.
- The brake disc carriers may be changed, but must retain the same off set and same type of mounting to the wheels.
- Replacement brake discs must be of ferrous material.
- Front and rear brake calipers as well as all the mounting points and mounting hardware (mount, carrier, hanger) must remain as originally produced by the manufacturer for the homologated machine (see art 2.5.10.3).
- The front master cylinder must remain as originally produced by the manufacturer for the homologated machine, **hand lever excluded**.
- Rear master cylinder must remain as originally produced by the manufacturer for the homologated machine
- Front and rear hydraulic brake lines may be changed.
- 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 not allowed.

5.2.5.10.7 Handle Bars and Hand Controls

- Handle bars, throttle assembly and associated cables, hand controls and levers may be replaced (does not include brake master cylinder).
- Handle bars and hand controls may be relocated.
- Throttle controls must be self-closing when not held by hand
- Electric starter switch and engine stop switch must be located on the handle bars.

5.2.5.10.8 Foot Rest/Foot Controls

- Foot rest/foot controls may be relocated, but the original mounting points must be used.
- 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 an 8mm solid spherical radius.

- Non folding footrests must have an end (plug) which is permanently fixed, made of aluminum, plastic, Teflon® or equivalent type of material (min. radius of 8mm). The plug surface must be designed to reach the widest possible area of the footrest. The Chief Technical Officer has the right to refuse any plug not satisfying this safety aim.

5.2.5.10.9 Fuel Tank

- Fuel tank must remain as originally produced by the manufacturer for the homologated machine.
- All fuel tanks must be completely filled with fire retardant material (open-celled mesh, i.e. "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 250 cc made of a 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.
- **Any part, which could be in contact with the ground during a crash, may be protected by a second cover made from composite materials, type carbon fibre or Kevlar®. (MCRCB Only)**

5.2.5.10.10 Fairing/Body Work

- a) Fairing, front mudguards and body work must appear to be as originally produced by the manufacturer for the homologated machine.
- b) 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 allowed.
- c) Size and dimensions must be the same as the original parts without any addition or subtractions of design elements.
- d) Wind screen may be replaced with transparent material only.
- e) The original combination instrument/fairing brackets may be replaced. All other fairing brackets may be altered or replaced.
- f) The original air ducts running between the fairing and the air box may be altered or replaced.
- g) The original air ducts into the airbox may be altered or replaced.
- h) The lower fairing has to be constructed to hold, in case of an engine breakdown, at least half of the total oil and engine coolant capacity used in the engine (minimum 5 litres). The lower edge of openings in the fairing must be positioned at least 50 mm above the bottom of the fairing.
- i) 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.
- j) Front mudguard must appear as originally supplied by the manufacturer for the homologated machine.
- k) Front mudguard may be replaced with cosmetic duplicates of the original parts.
- l) Front mudguard may be spaced upward for increased tyre clearance.

- m) Rear mudguard fixed on the swing-arm may be replaced with cosmetic duplicates of the original parts.
- n) Rear mudguards fixed on the swing-arm that incorporate the chain guard can be modified to accommodate larger diameter rear sprockets.
- o) 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).

5.2.5.10.11 **Seat**

- Seat, seat base and associated body work may be replaced with parts of similar appearance as originally produced by the manufacturer for the homologated 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.
- Holes may be drilled in the seat or rear cowl to allow additional cooling. Holes which are bigger than 10mm must be covered with metal gauze or fine mesh. Mesh must be painted to match the surrounding material.
- The appearance from both front rear and profile must conform in principle to the homologated shape.
- All exposed edges must be rounded.

5.2.5.10.12 **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/body work fasteners may be changed to the quick disconnect type.

5.2.5.11 **The following items MAY BE altered or replaced from those fitted to the homologated motorcycle**

- Any type of lubrication, brake or suspension fluid may be used.
- Bearings (ball, roller, taper, plain, etc.) of any type or brand may be used.
- Gaskets and gasket materials.
- Painted external surface finishes and decals.
- Tachometer – **NB this must be working so that noise limits may be measured – (MCRCB Only)**

5.2.5.12 **The following items MAY BE removed**

- Emission control items (anti-pollution) in or around the air box **and engines** (O2 sensors, air injection devices)
- Speedometer and related wheel spacers.
- Bolt on accessories on a rear sub frame.

5.2.5.13 **The Following Items MUST BE removed**

- Headlamp, rear lamp and turn signal indicators (when not incorporated in the fairing). Openings must be covered by suitable materials.
- Rear-view mirrors.
- Horn.
- License plate bracket.
- Tool box.
- Helmet hooks and luggage carrier hooks
- Passenger foot rests.
- Passenger grab rails.
- Safety bars, centre and side stands must be removed (fixed brackets must remain).

5.2.5.14 **The following items MUST BE altered**

- Motorcycles must be equipped with a functional ignition kill switch or button mounted at least on one 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 that machines be equipped with a red light on the instrument panel. This light must flash in the event of oil pressure drop.**
- 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.)
- All motorcycles must have a closed breather system. The oil breather line must be connected and discharge in the airbox.
- Where breather or overflow pipes are fitted they must discharge via existing outlets. The original closed system must be retained, no direct atmospheric emission is permitted.