



Bennetts

BSB

BRITISH SUPERBIKES

IN ASSOCIATION WITH



TECHNICAL REGULATIONS 2019



MSVR
MOTORSPORT VISION RACING



5.2.6 MCRCB SUPERBIKE TECHNICAL REGULATIONS

Machines competing in the British Superbike Championship must comply with the MCRCB SUPERBIKE TECHNICAL REGULATIONS. These are as follows and are correct at the time of printing but are subject to any amendments made by the MCRCB which will be issued by means of an MCRCB Bulletin and published by MSVR (www.msvracing.co.uk/bsb).

5.2.6 MCRCB SUPERBIKE TECHNICAL SPECIFICATIONS

Rules intended to give freedom to modify or replace some parts in the interest of safety, research and development.

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

Superbike motorcycles require an FIM homologation (see www.fim-live.com) or MCRCB approval. All motorcycles must comply in every respect with all the requirements for road racing as specified in the MCRCB Technical Regulations (G), unless it is equipped as such on the homologated machine.

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

The MCRCB may accept any motorcycle model which appears on the FIM Superbike or Superstock homologation list for the relevant year. Exceptions for non FIM homologated models may be granted by the MCRCB. **The list of eligible motorcycles will be published by the MCRCB by the 1st March 2019.** This may be updated during the season by way of Official Bulletin.

5.2.6.1 Machine Specifications

All items not mentioned in the following articles must remain as originally produced by the manufacturers for the homologated machine. Where there is no individual tolerance indicated by a manufacturer in a machines homologated specifications for linear and angular dimensions and the manufacturer has stated the use of ISO 2768 tolerances or not stated any tolerance of any kind, then the only tolerance table from ISO 2768 that the MCRCB/MSVR will recognise for tolerance purposes is ISO 2768 – f (fine).

5.2.6.2 Balancing various motorcycle models

MCRCB reserves the right to review **the event results** and to handicap any model(s) that have an identifiable performance advantage. This may be achieved by one or more of the following applications:

- a) weight
- b) air restrictors
- c) electronic rev limit

A review of **event results** will take place after the third, sixth and ninth championship rounds between MSVR (the series promoters/organisers) and the BSB Team and Manufacturer Liaison Groups. MSVR will then present their recommendations to the MCRCB.

'Model' defines machines of same manufacturing specification not simply year, so a 2008,2009 GSXR1000K8, K9 will be considered as one model.

5.2.6.3 Engine configurations and displacement capacities

The following engine configurations compose the Superbike Class:

Over 750cc up to 1000cc 4 stroke 3 and 4 cylinders

Over 850cc up to 1200cc 4 stroke 2 cylinders

The displacement capacity, bore and stroke must remain at the homologated size.

5.2.6.4 Minimum Weights

The minimum weight starting the season will be:

| | |
|---------------------------------------|--------------|
| 1000cc 3 cylinder & 1000cc 4 cylinder | 168kg |
| 1200cc 2 cylinder | 168kg |

At any time during the event, the weight of the whole motorcycle (including the tank and its contents) must not be less than the minimum weight.

There is no tolerance on the minimum weight of the motorcycle.

During the final inspection at the end of each race, the machines chosen will be weighed in the condition they finished the race.

The established weight limit must be met in the condition the machine has finished the race; nothing can be added to the machine. This includes water, oil, or fuel.

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.

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 MCRCB Chief Technical Officer at the preliminary checks.

5.2.6.5 Number Plate Colours

See MCRCB General Technical Regulations (G-3.29).

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

5.2.6.6 Fuel

The MCRCB Control Fuel must be used in every practice session and race. **This is supplied by Panta**, see F-Championship Conditions and any Bulletins issued by MSVR.

5.2.6.7 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.

A tyre usage limit applies for the race weekend (free and qualifying practices, warm up and races). 11 Rear (dry) tyres and 8 Front (dry) tyres. A maximum of 3 new Rear (dry) tyres may be used across all qualifying practices.

When three races are scheduled an additional 1 set of dry tyres will be authorised.

No tyre change is permitted during a dry race in a Red Flag interruption (including a dry race interrupted with less than 3 laps of its duration completed by the leader), other than when the race status is changed to "Wet" and/or authorisation to change tyres is announced by race control – see E 1.10. **Exception: Thruxton.**

In the event of a exceptional tyre change authorised by the Chief Technical Official in the case of a proven tyre failure, the rider must start the re-start from the back of the grid or the pit lane exit.

Any other unauthorised tyre change will result in a penalty.

Grid Tyre Pressure check Procedure

5 minutes before the start of the Warm Up lap – display of the 5 minute board on the grid. The crews of three riders on the grid that have been randomly chosen by the MCRCB Chief Steward will be asked to check the tyre pressures.

The pressure check will be made by the mechanic of each of the three riders under the supervision of the Chief Technical Officer of his appointed deputies and the Official Tyre Suppliers staff. The gauge used will be the one provided by the Official Tyre Supplier.

Riders found to be using a tyre pressure less than the lower limit of the Official Tyre Suppliers prescribed/specification will be reported to Race Direction after the race.

5.2.6.8 Engine

5.2.6.8.1 Carburetion Instruments / Fuel Injection System

Carburetion instruments refer to throttle bodies and variable length intake track devices.

Carburation instruments must remain as homologated.

Bell mouths (including their fixing points) may be altered or replaced

The injectors must remain standard units as on the homologated motorcycle.

Secondary butterflies may be removed if required along with associated parts, just the butterfly may also be removed leaving the remaining parts for engine braking control, the control arm actuating the primary throttle must remain standard

Engine Braking/Air Bleed, an auxiliary valve (specified by the control ECU supplier) can be fitted to bleed air past the butterfly to the standard air inlets. The inlet of the airbleed may breathe from atmosphere OR from a hole made in the airbox, not both simultaneously. This is only applicable for models that do not have secondary butterflies or fly by wire throttle control.

The throttle body must remain as homologated but intake insulators or intake runners may be modified to allow the fitment of one air bleed stub per cylinder (maximum internal diameter of 8mm). If the throttle body is fitted with stubs as standard these may be opened to a maximum of 8mm internal diameter or the maximum that they will support. Standard stepper motor control will be disabled in the control ECU if this option is utilised.

5.2.6.8.2 Cylinder head

The homologated cylinder head may be modified as follows:
Homologated materials and castings for the cylinder heads must be used.

The addition of material in the ports is allowed. Welding is forbidden. No other material may be added to the cylinder head. Material for these parts may only be removed by machining.

The Cylinder head gasket surface may be machined to allow the adjustment of compression ratio or resurfacing to repair a warped cylinder surface deck.

The induction and exhaust system including the number of valves and or ports (intake and exhaust) must be as homologated.

Valves must remain in the same location and at the same angle as the homologated model.

Valves must remain as homologated.

Valve seats can be modified or replaced. The material must remain as homologated.

Valve guides must remain as homologated. Modifications to the port area are allowed.

Valve springs may be altered or replaced from those fitted to the homologated motorcycle. The material must remain as homologated.

Valve spring seats, spring retainers and cotters may be altered or replaced from those fitted to the homologated motorcycle. The material of the valve spring seat must remain as homologated.

Porting and polishing of the cylinder head normally associated with individual tuning such as gas flowing of the cylinder head, including the combustion chamber is allowed.

The compression ratio is free

The combustion chamber (shape) must remain as homologated.

The rocker arms (if any) must remain as homologated.

The tappets/buckets must remain as homologated.

5.2.6.8.3 Camshaft

The method of drive must remain as homologated.

The design must be as homologated, duration and lift are free.

The cam chain or cam belt tensioning devices(s) are free.

5.2.6.8.4 Cam Sprockets

Cam sprockets or cam gears may be altered or replaced to allow the degreeing of the camshafts.

5.2.6.8.5 Cylinders

No modifications are allowed. The Cylinder base gasket may be changed.

5.2.6.8.6 Pistons

No modifications are allowed (including polishing and lightening).

5.2.6.8.7 Piston Rings

No modifications are allowed.

5.2.6.8.8 Piston Pins and Clips

No modifications are allowed.

5.2.6.8.9 Connecting Rods

Connecting rod may be altered or replaced from those fitted to the homologated motorcycle. The weight must be the same or greater than the original homologated part.

Where there are multiple rods homologated the middle weight rod will be homologated weight that will be used +/-3%. For clarity if there are an even number of rods homologated (for example six then the fourth heaviest will be used, if four rods then it would be the third heaviest rod and if two it would be the heavier rod).

The material can be the same as the original homologated item or steel.

The centre to centre length of the rod must be the same as the original homologated item.

5.2.6.8.10 Crankshaft

No modifications are allowed (including lightening).

The balance shaft must remain as homologated.

Bearing surfaces may be polished or surface treated.

Balancing is allowed but only by the same method as the homologated crankshaft. (for example heavy metal i.e. Mallory metal inserts are not permitted unless they are originally specified in the homologated crankshaft).

Balancing is allowed, the addition or reduction in weight of the crankshaft in order to reach a racing balance can be no higher than 5% of the homologated weight without the tolerance as shown on the homologation drawing of the crankshaft.

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

No modification to the crankcases are allowed (including painting, polishing and lightening).

Side cover fasteners can be changed to lightweight metals ie titanium.

Vacuum pumps are not allowed if not installed on the homologated motorcycle.

5.2.6.8.11.1 Lateral covers and protection

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.

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 metal such as aluminium alloy, stainless steel, steel or titanium.

Plates or crash bars 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.

MCRCB approved covers will be permitted without regard of the material.

These covers must be fixed properly and securely with case cover screws that also mount the original covers/engine cases to the crankcases.

The Chief Technical Officer has the right to forbid any cover, if the evidence shows the cover is not effective.

No damaged cases will be permitted unless approved by the Chief Technical Officer.

5.2.6.8.12 Transmission / Gearbox

All transmission/gearbox ratios, shafts, shift drum and selector forks may be altered or replaced. The design concept must remain the same as the original homologated parts.

Only one set of gear ratios may be selected for the season. The chosen ratios must be declared to MSVR technical control and MoTeC at the first event. Should a team subsequently present a determinable engineering or other, unavoidable, proven hardware supply issue then a once only change of gearbox ratios may be authorised by the Chief Technical Official. In the event of a team taking this once only option the rider(s) concerned must start the first race at the first event using the new ratios with a +6 grid position penalty.

Primary gears (and ratio) must remain as homologated.

External quick shift sensors are allowed and must be wired to an input of the control ECU and be approved by the official control ECU provider.

Countershaft sprocket, rear wheel sprocket, chain pitch and size can be changed.

5.2.6.8.13 Clutch

Aftermarket or modified clutches are permitted.

Back torque limiting capacity (slipper) is permitted.

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

Clutch springs may be changed.

5.2.6.8.14 Oil Pumps, Oil Sumps, Oil Lines and Water Pumps

Original equipment oil pumps are required but may be modified:

Modifications may include

- a) Blueprinting.
- b) Changing the pressure relief spring.
- c) Reducing gear and housing thickness.

The external appearance must remain as homologated.

Aftermarket oil sumps and the associated pump pick up will be allowed.

Oil lines may be replaced with high pressure braided stainless or equivalent for durability purposes.

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. Water pipes may be modified or replaced

5.2.6.8.15 Radiator and oil coolers

The original radiator or oil cooler may be altered or replaced from those fitted to the homologated motorcycle.

Additional radiators may be added.

Oil coolers can be added to those machines not fitted with one as standard. An adaptor may be fitted between the oil filter and the engine to provide supply and return to an oil cooler. The standard heat exchanger may be removed.

Radiator fan and wiring may be changed, modified or removed

Oil cooler must not be mounted on or above the rear mudguard.

The appearance from the front, rear and profile of the machine must in principle conform to the homologated shape after the addition of additional radiators or oil coolers.

5.2.6.8.16 Airbox

Airbox must remain as originally produced by the manufacturer on the homologated motorcycle (conditional exception: motorcycles homologated pre 1.1.10).

[MSVR will review this regulation, conditionally approved in the interests of obtaining parity between motorcycle models in the first year of application of these regulations].

Air filters, internal flap type valve, and vacuum fittings may be removed, modified, or replaced with aftermarket parts.

Any holes in the airbox to the outside atmosphere resulting from the removal of components must be completely sealed from incoming air.

Ram air tubes or ducts may be modified, replaced with aftermarket parts or removed. If tubes/ducts are utilized, they must be attached to the original airbox inlets, modified as above.

Velocity stacks may be modified, replaced with aftermarket parts or removed. The only modification permitted to the airbox to allow use of alternate velocity stacks is the removal of internal debris deflectors/plates.

5.2.6.8.17 Fuel Supply

Fuel pump and fuel pressure regulator must remain as homologated.

The pressure tolerance at technical control is +5% in respect of the maximum pressure of the homologated motorcycle.

No mechanical fuel pump is allowed unless installed in the homologated model.

Fuel lines from fuel tank up to the injectors (fuel hoses, joints, clamps, delivery pipe, fuel canister) may be replaced.

All motorcycles must have an approved fuel pressure sensor fitted. The motorcycle must have a special device on the fuel line in accordance with FIM specifications for fuel pressure checks or teams must provide a temporary adaptor to allow checks.

The fuel line(s) going from the fuel tank to the carburetion instruments must be located in such a way that they are protected from possible crash damage.

Fuel vent lines may be replaced.

Fuel filters may be added.

Fuel petcock may be altered or replaced from those fitted to the homologated motorcycle.

5.2.6.8.18 Exhaust System

Exhaust pipes and silencers may be modified or changed from those fitted to the homologated motorcycle.

The number of the final exhaust silencer(s) must remain as homologated. The silencer(s) must be on the same side(s) of the homologated model.

Catalytic converters must be removed.

For safety reasons, the exposed edges of the exhausts pipe(s) outlet 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 Superbikes is 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.

5.2.6.9 Electrics and Electronics

5.2.6.9.1 Ignition System

Spark plugs may be replaced. Plug caps and coils, each manufacturer may submit must remain as homologated.

Plug cap OEM coil sticks or coils, may be replaced for a alternative OEM Coil/Coil stick set (if fitted to that model) from the same Machine Manufacture but approval must be given by MSVR / the control ECU supplier.

The approval is limited to one alternative set of OEM Coil/Coil Sticks per machine manufactures model.

Battery is free.

Engine sensors may be changed from the standard sensors. The chosen replacement must be approved by the control ECU supplier who will publish an approved list of sensors. Should you wish to use a non approved sensor a sample must be provided to the control ECU supplier for characterisation, the charge is £150/sensor and a minimum of three weeks for approval must be provided.

A standard sensor may be modified by fitting pigtailed and or have the connectors changed on the standard cable.

The fitment of an oil pressure sensor is allowed.

5.2.6.9.2 ECU & DASHBOARD

Only the electronic ignition/fuel injection control units (ECU) supplied by the official supplier (MoTeC) are allowed. This ECU must remain unmodified in hardware and software as delivered by the official Supplier, with the exception of the normal tuning adjustments allowed only by the standard software 'Setting Tool' supplied as part of the BSB ECU solution.

There will be a MoTeC dashboard/display offered in conjunction with the control ECU. Only dashboards/displays supplied by the official supplier (MoTeC) are allowed.

The download connector will be as specified to allow scrutineering confirmation of BSB legal firmware.

No additional electronics forming standalone control systems will be allowed (i.e. external ignition cut traction control systems, engine throttle blipper servo motors, ignition expanders or injector modules) however vehicle specific slave controllers may be added providing they receive official approval.

A down-shift system may be used if fitted to the homologated motorcycle model providing it has been approved by the official ECU supplier (Motec).

The ECU will have a fixed rev limit acting at 750rpm above standard street limit with an absolute maximum of 16,000rpm, as prescribed by the MRCB/MSVR.

2019 BENNETTS BRITISH SUPERBIKE - REV LIMITS

| | | |
|------------------------|-------------|--------|
| BMW S1000RR (2018) | 14,200 +750 | 14,950 |
| BMW S1000RR (2019) K67 | 14,600 +750 | 15,350 |
| Honda CBR 1000 RR/SP2 | 13,800 +750 | 14,550 |
| Kawasaki ZX10RR (2018) | 13,500 +750 | 14,250 |
| Kawasaki ZX10RR (2019) | 14,100 +750 | 14,850 |
| Suzuki GSXR 1000 R/L7 | 14,500 +750 | 15,250 |
| Yamaha YZF – R1/R1M | 14,500 +750 | 15,250 |
| Ducati 1199 Panigale R | 12,000 +750 | 12,750 |
| Ducati Panigale V4R | 16,000 +0 | 16,000 |

The Chief Technical Officer may inspect all ECU hardware and software at any time, including access to all stored information. The Chief Technical Officer may require the team to change the ECU on any machine for another identical standard one at any time.

The use of the ECU team logging is optional, the ECU will include scrutineering logging which is fixed.

The Chief Technical Officer may inspect and access the scrutineering datalogger system at any time, including the reading and downloading of data. MSVR reserve the right to publish all scrutineering data.

Standard stepper motor control of secondary throttle will be disabled if the auxiliary bleed valve is used – see Carburation Instruments.

SPECIAL PROVISION FOR WILD CARDS AT SELECTED EVENTS - 2019 SEASON ONLY.

The Promoter may accept up to two wild cards at the events at Silverstone, Oulton Park 1 and Thruxton only whereby an exemption is granted to using the series specified ECU. The manufacturers "kit ECU" may be used provided that it is verified (by MSVR and the series official ECU supplier) that the functionality does not exceed that of the series specified ECU. In all cases the machine must comply with all other MCRCB Superbike Technical Regulations and the team/rider will be ineligible to score championship points. This provision may be withdrawn at anytime.

5.2.6.9.3 Generators and Starter

No modifications allowed.

The electric starter must operate normally and always attempt to start the engine during the event (including at pre and post race inspections). The starter must crank the engine at a speed suitable for starting for at least 2 seconds.

5.2.6.9.4 Additional Equipment

Additional electronic hardware equipment not on the original homologated motorcycle may be added. (i.e. data acquisition, computers, recording equipment etc.).

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 use of Transmitter beacons trackside or on the pit wall will be restricted and details published in the final instructions for each event.

The addition of a GPS unit for lap timing/scoring purposes is allowed.

Telemetry is not allowed.

5.2.6.9.5 Wiring Harness

The wiring harness is free. A recommended suppliers list will be published.

5.2.6.10 Frame and Body

The use of titanium in the construction of the front forks, the handlebars and the swing-arm spindle is forbidden.

5.2.6.10.1 Frame Body and Rear Sub-Frame

The main frame must remain as originally produced by the manufacturer for use on the homologated machine.

The main frame may only be altered by the addition of gussets or tubes. No gussets or tubes may be removed.

Holes may be drilled on the frame only to fix approved components (i.e. fairing brackets, steering damper mount and locating screws). The homologated dimensions and position of bearing seats in the steering head column, and the engine, swing arm, rear shock, and suspension linkage mounting points must remain as original.

Steering angle changes are permitted by fitting inserts onto the bearing seats of the original steering head, but no part of the insert must protrude axially more than 3 mm. from the original steering head.

All motorcycles must display a vehicle identification number on the main frame body (chassis number).

Rear sub frame may be changed or altered, but the type of material must remain as homologated or of higher specific weight.

The paint scheme is not restricted.

5.2.6.10.2 Front Forks

Front fork in whole or part may be changed but must be the same type homologated (leading link, telescopic, etc.). NB - Upside down is a type of telescopic.

No aftermarket or prototype electronically-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.

The upper and lower fork clamps (triple clamp, fork bridges) can be changed or modified.

Steering damper may be added or replaced with an after market damper.

The steering damper cannot act as a steering lock limiting device.

Electronic controlled steering damper cannot be used if not installed in the homologated model for road use. However, it must be completely standard (any mechanical or electronic part must remain as homologated).

5.2.6.10.3 Rear Fork (Swing-arm)

The rear fork may be altered or replaced from those fitted to the homologated motorcycle. The use of carbon fibre or Kevlar® materials is not allowed if not homologated on the original 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 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.

5.2.6.10.4 Rear Suspension Unit

Rear suspension unit can be changed but a similar system must be used (i.e. dual or mono).

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

The rear suspension linkage may be modified or replaced.

The original fixing points in the frame (if any) must be used to mount the shock absorber, linkage and rod assembly fulcrum (pivot points).

5.2.6.10.5 Wheels

Wheels may be replaced (see G.3.27) and associated parts may be altered or replaced from those fitted to the homologated motorcycle.

Only wheels made from aluminium alloys are allowed.

The use of the following alloy materials for the wheels is not allowed: Beryllium ($\geq 5\%$), Scandium ($\geq 2\%$), Lithium ($\geq 1\%$).

Each specific racing wheel model must be approved and certified according to JASO (Japanese Automotive Standards Organization) T 203-85 where W (maximum design load) of art. 11.1.3 is 195 kg for front wheel and 195 kg for rear wheel, K = 1.5 for front and rear wheels. Static radius of tyre: front 0.301 m, rear 0.331 m.

Wheel manufacturers must provide copy of the certificate for their wheel(s) as proof of compliance to the Chief Technical Officer when requested.

On motorcycles equipped with a double sided swing arm (rear fork), the rear sprocket must remain on the rear wheel when the wheel is removed.

Bearings, seals, and axles may be altered or replaced from those fitted to the homologated motorcycle. The use of titanium and light alloys is forbidden for wheel spindles (axles).

Wheel balance weights may be discarded, changed or added to.

Any inner tube (if fitted) or inflation valves may be used.

Wheels must be made from aluminium alloys.

Wheel rim diameter size (front and rear) 17 inches

Front wheel rim width : 3.50 inches

Rear wheel rim width : 6.00 inches

5.2.6.10.6 Brakes

Front master cylinder may be altered or replaced from those fitted to the homologated motorcycle.

Rear master cylinder may be altered or replaced from those fitted to the homologated motorcycle.

Front calipers may be altered or replaced from those fitted to the homologated motorcycle.

Rear calipers may be altered or replaced from those fitted to the homologated motorcycle.

Brake pads or shoes may be altered or replaced from those fitted to the homologated motorcycle.

Brake hoses and brake couplings may be altered or replaced from those fitted to the homologated motorcycle.

The split of the front brake lines for both front brake calipers must be made above the lower fork bridge (lower triple clamp).

Brake discs may be altered or replaced from those fitted to the homologated motorcycle. Only ferrous materials are allowed for brake discs. The use of exotic alloy materials for discs and brake calipers (i.e. aluminum beryllium, etc.) is not allowed.

Anti Lock Braking Systems (ABS) are not permitted.

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.

5.2.6.10.7 Handle Bars and Hand Controls

Handle bars, hand controls and cables may be altered or replaced from those fitted to the homologated motorcycle

Engine stop switch must be located on the handle bars.

5.2.6.10.8 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.

5.2.6.10.9 Fuel Tank

Material of construction of the fuel tank may be altered or replaced from those fitted to the homologated motorcycle.

All fuel tanks must be filled with fire retardant material, or be fitted with a fuel cell bladder.

Fuel tanks made of composite materials (carbon fibre, aramid fibre, glass fibre, etc.) must have passed the FIM Standards for fuel tanks or be lined with a fuel cell bladder.

Tanks made of composite material must bear the label certifying conformity with FIM Fuel Tank Test Standards. -Fuel tanks without a fuel cell bladder must bear a label certifying conformity with FIM Fuel Tank Test Standards. Such labels must include the fuel tank manufacturer's name, date of tank manufacture, and name of testing laboratory.

Each manufacturer is requested to inform the FIM/CCR Secretariat of its fuel tank model(s) which have passed the FIM test standards, together with a copy of the fuel tank label. Full details of the FIM Fuel Tank Test Standards and Procedures are available from the FIM (See 'Fuel Tank Test Standards' below).

Fuel cell bladders must conform to or exceed the specification FIM/FCB-2005.

Full details of this standard are available from the FIM.

The fuel tank must be fixed to the frame from the front and the rear with a crash proof assembly system. Bayonet style couplings cannot be used, nor may the tank be fixed to any parts of the streamlining (fairing) or any plastic part. The Chief Technical Officer has the right to refuse a motorcycle if he is of the opinion that the fuel tank fixation is not safe.

The original tank may be modified to achieve the maximum capacity of 24 litres, provided the original profile is as homologated.

A cross over line between each side of the tank is allowed (maximum inside diameter 10 mm).

Fuel tanks with tank breather pipes must be fitted with non-return valves which discharge into a catch tank with a minimum volume of 250 cc made of a suitable material.

Fuel tank filler caps may be altered or replaced from those fitted to the homologated motorcycle, and when closed, must be leak proof. Additionally, they must be secured to prevent accidental opening at any time.

The same size fuel tank used in practice must be used during the entire event.

Fuel tank homologation

- 1) Any fuel tanks, made of non ferrous materials (with the exception of aluminum) must be tested according to the test procedure prescribed by the FIM.
- 2) Each manufacturer is responsible for testing its own fuel tank model(s) and will certify that the fuel tank exceeds the FIM test standard, if it has passed the FIM test procedure for fuel tanks.
- 3) Each manufacturer must affix a quality and test label on each fuel tank type that is produced for competition use. This quality and test label will be the recognition of a fuel tank model which has passed the FIM test procedure.
- 4) All fuel tanks that are made to the same design, dimensions, number of fibre layers, grade of fibre, percentage of resin, etc, must be identified with the same quality and test label.
- 5) The quality and test label will include the following information on each label affixed to each fuel tank: name of the fuel tank manufacturer, date of fabrication, code or part number, name of testing laboratory, fuel capacity.
- 6) Each manufacturer is requested to inform the FIM/CCR Secretariat of its fuel tank model(s) which have passed the FIM test procedure, with a copy of the quality and test label, according to point 5.
- 7) Only fuel tanks that have passed the FIM test procedure will be accepted.

5.2.6.10.10 Fairing/Body Work

- a) Fairings, mudguards and body work must conform in principle to the homologated shape as produced by the manufacturer, irrespective of the model year to encourage the most up to date visual impression.
- b) Wind screen may be replaced.
- c) Original air ducts running between the fairing to the airbox may be altered or replaced from those fitted to the homologated motorcycle.
- d) 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 (min. 5 litres). The lower edge of openings in the fairing must be positioned at least 50 mm above the bottom of the fairing.
- e) Minimal changes are allowed in the fairing to permit the use of an elevator (stand) for wheel changes and to add plastic protective cones to the frame or the engine.
- f) Holes may be drilled or cut in the fairing or bodywork to allow additional increased intake air to the oil cooler. Holes bigger than 10mm must be covered with a particle grill or fine wire mesh. Grill/mesh must be painted to match the surrounding material. 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%.
- g) Front mudguard must conform in principle to the homologated shape originally produced by the manufacturer.
- h) Holes may be drilled in the front mudguard to allow additional cooling. Holes bigger than 10mm must be covered with metal gauze or fine mesh. Mesh must be painted to match the surrounding material.
- i) Rear mudguard may be added or removed.
- j) Material of construction of the front mudguard, rear mudguard and fairing may be altered or replaced from those fitted to the homologated motorcycle.

k) Wings and Aerodynamic Aids

Wings and other aerodynamic aids will only be considered legal if originally fitted to the homologated road specification machine in all of Europe, Japan and North America.

For race use the wings must follow the dimensions, profiles and positions of the homologated shapes exactly (+-1mm). For copies of the OEM parts the leading edges (including end plates) must have a minimum circumference of 4mm and must have a rounded end (8mm radius) or be enclosed/integrated into the fairing.

The OEM parts may be used "as is" with the exception that the wing root and 10mm from the end face may be modified to allow mounting to the (race) fairing. This may not be in the form of an

extension and the size of the wing will be measured with reference to the face of the wing root.

The wing must be fitted in the same “relative” position (accepting the tolerance allowed for the fairing) and the angle of attack must be within +/-4° of the original angle of attack relative to the chassis.

5.2.6.10.11 Seat

Seat may be altered or replaced from those fitted to the homologated motorcycle.

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 principle to the homologated shape.

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.

Material of construction of the seat may be altered or replaced from those fitted to the homologated motorcycle.

5.2.6.11 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.

Gaskets and gasket material.

Chassis Bearings (ball, roller, taper, plain, etc.) of any type or brand may be used.

Engine bearings must be as homologated

All Fasteners (nuts, bolts, screws, etc.)- EXCEPT internal engines bolts which must remain as homologated.

External surface finishes and decals.

Tachometer – NB this must be working so that noise limits may be measured (MCRCB Only)

5.2.6.12 The following items MAY BE removed

Instrument and instrument bracket and associated cables.

Speedometer and associated wheel spacers.

Chain guard.

5.2.6.13 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).

5.2.6.14 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

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.)

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.

5.2.6.15 RAIN LIGHT

All motorcycles must have a functioning red light mounted at the rear of the machine to be used in rain or low visibility conditions as instructed by Race Control. The team must ensure that the light is switched on whenever a rain tyre is fitted on the motorcycle and/or when any practice or race is declared "wet" by Race Control.

Lights must comply with the following:

- a) lighting direction must be parallel to the machine centre line (motorcycle running direction), and clearly visible from the rear at least 15 degrees to both left and right sides of the machine centre line.
- b) mounted on the seat/rear bodywork approximately on the machine centre line, in a position approved by the Chief Technical Officer. In case of dispute

over the mounting position or visibility, the decision of the Chief Technical Officer will be final.

c) power output/luminosity equivalent to approximately: 10 – 15W (incandescent) 0.6 – 1.8 W (LED).

d) the switch must be accessible.

e) rain light power supply may be separated from the motorcycle main wiring and battery.