



MRO SUPERSPORT 600 REGULATIONS 2010



These regulations are the BMCRC MRO Supersport Regulations.

Note: If you are planning to take your bike to compete at BSB as a private entrant under the regulations prescribed by the MRCRB, you will need to refer to their regs with particular reference to the Control Tyre rules there. Apart from tyre rules, the key differences compared with these and BMCRC regs cover the requirements to include Explosafe in fuel tanks and covers on tanks and engines. Engine covers are preferred but now not mandatory at BMCRC, tank covers & Explosafe are not required. This reflects the need to keep Club level running costs down.

The rules are intended to permit changes to the homologated motorcycle in the interests of safety, cost reduction (for racing) and power limitation only.

Everything that is not authorised or prescribed in these regulations are strictly forbidden.

- Supersport machines require an FIM homologation. A list of new machines homologated for Supersport will be issued by the FIM on their website.
- The BMCRC may separately homologate machines that meet the following requirements, however, a minimum of **200** machines must be registered in the UK
- All motorcycles must comply in every respect with all the requirements for Road Racing as specified in the ACU handbook.
- The Appearance from 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 and **engine case guards** is excluded from this rule.

1.1 SUPERSPORT CLASS

Over 400 up to 600cc 4-stroke 4 cylinder

Over 600 up to 675cc 4-stroke 3 cylinder

Over 600 up to 750cc 4-stroke 2 cylinder

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

1.2 MINIMUM WEIGHT

600cc 4 cylinder 158Kg

675cc 3 cylinder 162Kg

750cc 2 cylinder 166Kg

- 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.
- At the time of the event, the weight of the whole machine (including the tank **and its contents**) must be not less than the minimum weight **with a tolerance of 1 kg**.
- During the practice and qualifying sessions every rider may be asked to submit his motorcycle to a weight control in the pit lane. (This will be done in such a way to disturb the rider or team as little as possible, but in any case the rider and team must comply with these checks).

1.3 NUMBER AND BACKGROUND COLOURS

PLEASE NOTE THESE REGULATIONS WILL BE STRICTLY ENFORCED

See ACU General Technical Regulations. ACU Handbook 2010

1.4 INDUCTION TRACT RESTRICTION

Carburation instruments must remain as homologated.

1.5 FUEL

Only pump fuel is permitted for **all** timed practice and race.

1.6 MACHINE SPECIFICATIONS

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

1.6.1 Frame Body and Rear Sub Frame

- Frame must remain as originally produced by the manufacturer for the homologated machine.
- 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 can be added or removed from the 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.
- Rear sub frame 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 subframe may be removed.
- **Holes may be drilled on the frame only to fix approval components (i.e. fairing brackets, steering damper mount)**
- The paint scheme is not restricted but polishing the frame body or the sub frame is not allowed.

1.6.2 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.
- After market damper kits or valves may be installed.
- Fork springs may be replaced.
- Fork caps may be modified or replaced to allow external adjustments.
- **Dust seal can be modified, changed or removed if the fork is totally oil-sealed.**
- The original finish of the fork tubes (stanchions, fork pipes) may be changed or modified. Additional surface treatment is 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.

1.6.3 Rear Fork (Swing arm)

- 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 should 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 calliper in place may be added to the rear fork

1.6.4 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.
- Rear suspension linkage must remain as originally produced by the manufacturer for the homologated machine.

1.6.5 Wheels

- Wheels must remain as originally produced by the manufacturer at the time of sale into the dealer/distributor network for the homologated machine.
- 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 model.
- Front and rear axles must remain as originally produced by the manufacturer for the homologated model.
- Wheel diameter and rim width must remain as originally homologated.

1.6.6 Brakes

- Front and rear brake discs may be changed but must fit the original calliper and mounting. However, the outside diameter must remain as the homologated version.
- The ventilation system must remain as originally produced by the manufacturer for the homologated machine. Internally ventilated discs are not allowed.
- 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 a ferrous material.
 - Front and rear brake calipers as well as all mounting points and mounting hardware (mount, carrier, hanger) must remain as originally produced by the manufacturer for the homologated machine.
 - The front master cylinder must remain as originally produced by the manufacturers for the homologated machine.
 - The 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 fork bridge.
 - 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.

1.6.7 Tyres

i) Tyre Regulations

- Tyres must be fully moulded type carrying all size and sidewall marking of the tyres for commercial sale to the public.
- Tyres of V or Z rating must be used.
- The depth of tyre treads must be at least 2.5mm over the entire pattern width, at pre-race control.
- The tyres must have a positive and negative tread of 96% positive and a minimum 4% negative (land and sea ratio).
- The maximum distance from the external edge of the tyre to 50% of the tread element is 35mm.
- One size for the front and two sizes for the rear are allowed. Each size, front and rear, must be available with the same tread pattern as the commercial tyre for road use. The manufacturer may only submit one front and rear pattern for approval. The previous approved tyre pattern will expire one year after the introduction of the new approved tyre pattern.
- The tyres must have a DOT and or E mark. The DOT or E mark must be on the tyre sidewall.

ii) Wet Weather Tyres

- Only when a race or practice has been declared "wet", the use of a special tyre, commonly known as a "full wet" tyre, is allowed. "Wet" tyres must be a fully moulded tyre, no hand cutting is allowed on the moulded tyres. The use of hand cut tyres is not allowed. Wet tyres do not need to carry "E" or "DOT" mark, however, they must be marked "NOT FOR HIGHWAY USE".

Any modification or treatment (cutting, grooving) to a) or b) is forbidden.

1.6.8 Foot Rest/Foot Controls

- Foot rest/controls may be relocated but brackets must be mounted to the frame at the original mounting points.
- Foot rests may be rigidly mounted or a folding type which must incorporate a device to return them to the normal position.
- The end of the footrest must have an 8mm solid spherical radius.
- Non folding footrests must have an end (plug) which is permanently fixed, made of plastic, Teflon ® or an equivalent type material (minimum radius 8mm). The plug surface must be designed to reach the widest possible area. The Chief Technical Officer has the right to refuse any plug not satisfying this safety aim.

1.6.9 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.
- Electric starter switch and engine stop switch must be located on the handlebars.

1.6.10 Fairing/Body Work

- Fairing, front mudguards and bodywork must appear to be as originally produced by the manufacturer for the homologated machine.
- Fairing and bodywork may be replaced with cosmetic duplicates of the original parts. The materials may be changed. The use of carbon fibre or Kevlar® materials is allowed.
- Size and dimensions must be the same as the original parts without any addition or subtractions of design elements.
- Windscreens may be replaced with transparent material only.
- The original combination instrument/fairing brackets may be replaced. All other fairing brackets may be altered or replaced.
- The original air ducts running between the fairing and the air box may be altered or replaced.
- The original air ducts to the airbox may be altered or replaced.
- The lower fairing has to be constructed to hold, in case of engine breakdown, at least half of the total oil and engine coolant capacity used in the engine (minimum 5 litres). The lower edge of the openings in the fairing must be positioned at least 50mm above the bottom of the fairing.
- If the lower fairing should incorporate a maximum of two holes of 25mm. These holes must remain closed in dry or wet conditions.
- Minimal changes are allowed to permit the use of an elevator (stand) for the wheel changes and to add a small plastic protective cone to the frame or engine.
- Front mudguards must appear as originally supplied by the manufacturer for the homologated machine.
- Front mudguards may be replaced with cosmetic duplicates of the original parts.
- Front mudguards may be spaced upwards for increased tyre clearance.
- Rear mudguards fixed on the swingarm may be replaced with cosmetic duplicates of the original parts.
- Rear mudguards fixed on the swingarm that incorporates the chain guard can be modified to accommodate larger diameter rear sprockets.
- The existing rear mudguard under the seat may be removed. A mudguard may be fitted directly onto the swingarm (it may not cover more than 120 degrees of the wheel).
- All exposed edges must be rounded.

1.6.11 Fuel Tank

- Fuel tank must remain as originally produced by the manufacturer for the homologated machine.
- Fuel tanks with a 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.
- 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.

1.6.12 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.
- Holes may be drilled in the seat or cowl 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.
- The top portion of the rear bodywork 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.
- The seat/rear cowl replacement must allow for proper number display.
- All exposed edges must be rounded.

1.6.13 Wiring Harness

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

1.6.14 Battery

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

1.6.15 Radiators 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.
- Additional oil coolers are not allowed.

1.6.16 Air Box

- The air box must remain as originally produced by the manufacturer on the homologated machine.
- The air filter element may be removed or replaced.
- The air box drains must be sealed.
- All 4-stroke 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.
- The original air ducts to the air box may be altered or replaced

1.6.17 Fuel Injection Systems.

- Throttle bodies must be standard units as on the homologated model.
- Throttle bodies intake insulators can be modified.
- The Injectors must be standard units as on the homologated motorcycle.
- Bell mouths may be altered or replaced from those fitted by the manufacturer on the homologated machine.
- Variable length fuel injection intake track devices that function while the engine is operating are not allowed unless fitted as standard to the homologated machine.
- The butterfly can not be changed or modified.
- No modification of fuel pumps or pressure regulator are allowed.
- The fuel injection management chip (EPROM) may be changed.
- Fuel pump must remain as homologated. **The fuel pressure regulator may not be modified or changed.**
- The use of flash memory (flash RAM) for fuel injection mapping is allowed.

1.6.18 Fuel Supply

- Fuel lines may be replaced.
- Quick connectors or dry brake quick connectors may be used.
- Fuel vent lines may be replaced.
- Fuel filters may be added.
- Fuel petcocks must remain as originally produced by the manufacturer.

1.6.19 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. Modification of the inlet and exhaust ports by taking off or adding material (welding is forbidden)**
- 3. Original homologated valve 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 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 may be changed, but maximum diameter and minimum weight must remain as homologated. The use of titanium valves is permitted if the homologated machines are equipped with such kind of valves.**
- Valve springs can be changed.
- **The valve spring retainers may be replaced or modified but their weight must be the same or higher than the original ones.**

1.6.20 Camshaft

- The method of drive must remain as homologated.
- The duration is free but the lift must remain as homologated.

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

8. At technical checks: for direct cam drive systems, the cam lobe lift is measured; for non direct cam drive systems (i.e. rocker arms) the valve lift is measured.

1.6.21 Cam Sprockets

Cam sprockets can be modified or replaced to allow the degreasing of camshafts.

1.6.22 Crankshaft

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

1.6.23 Oil Pumps and Oil Lines and Water Pumps

- Oil pump must remain as homologated. Modifications are allowed.

9. Oil lines may be modified or replaced. Oil lines containing positive pressure, if replaced, must be of metal reinforced construction with swaged or threaded connectors.

10. 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.

1.6.24 Connecting Rods

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

1.6.25 Pistons

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

1.6.26 Piston Rings

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

1.6.27 Piston Pins and Clips

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

1.6.28 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.

1.6.29 Crankcase 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.
- Engine case guards in the form of strengthened engine side covers may be installed. These covers must be constructed of the same material and be no lighter in weight than the standard material
- - **However, if heavy duty engine cases (ie, Woodcraft, NRC) are not added it is preferred that all lateral covers/engine cases containing oil and which could be in contact with the ground during a crash should be protected by a second cover made of composite material, type injection moulded long glass fibre nylon, carbon or Kevlar® approved by the BMCRC, aluminium or steel plates and/or bars are also permitted. All these devices must be designed to be resistant against sudden shocks and fixed properly and securely.**

No damaged cases will be permitted unless approved by the Chief Technical Officer. These additional safeguards are preferred but not mandatory for 2010.

- 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.

1.6.30 Transmission/Gearbox

- All transmission/gearbox ratios are free.
- Primary gears must remain as homologated.

- Quick shift systems are allowed.

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

1.6.31 Clutch

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

12. Friction and drive discs may be changed

13. Clutch springs may be changed.

14. The clutch basket (outer) may be reinforced.

15. The original clutch assembly may be modified for back torque limiting capabilities (slipper clutch)

16. It is allowed to change to an aftermarket clutch with back-torque limiting capabilities (slipper type).

17. The use of electro-mechanical or electro-hydraulic actuating systems are not allowed.

1.6.32 Ignition/Engine Control System

- Ignition/engine control system (CDI) may be modified or changed
- Additional wiring harnesses may be added.
- Cutting of the wiring harness is allowed.
- Spark plugs and plug wires may be replaced.

1.6.33 Generator

- Generator may be modified removed or replaced.
- The electric starter must operate normally and always be able to start the engine during the event and until the time limit for protests expires.
- The engine must start and turn on its own power when the electric starter has stopped its procedure.

1.6.34 Exhaust System

- The exhaust pipes and silencers may be modified or changed. **Catalytic converters must be removed**

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

- Wrapping of exhaust systems is not allowed except in the area of the rider's foot or an area in contact with the fairing for protection from heat.
- For safety reasons, the exposed edge(s) of the exhaust pipe(s) outlet(s) must be rounded to avoid sharp edges.
- The noise limit is 105 dB/A in accordance with the ACU handbook.

1.6.35 Fasteners

- Standard fasteners may be replaced with fasteners of any material and design.
- Aluminium 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.

1.7 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.
- Any type of spark plug and plug cap may be used.
- Any inner tube (if fitted) or inflation valves may be used.
- Wheel balance weights may be discarded, changed or added to.
- Bearings (ball, roller, taper, plain, etc.) of any type or brand may be used.
- Gasket and gasket materials
- Painted external surface finishes and decals.

1.8 The Following Items May Be Removed

- Instrument and instrument bracket and associated cables.

19. Emission control items (anti-pollution) in or around the air box (oxygen sensor, air injection devices).

- Tachometer
- Speedometer and related wheel spacers.
- Radiator fan and wiring
- Chain guard as long as it is not incorporated in the rear fender.

20. Bolt on accessories on a rear sub frame.

1.9 The following items MUST BE removed

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

1.10 The Following Items Must Be Altered

- Motorcycles must be equipped with a functional ignition kill switch or button mounted on either side of the handlebar (within reach of the hand while on the hand grips) that is capable of stopping a running engine.
- 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.

1.11 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.
Telemetry is not allowed

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