

# Bemsee MRO Retro 1000's



This class is designed for older 'Pre Electronic 1000' Era bikes. Rider aids such as traction, Launch and anti-Wheelie control are strictly prohibited.

## **Example bikes but not limited to, listed below**

Yamaha R1 – Up to 2011

Honda Fireblade – Up to 2016

Kawasaki ZX-10 – Up to 2010

Suzuki GSXR-1000 – Up to 2016

Aprilia RSV4 – Up to 2011

KTM RC8 – Up to 2015

## **Rider Eligibility**

MRO Retro 1000 will run a separate Championship AND can also score in the main MRO Powerbike or Clubman 1000 (License dependent)

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

- All motorcycles must comply in every respect with all the requirements for Road Racing as specified in the 2024 ACU handbook.

### **1. NUMBER AND BACKGROUND COLOURS**

Front: Yellow background, Blue numbers

Sides: Any colour background with contrasting colour numbers approved by the Chief Technical Official.

### **2. FUEL**

Only fuel which is sold from roadside pumps for use on UK roads, and upon which all tax and duty has been paid, is permitted for **all** timed practice and races.

### **3. MACHINE SPECIFICATIONS**

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

#### **3.1 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 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.
- Rear sub frame may be changed or altered, but the type of material must remain as homologated, or of a higher specific weight.
- 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.
- Holes may be drilled on the frame only to fix approval components (i.e. fairing brackets, steering damper mount, sensors)

- The paint scheme is not restricted but polishing the frame body or the sub frame is not allowed.

### **3.2 Front Forks**

- Forks may be modified or replaced

### **3.3 Rear Fork (Swing arm)**

- Rear fork may be modified or replaced

### **3.4 Rear Suspension Unit**

- Rear suspension unit can be changed or modified.
- Rear suspension unit spring(s) may be changed.
- Rear suspension linkage may be modified or replaced.
- No after market or prototype electronically controlled suspensions can be used. If original electronic suspensions are used, they must be completely standard, and all parts must remain as homologated.

### **3.5 Wheels**

- Wheels may be replaced and manufactured from any material.

### **3.6 Brakes**

- Front and rear brake discs may be modified or replaced.
- Replacement brake discs may be modified or replaced, disk diameter is free.
- Front and rear brake calipers may be modified or replaced.
- The front master cylinder may be replaced with alternative items.
- The rear master cylinder may be replaced with alternative items.
- 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 allowed, but in order to reduce the transfer of heat to the hydraulic fluid, it is permitted to add metallic shims between the brake pads and the calipers and/or to replace pistons.

### **3.7 Tyres**

#### **i) Tyre Regulations** (either treaded or slick tyres may be used)

- Tyres must be fully moulded type carrying all size and sidewall marking 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.
- The tyres must have a DOT and or E mark. The DOT or E mark must be on the tyre sidewall.
- As an alternative, slick tyres may be used.

#### **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.

### **3.8 Foot Rest/Foot Controls**

- Foot rest/controls may be relocated but brackets must be fixed to the frame on the original mountings.
- 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 aluminium, plastic, Teflon ® or an equivalent type material (minimum radius 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.

### **3.9 Handle Bars and Hand Controls**

- Handle bars, throttle assembly and associated cables, hand controls and levers may be replaced.
- Handle bars and hand controls may be relocated.
- Electric starter switch and engine stop switch must be located on the handlebars.
- Throttle controls must be self closing when not held by hand.

### **3.10 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.

### **3.11 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 ie, Carbon/Kevlar.

### **3.12 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.
- 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.
- All exposed edges must be rounded.

### **3.13 Wiring Harness**

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

### **3.14 Battery**

The size and type of battery may be changed and relocated.

### **3.15 Radiators and oil coolers**

- The radiator may be changed, Oversize and auxiliary Radiators are permitted.
- Modifications to the existing oil cooler are allowed.
- Additional oil coolers are allowed.
- Radiator fan and wiring may be changed, modified or removed.
- Oil coolers must not be mounted on or above the rear mudguard.

### **3.16 Air Box**

- The air box may be modified or replaced.
- 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.

### **3.17 Fuel Injection Systems.**

- References to fuel injection systems include the throttle bodies, fuel injectors, variable length intake tract devices, fuel pump and fuel pressure regulators.
- The original homologated fuel injection may be modified or replaced.
- Throttle body intake insulators may be modified.
- Bell mouths may be altered or replaced from those fitted by the manufacturer on the homologated machine.
- The butterfly may be modified or replaced.

### **3.18 Fuel Supply**

- Fuel pump and fuel pressure regulator may be modified or replaced.
- Fuel pressure may be changed.
- Fuel lines and connectors from the fuel tank up to the injectors may be replaced.
- The fuel lines connecting the fuel tank and injectors must be located or repositioned in such a way that they are protected from possible crash damage.
- Quick connectors or dry brake quick connectors may be used.
- Fuel vent lines may be replaced.
- Fuel filters may be added.

### **3.19 Exhaust System**

- Exhaust pipes and silencers may be changed or modified.
- Catalytic converters must be removed.
- The number of final exhaust silencers is free.
- Exposed edges of the exhaust pipes must be rounded to avoid any sharp protruding edges
- The wrapping of exhaust systems is allowed.
- The noise limit is 105 dB/A in accordance with the ACU handbook.

### **3.20 Electrical Switches**

- Connectors and switches may be modified, removed or replaced, except that a handlebar mounted engine kill switch must always remain and be capable of stopping the engine and fuel pump.

### **3.21 Engine**

- Engine modification is 'open' with the exception of bore and stroke must remain as the homologated Machine.

### **3.22 Ignition/Engine Control System**

- Spark plugs and plug caps and wires may be replaced.
- Ignition/Engine control system (ECU) is open. (Free to change) The use of flash memory ('flash RAM') for fuel injection mapping is allowed. An additional control unit to change the fuel mixture/ignition may be fitted.
- Additional electronics forming control systems i.e Traction control, Launch Control, Wheelie control, blipper boxes etc is strictly forbidden.
- Re-flashing of stock ECU to enable engine control systems are strictly forbidden.
- Quick-shifters are permitted
- Cutting of the wiring harness is allowed.

### **3.22 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.
- Fairing/body work fasteners may be changed to the quick disconnect type.

### **3.23 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, plug cap and spark plug lead 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.

### **3.24 The Following Items May Be Removed**

- Instruments and instrument bracket and associated cables.
- Emission control items (anti-pollution) in or around the air box (oxygen sensor, air injection devices).
- Speedometer and related wheel spacers.
- Bolt on accessories on a rear sub frame.

### **3.25 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)

### **3.26 The Following Items Must Be Altered**

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

### **3.27 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

