

Approved by the Estonian Road Racing Commission on 12.4.2019

## **B1200 – TECHNICAL REGULATIONS**

The following regulations have been drawn out to regulate modifications to the B1200 production motorcycles to guarantee safety, keep down the costs (of the modifications) and limit the power.

### **EVERYTHING THAT IS NOT STATED IN THESE REGULATIONS IS STRICTLY FORBIDDEN.**

#### **1. General Organisation**

1.1. The B1200 motorcycles must be the original production motorcycles of the manufacturers homologated by the FIM. All motorcycles must comply with the Road Racing Technical Regulations requirements except in cases when the equipment on them has been installed by the manufacturer.

1.2. The appearance of the B1200 motorcycles (front, rear and side) must (if not stated otherwise) be the same as the original production of the manufacturer.

1.3. The cylinder volume of the B1200 class:

750 to 1299 cm<sup>3</sup> 4 stroke 4 cylinders.

650 to 900 cm<sup>3</sup> 4 stroke 3 cylinders.

650 to 750 cm<sup>3</sup> 4 stroke 4 cylinders.

750 to 1199 cm<sup>3</sup> 4 stroke 4 cylinders.

1.4. The displacement capacity bore and stroke must remain the same as the production motorcycle.

1.5. It is prohibited to increase the displacement capacity bore to meet the class requirements.

#### **2. Requirements for racing equipment**

2.1. Closed bike helmet with a double-d strap.

2.2. Natural or imitation leather motorcycle gloves with knuckle protection.

2.3. Motorcycle boots with shin guard. The shin length must be equal to or longer than the sole length.

2.4. Stand-alone back protector – instead of the protector incorporated in the suit.

2.5. One-piece leather motorcycle racing suit with a zipper, which incorporates at least shoulder, elbow and knee protectors.

#### **3. Minimum weight**

3.1. The minimum weight for the B1200 class is 165 kg.

3.2. Final weighing after the race will be conducted of the bikes in the condition they finished the race.

3.3. The established weight limit must be met in this condition. Nothing may be added to the motorcycle. This includes water, oil, fuel, tyres etc.

3.4. The weight of a motorcycle, including the fuel tank and it's contents, must not be lower than the minimum weight limit during the whole event, including training, qualification and race.

3.5. During practices and qualification the technical commission has a right to ask riders to submit their motorcycle to additional weight control.

#### **4. Number plate colours**

4.1. B1200 numbers are white (RAL 9010; RGB 250, 255) on red background (RAL 3028; RGB 227, 37, 37).

4.2. Sizes for numbers: minimum height of the number: 140 mm; minimum width of the number: 80 mm.

4.3. The allocated number for the rider must be affixed on the motorcycle as follows: on the front fairing (nose) and on the upper part of the rear fairing (tail).

4.4. The light-coloured fairing must have black lines of at least 8 mm wide which give the number plate the required dimensions.

4.5. In case of a dispute concerning the legibility of numbers, the decision of the head of the technical commission will be determining.

## **5. Fuel**

5.1. The engine of a B1200 motorcycle used must run on regular fuel meeting the requirements of the retail fuel sold at a public gas station.

## **6. Motorcycle specifications**

6.1. All parts not listed below must remain in the original condition produced by the manufacturer and must be available for purchase from stores.

### *6.2. Frame and it's parts*

6.2.1. The frame must remain as originally produced by the manufacturer.

6.2.2. None of the stiffness connections or tubes can be removed. Holes can be drilled only for fastening the approved components.

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

6.2.4. The sides of the frame-body may be covered by protective parts made of composite material. These protectors must fit the form of the frame.

6.2.5. Engine mounting brackets or plates must remain as originally produced by the manufacturer.

6.2.6. The rear end of the frame can be changed or altered.

6.2.7. The rear subframe can be changed.

6.2.8. Bolt-on accessories to the rear sub-frame may be removed.

### *6.3. Front forks (suspension)*

6.3.1. The front fork must be as originally produced by the manufacturer.

6.3.2. The internal original details of the front forks may be modified.

6.3.3. The suspension details or valves that are generally available in stores may be installed.

6.3.4. The front suspension springs can be changed.

6.3.5. The upper cap of the front fork may be modified or changed to add the possibility of external adjustment.

6.3.6. 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) must remain as originally produced by the manufacturer.

6.3.7. A steering damper may be added or replaced with an after-market damper.

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

### *6.4. Rear fork (swingarm)*

6.4.1. The swingarm must be as originally produced by the manufacturer. This includes the chain adjuster.

6.4.2. The use of carbon or kevlar is not allowed unless it is provided by the manufacturer as original fitment.

6.4.3. Rear wheel stand brackets may be added to the rear fork. Brackets must have rounded edges. Fastening screws must be recessed.

6.4.4. A chain guard must be fitted.

### *6.5. Rear suspension*

6.5.1. Rear suspension (shock absorber) may be modified or replaced, but the original system must remain unreplaced (i.e., dual or mono).

6.5.2. Rear suspension attachments may be replaced or modified. The linkage parts must remain as originally produced by the manufacturer.

## **7. Wheels (rims)**

- 7.1. Wheels must be as originally produced by the manufacturer.
- 7.2. The speedometer transmission may be removed and replaced with a plate.
- 7.3. If the original design includes a cushion drive (rubber bunts) for the rear wheel, it must remain as originally produced.
- 7.4. Front and rear wheel axles must remain as originally produced by the manufacturer.
- 7.5. Polished or varnished wheels are not allowed.

## **8. Brakes**

- 8.1. Front and rear brake discs can be changed. The material and connections must remain the same.
  - 8.1.1. The outer diameter and ventilation system must remain as original.
  - 8.1.2. The tolerance of the outer diameter may be  $\pm 1,5$  mm. The brake discs must be made of material containing iron.
- 8.2. The mount of the front and rear brake calliper (mount, carrier, hanger) must remain as originally produced by the manufacturer
- 8.3. Manufacturers original front master cylinder must remain as original.
- 8.4. Manufacturers original rear master cylinder can be changed.
- 8.5. Front and rear hydraulic brake lines may be changed. Quick connectors in the brake lines are allowed.
- 8.6. Front and rear brake pads can be changed. Brake pad locking pins may be modified for quick change type.
- 8.7. Brake discs may be of the floating type.
- 8.8. Brake supports and connectors must remain as original, cover plates may be removed.
- 8.9. Additional air scoops or ducts are not allowed.
- 8.10. The brake fluid reservoir may be modified or changed.
- 8.11. Brake lines may be modified or changed. Quick connectors in the brake lines are allowed.
- 8.12. Brake pads may be changed. Brake pad locking pins may be modified.
- 8.13. The rear brake hand lever may be mounted on the handlebar. The systems must be separate from each other.
- 8.14. **The brake support bolts for both front and rear brake have to be wired.**

## **9. Tyres**

- 9.1. Tyres may be changed but they must be suitable for the motorcycle.
- 9.2. Slick tyres are allowed.
- 9.3. Tyre warmers may be used.
- 9.4. Only in case the race has been declared as "WET", special wet tyres are allowed to be used. These tyres do not have to have the DOT or E-marking, but they must have the text: "NOT FOR HIGHWAY USE" written on them.
- 9.5. Any modification or treatment (cutting, grooving) of tires is prohibited.

## **10. Foot rests / Foot controls**

- 10.1. Foot rests / foot controls may be relocated but brackets must be mounted to the frame in the original mounting points.
- 10.2. Foot rests must be positioned to the front of the rear axle.
- 10.3. Foot rests may be rigidly mounted or a folding type, which must incorporate a device to return them to the normal position.
- 10.4. The end of the foot rest must have at least an 8mm solid spherical radius.
- 10.5. Non folding footrests must have an end (plug), which is permanently fixed, made of plastic, Teflon or an equivalent type material (minimum radius 8mm).

## **11. Handlebars and hand controls**

- 11.1. Handlebars, levers (except for the brake master cylinder) may be replaced. The ends of handlebars must be rounded.
- 11.2. Handlebars and hand controls may be relocated.
- 11.4. Electric starter switch and kill-switch must be located on the handlebars.

## **12. Fairing / bodywork**

- 12.1. Fairing, front mudguards and bodywork must appear to be as originally produced by the manufacturer for the homologated motorcycle.
- 12.2. Fairing and bodywork may be replaced with exact cosmetic duplicates of the original parts. Kevlar and carbon fibre may be used.
- 12.3. Windscreen may be replaced only with a transparent bubble-shaped replacement, the shape must be similar to the original. No surface profiles may be added.
- 12.4. Fairing brackets may be altered or replaced.
- 12.5. The original air ducts running between the fairing and the air box may be modified or replaced.
- 12.6. The lower fairing must be constructed to hold, in case of an engine breakdown, at least half of the oil and cooling fluids inside the engine, minimum 5 litres. The lower edge of all the openings in the fairing must be positioned at least 50mm above the bottom of the fairing.
- 12.7. The lower fairing must incorporate maximum of two openings of 25mm diameter. These holes must remain sealed in dry conditions and must be only opened in wet race conditions, when declared "WET" by the Race Director.
- 12.8. Small modifications are permitted to allow usage of a bigger jack for wheel changing and adding a small plastic guard for frame or engine.
- 12.9. The fairings and mudguards designed by the manufacturer for the motorcycle may be replaced or modified.
  - a. Front mudguard may be replaced but the visual must remain as originally produced by the manufacturer.
  - b. Rear mudguard may be added or removed.

## **13. Fuel tank**

- 13.1. Fuel tank must be the originally fitted and homologated part with no modification allowed.
- 13.2. All fuel tanks must be completely filled with fire retardant material.
- 13.3. Fuel tanks with tank breather pipes must be fitted with non-return valves that discharge into a catch tank with a minimum volume of 250cc made of a suitable material.
- 13.4. Fuel caps may be changed.
- 13.5. Fuel caps when closed must be leak proof.
- 13.6. Additionally, they must be securely locked to prevent accidental opening at any time.  
Additional drain hole may be added.
- 13.7. The sides of the fuel tank may be protected with a cover made of a composite material.  
These covers must fit the shape of the fuel tank.

## **14. Seat**

- 14.1. Seat, seat base and associated bodywork may be replaced. The appearance from front, rear and profile must conform to the homologated shape.
- 14.2. The top portion of the rear bodywork around the seat may be modified to a solo seat.
- 14.3. Single seater must allow the number plate to be installed correctly.
- 14.4. The appearance of the seat / fairing and the distance from front to back and sides and shape must conform to the homologated motorcycle.

## **15. Wiring**

15.1. Wiring can be changed.

## **16. Battery**

16.1. Battery may be changed or repositioned.

16.2. Additional batteries are allowed.

## **17. Radiator and cooling system**

17.1. The radiator must remain original.

17.2. No additional radiators and oil coolers may be installed.

17.3. The cooling system hoses may be replaced, a mixture of water and ethyl alcohol may be used in the radiator.

## **18. Air box**

18.1. Air box must remain original.

18.2. The air filter element may be modified or replaced.

18.3. The air box drains must be sealed.

18.4. All motorcycles must have a closed breather system.

18.4.1. All the oil breather lines must be connected.

18.5. The breather system (air box + the oil expansion tank) must be possible to empty during the event through an emptying pipe and the capacity of the system (air box + the oil expansion tank) must be 1000cc.

18.6. Sensors may be added for gathering and saving data.

## **19. Carburettors**

19.1. Carburettors must be original.

19.2. The number of carburettors must remain as original.

19.3. Polishing or lightening of the carburettors is not allowed.

19.4. Carburettor intake insulators can be changed.

19.5. Carburettor's choke plates, throttle valves, needles / floating needles may be replaced.

19.6. The original diffusers can be modified or replaced by parts made for the motorcycle.

19.7. Electrical or mechanical enrichment devices must be installed, but may be deactivated.

## **20. Fuel injection system**

20.1. Changes are not allowed.

20.2. Lambda can be added.

20.3. The computer chip that controls fuel injection (EPROM) may be replaced.

20.4. The number of fuel injectors must be stock and unaltered from the original specification and manufacturer.

20.5. Polishing and lightening of the throttle body is not allowed.

20.6. Fuel pump and regulator can be changed or modified.

20.7. Fuel controllers may be added but they must attach to the original brackets.

## **20. Fuel supply**

21.1. Fuel pipes and hoses may be replaced with products meant for this usage.

21.2. Quick connectors or dry break connectors may be used, but these parts must fit the fuel used.

21.3. Fuel ventilation pipes and hoses may be replaced

21.4. Fuel filters may be added.

21.5. The fuel cut-off valve must be produced by the manufacturer of the motorcycle.

## **22. Engine**

- 22.1. Engine must remain homologated and no changes are allowed.
- 22.2. Nothing may be added or changed.
- 22.3. The original constructions cannot be changed.
- 22.4. The mechanics of the valve system must remain original (pneumatic valve mechanisms are not allowed as long as these are not the original production of the manufacturer).
- 22.5. Cylinder heads
  - 22.5.1. Cylinder heads must remain original, no modifications are allowed.
  - 22.5.2. Inlet and outlet channels and the number of flaps must remain original.
- 22.6. Camshaft
  - 22.6.1. The camshaft must remain original.
  - 22.6.2. The camshaft mechanism must remain original.
- 22.7. Camshaft gear wheels
  - 22.7.1. The camshaft gear wheels may not be changed, the tensioner can be changed.
- 22.8. Crankshaft
  - 22.8.1. The crankshaft must remain original.
  - 22.8.2. The crankshaft stroke must remain original.
  - 22.8.3. The balancing of the crankshaft, rods and pistons is not allowed.
- 22.9. Oil pump and piping
  - 22.9.1. Oil pump and piping must remain original.
- 22.10. Rods
  - 22.10.1. The rods must remain original.
- 22.11. Pistons
  - 22.11.1. The pistons must remain original.
  - 22.11.2. The balancing of the pistons is not allowed.
  - 22.11.3. Polishing and weight reduction is not allowed.
- 22.12. Piston rings
  - 22.13. Piston rings and their number must remain original.
- 22.14. Piston stoppers
  - 22.14.1. Originals must remain.
- 22.15. Cylinders
  - 22.15.1. The displacement capacity bore must remain as original, no changes are allowed.
- 22.16. Crankcase
  - 22.16.1. The crankcase must remain original.
- 22.17. Power train/gearbox
  - 22.17.1. Gearbox must remain original.
  - 22.17.2. Quickshifters may be installed.
  - 22.17.3. Engine side countershaft sprocket, rear wheel sprocket, chain pitch and size may be changed.
- 22.18. Clutch
  - 22.18.1. The clutch must remain original, no modifications are allowed.
  - 22.18.2. Clutch system (wet or dry type) and the method of operation (by cable or hydraulic) may not be changed
  - 22.18.3. The clutch covers may be protected with additional protective covers which are made of stainless steel or carbon/kevlar.
- 22.19. Ignition and engine control unit
  - 22.19.1. The spark plugs may be changed.
- 22.20. Generator, electric starter
  - 22.20.1. The electric starter must function as normal both during the pre-start inspection and the inspection after the race (until the deadline for lodging protests has expired).
  - 22.20.2. When the electric starter has completed it's function the engine must start and be running.

22.20.3. The generator covers may be protected with additional protective covers which are made of stainless steel or carbon/kevlar.

### **23. Exhaust system**

23.1. Exhaust pipes and silencers may be modified or changed.

23.2. The number and shape of silencers may be changed but they may not have sharp edges.

23.3. 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.

### **24. Fasteners**

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

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

24.3. Titanium fasteners may not be used.

24.4. The strength and design of the special steel fasteners (may be used in constructional areas) must be equal to or exceed the strength of the standard fastener.

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

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

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

25.1. Any type of lubrication, brake or suspension fluid may be used.

25.2. Any type of spark plugs and spark plug boots may be used

25.3. Wheel balance weights may be replaced, added to or removed.

25.4. Any type of bearings may be used.

25.5. Fasteners (nuts, bolts, screws etc.).

25.6. Electrical equipment, electric wiring, connectors, batteries and switches.

25.7. Colour coated exterior surfaces and decals.

25.8. Heat protection covers may be installed or removed.

### **26. The following items MAY BE removed:**

26.1. Gauges and gauge console with additional cables.

26.2. Tachometer.

26.3. Speedometer and the connected wheel hub and sensors.

26.4. Ventilator and wiring.

26.5. Chain guard in case it is not built into the rear mudguard.

26.6. Bolt-on accessories to the rear sub frame.

26.7. Ignition or parts of ignition.

### **27. Items that MUST BE removed:**

27. 1. Horn.

27. 2. Rear-view mirrors.

27. 3. Licence plate bracket.

27. 4. Toolkit.

27. 5. Helmet and luggage hooks.

27. 6. Passenger footrests.

27. 7. Passenger grab rails.

27. 8. Safety bars, centre stands, side stands (fixed brackets must remain).

27. 9. Front light, rear light, indicators. Openings must be covered with suitable materials.

27. 10. Replace coolant with water or ethyl alcohol mix.

## **28. MANDATORY changes**

- 28.1. Motorcycles must be equipped with a functional ignition kill switch or button that stops the running engine and is mounted on a handlebar within reach of the hand while on the hand grips.
- 28.2. Throttle controls must be self-closing when not held by the hand.
- 28.3. Electric fuel pump must be connected to the fuel flow cut-off switch that activates automatically in case of an accident when the motorcycle is on it's side. That switch must deactivate the fuel pump and ignition system within 1 (one) second.
- 28.4. Fuel pump and ignition system cut-off switch may be examined by the head of the technical commission at any given time during the competition.
- 28.5 The oil cap, oil filter bolts and pipes must be retained with stopper wire.
- 28.6. All motorcycles must have a closed levelling system that is connected to the air box where it empties.
- 28.7. 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.
- 28.8. Installed oil system's pressure levelling pipe's discharge opening must open to the oil cavity which must be emptied before every start.
- 28.9. The minimum volume of the oil cavity must be 250cc for transmission oil and 500cc for engine oil.
- 28.10. If the race is declared WET RACE then it is mandatory to fit the bike with a red rear light that is either flashing or illuminating constantly. The light has to be fitted stationary and not glued onto the fairing. The use of bicycle rear light is allowed.

## **29. Accessories and Telemetry**

- 29.1. Accessories and sensors that have not been produced by the manufacturer for the motorcycle may not be used.
- 29.2. Tachometer and speedometer sensors can be changed. Suspension sensors are not allowed. Only the mentioned sensors are allowed, everything else is prohibited.
- 29.3. Additional sensors mounted to the motorcycle can remain but must be disconnected.
- 29.4. Cameras mounted on the motorcycle have to be fixed stationary and be wired.