

## **C-class – TECHNICAL SPECIFICATIONS**

**EVERYTHING THAT IS NOT AUTHORIZED AND PRESCRIBED IN THIS DOCUMENT IS STRICTLY PROHIBITED.**

### **1. General direction**

1.1. Rules that allow changes to the bikes manufactured for motorcycles used in C-class are made for ensuring the safety, lowering the costs ja limit the power output.

1.2. C-class motorcycles must comply with the manufacturer's specifications.

1.3. Motorcycles must be produced by FIM approved manufacturer. All bikes must comply with the requirements stated in the "Road Racing Technical Rules", except when the equipment is installed by the manufacturer.

1.4. C-class motorcycles exterior shape (from front, rear and sides) must correspond to the original product of the manufacturer, unless stated otherwise.

1.5. C-class cylinder volume:

≤ 125 cm<sup>3</sup> 2 or 4 stroke, number of cylinders is not limited

≤ 250 cm<sup>3</sup> 2 or 4 stroke, number of cylinders is not limited

≤ 600 cm<sup>3</sup> 4 stroke 2,3 or 4 cylinders

601 -1200 cm<sup>3</sup> 4 stroke 2,3 or 4 cylinders

1.6. The volume of the cylinder must remain unreplaced from the original model.

1.7. Increasing the diameter of the cylinder to fit into the limits of the class is prohibited.

1.8. Every racer can bring only onw motorcycle to the scrutineering.

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

2.1. Closed bike helmet with a double „D“-ring strap.

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

2.3. Bike boots with shin guard with length equal to or longer than the sole length.

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

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

2.5.1. Incase two-piece leather suit the zipper must remain closed during the race.

### **3. Minimum weight**

3.1. – 12kg from the manufacturers dry weight of the motorcycle (dry weight is without gasoline, reg.number, tools and stand). The result is calculated to the nears full kilogram.

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

3.3. A bike must meet the requirements of the minimum weight in the condition it finished the race. Nothing may be added to the motorcycle, including water, oil, fuel, tyres etc.

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

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

### **4. Number plate colors**

4.1. C-class number colors are green (RAL 6010; RGB 054, 105, 038) on a white background (RAL 9010; RGB 250, 255, 255).

4.2. Dimensions of the front numbers:

Minimum height of the number plate: 160 mm

Minimum width of the number plate: 80 mm

Minimum stroke of the number outlines: 25 mm

4.3. Dimensions of the side numbers:

Minimum height of the number plate: 120 mm

Minimum width of the number plate: 60 mm

Minimum stroke of the number outlines: 25 mm

4.4. The allocated number must be visible on two locations of the bike – on the front fairing (nose) and on the upper section of the back fairing (tail) or on the back side part of the bellypan on both sides.

4.5. If the background of the fairing is light, there must be black stripes with minimum 8 mm width, which gives the fairing required dimensions.

4.6. In case of a dispute concerning the legibility of numbers, the decision of the head of the technical committee will be final.

## **5. Fuel injection systems**

5.1. No changes are allowed, must be as the manufacturer made. ECU cannot be changed, the change of program is allowed.

## **6. Fuel**

6.1. The engine of a motorcycle used in C-class must function on regular fuel meeting the requirements of the retail fuel sold at a public gas station.

## **7. Specifications of Motorcycles**

7.1. All parts not listed below must remain in the original condition produced by the manufacturer and must be available to buy from stores.

### **7.2. Main frame and its parts**

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

7.2.2. 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. Holes can be drilled only for fastening the permitted components.

7.2.3. Nothing additional cannot be added nor removed from the frame.

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

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

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

7.2.7. Color scheme is not fixed but polishing of the frame is not allowed.

### **7.3. Front forks**

7.3.1. Front fork must be original as originally produced by the manufacturer.

7.3.2. Front fork internal original parts can be modified.

7.3.3. It is allowed to use aftermarket parts and valves that are available in stores.

7.3.4. Front fork springs can be changed.

7.3.5. Front fork top cannot be changed.

7.3.6. Front fork outer surface must remain as originally produced by the manufacturer.

7.3.7. The upper and lower triple trees must remain as originally produced by the manufacturer.

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

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

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

- 7.4.1. Swingarm and the rear wheel attachment bolt must remain as originally produced by the manufacturer..
- 7.4.2. Rear wheel stand brackets may be added to the rear fork. Brackets must have rounded edges. Fastening screws must be recessed.
- 7.4.3. A chain guard must be fitted.

#### **7.5. Rear suspension**

- 7.5.1. Rear suspension (shock absorber) may be modified or replaced, but the original system must remain unreplaced (i.e., dual or mono).
- 7.5.2. Rear suspension springs can be changed.
- 7.5.3. Rear suspension attachments may be replaced or modified. The linkage parts must remain as originally produced by the manufacturer for the homologated motorcycle.

#### **7.6. Wheels (rims)**

- 7.6.1. Wheel must remain as originally produced by the manufacturer.
- 7.6.2. Spidometer can be blocked.
- 7.6.3. Original constructions must remain as originally produced by the manufacturer.
- 7.6.4. Front and rear axels must remain as originally produced by the manufacturer.
- 7.6.5. The size of the wheels may not be changed.

#### **7.7. Brakes**

- 7.7.1. Front and rear brake discs may be replaced or modified. Material of the brake disc, the mount of the brake disc and size must remain as originally designed by the manufacturer.
- 7.7.2. The mount of the front and rear brake caliper must remain as originally produced by the manufacturer.
- 7.7.3. The front and rear brake master cylinder may be changed or modified but the mount must remain as originally produced by the manufacturer.
- 7.7.4. Front and rear hydraulic brake lines may be replaced.
- 7.7.5. Front and rear brakepads can be changed and the locking mechanism can be changed.
- 7.7.6. Additional ventilation of the brakes is prohibited.

#### **7.8. Tires**

- 7.8.1. Tires may be changed, but they have to suit for the motorcycle.
- 7.8.2. Only street legal profile tires are allowed.
- 7.8.3. **Slick tires are allowed**
- 7.8.4. Only in case the race has been declared as "WET", special wet tires are allowed to be used. These tires don't have to have a DOT or E- markings, but they must have a text: "NOT FOR HIGHWAY USE" written on them.
- 7.8.5. Any modification or treatment (cutting, grooving) of tires is prohibited.
- 7.8.6. **The use of tire warmers or special warming of the tires is allowed.**

#### **7.9. Foot rests / Foot controls**

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

#### **7.10. Handlebars and hand controls**

- 7.10.1. Handlebars, hand levers may be replaced.
- 7.10.2. Handlebars and switches can be relocated.

- 7.10.3. The minimum distance between the handlebar and the tank is 30mm.  
7.10.4. Electric starter switch and killswitch must be equipped on the handlebars.

#### **7.11. Fairing / bodywork**

- 7.11.1. Fairing, front mudguards and bodywork must appear to be as originally produced by the manufacturer for the homologated motorcycle.  
7.11.2. The size and diameters must remain as originally produced by the manufacturer.  
7.11.3. Windscreen may be replaced to a transparent aftermarket screen with change in height +/- 15mm.  
7.11.4. Original mounts of display and fairings can be changed.  
7.11.5. All other fairing mounts can be changed.  
7.11.6. The original air ducts running between the fairing and the air box may be modified or replaced.  
7.11.7. 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.  
7.11.8. The lower openings on the fairing must at least 50mm from the bottom of the fairing.  
7.11.9. 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.  
7.11.10. Small modifications are permitted to allow usage of a bigger jack for wheel changing and adding a small plastic guard for frame or engine.  
7.11.11. The mudguards designed by the manufacturer for the motorcycle may be replaced or modified.  
7.11.12. Rear mudguard may be replaced but the visual must remain as originally produced by the manufacturer.  
7.11.13. The rear mudguards that have integrated chain guard can be changed or modified but the guard must suit with the size of the rear sprocket.  
7.11.14. All outstanding edges must be round.

#### **7.12. Fuel tank**

- 7.12.1. Fuel tanks must remain as originally produced by the manufacturer for the motorcycle.  
7.12.2. Fuel caps produced by the manufacturer may be modified and replaced.  
7.12.3. Fuel caps when closed must be leak proof.  
7.12.4. In addition the cap must be safely locked to stay on the tank in case of an accident.

#### **7.13. Seats**

- 7.13.1. Seats, seat base and associated bodywork may be replaced with parts of similar appearance as originally produced by the manufacturer for the motorcycle.  
7.13.2. Two seater can be rebuilt to a single seater.  
7.13.3. Single seater must allow the number plate to be installed correctly.  
7.13.4. The appearance of the seat / fairing and the distance from front to back and sides and shape must conform to the homologated motorcycle.  
7.13.5. The seat / rear bodywork must allow the number plate to be installed correctly.  
7.13.6. All outstanding edges must be round.

#### **7.14. Wiring**

- 7.14.1. Wiring cannot be changed.  
7.14.2. Cutting of wires is prohibited.

#### **7.15. Battery**

- 7.15.1. The size, type and location of the battery must remain as originally produced by the manufacturer.

#### **7.16. Radiator and oil cooler**

- 7.16.1. Radiator must remain as originally produced by the manufacturer
- 7.16.2. Oilcooling radiator must remain as originally produced by the manufacturer.
- 7.16.3. Additional radiators are not allowed.

#### **7.17. Air box**

- 7.17.1. The air box must remain as originally produced by the manufacturer on the motorcycle.
- 7.17.2. The air filter element may be modified or replaced.
- 7.17.3. The air box drains must be sealed.
- 7.17.4. All 4-stroke motorcycles must have a closed breather system. All the oil breather lines must be connected and discharge in the air box.
- 7.17.5. The tubing between airbox and the fairings can be replaced.

#### **7.18. Carburetors**

- 7.18.1. Carburetors must be original.
- 7.18.2. Carburetor atomizers may not be replaced.
- 7.18.3. Carburetor's funnels may not be replaced.
- 7.18.4. Carburetor's choke plates, throttle valves, needles / floating needles may be replaced.
- 7.18.5. Electrical or mechanical choke needs to be installed but can be deactivated.

#### **7.19. Fuel injection systems**

- 7.19.1. Changes are prohibited.
- 7.19.2. The computer chip that controls fuel injection (EPROM) may be replaced.

#### **7.20. Fuel supply**

- 7.20.1. Fuel pipes and hoses may be replaced with products meant for this usage.
- 7.20.2. Hoses and pipes can use quick connections.
- 7.20.3. Fuel ventilation pipes and hoses may be replaced.
- 7.20.4. Fuel filters may be added.
- 7.20.5. The fuel cut-off valve must be produced by the manufacturer of the motorcycle.

#### **7.21. Engine**

- 7.21.1. Engine must remain original as produced by the manufacturer and no changes are allowed.
- 7.21.2. All parts of the engine must be original produced by the manufacturer of the motorcycle.
- 7.21.3. Nothing can be taken off and nothing can be added.

#### **7.22. Crankcase and other engine covers**

- 7.22.1. Crankcase must be original produced by the manufacturer of the motorcycle, no changes are allowed.
- 7.22.2. Crankcase, gearbox cover, alternator, clutch and generator covers can be covered with additional protection covers from stainless steel, carbon or kevlar.
- 7.22.3. Protection covers can be installed on the engine covers. The covers must be from the same material as the engine and cannot weigh less than original.
- 7.22.4. Front sprocket cover cannot be removed.

#### **7.23. Powertrain/gearbox/clutch**

- 7.23.1. Clutch springs can be replaced.
- 7.23.2. Clutch plates can be replaced but their number must remain as original.
- 7.23.3. Clutch system (wet or dry type) and the method of operation (by cable or hydraulic) may not be changed.
- 7.23.4. Main drive (crankshaft-clutch) must remain as originally produced by the manufacturer.
- 7.23.5. Quickshifters can be installed.
- 7.23.6. Engine side countershaft sprocket, rear wheel sprocket, chain pitch and size may be replaced.
- 7.23.7. Kohustuslik on paigaldada tagumise hammasratta ja ketijooksu ette kaitse plaat (nn. uim), mis peab olema kinnitatud selliselt, et oleks välistatud kaitseplaadi lahti tulemine.

#### **7.24. Ignition and Engine Control Unit (ECU)**

7.24.1. Only sparkplugs may be replaced.

#### **7.25. Generator, alternator, electric starter**

7.25.1. Electric starter must work normally and always be able to start the engine both pre-race and post-race controls until the protests filing deadline.

#### **7.26. Exhaust system**

7.26.1. Exhaust pipes and silencers may be modified or replaced.

7.26.2. The noise limit for C-class is 105 dB/A with a +3 dB/A tolerance. Different competitions may have additional limitations to the dB rules!

7.26.3. The number of silencers and their shape may be changed but the exposed edges must be rounded.

7.26.4. 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 the heat.

#### **8. Fasteners**

8.1. Standard fasteners may be replaced with fasteners of different type and material.

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

8.3. Titanium fasteners may not be used.

8.4. Special steel fasteners may be used in structural locations, but their design and strength must be equal or exceed the original fastener it replaces.

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

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

#### **9. The following items MAY be modified or replaced from those fitted to the homologated motorcycle**

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

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

9.3. Fixed types of innertubes and valves.

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

9.5. Fasteners (nuts, bolts, screws, etc.). (Titanium is not allowed)

9.6. Colour coated exterior surfaces and decals.

9.7. Heat protection mats may be installed and removed.

#### **10. The following items MAY be removed**

10.1. Gauges and gauge console with additional cables.

10.2. Tachometer.

10.3. Speedometer and connected wheel hub and sensors.

10.4. Chain guard as long as it is not incorporated in the rear fender.

10.5. Bolt-on accessories on a rear sub frame.

#### **11. The following items are advised to be removed**

11.1.1. Replace coolant with water.

11.1.2. Toolbag

11.1.3. Passanger footrests

11.1.4. Passanger handle

#### **11.2. or taped**

11.2.1. Mirrors

11.2.2. Front light, rear light, indicators.

## **12. Advised things to do**

- 12.1. All corks closed with safety wire
- 12.2. All the bolts and hoses stopped fixed with safety wire

## **13. Mandatory**

- 13.1. 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.
- 13.2. Throttle controls must be self-closing when not held by the hand.
- 13.3. 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 its side. That switch must deactivate the fuel pump and ignition system within 2 (two) second.
- 13.4. Fuel pump and ignition system cut-off switch may be examined by the head of the technical committee at any given time during the competition.
- 13.5. 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.
- 13.6. Installed oil system's pressure levelling pipe's discharge opening must open to the oil cavity, which must be retained\_ no direct atmospheric emission is permitted.
- 13.7. . The minimum volume of the oil cavity must be 250cc for transmission oil and 500cc for engine oil.
- 13.8. Installed oil system's pressure leveling pipe's discharge opening must open to the oil cavity
- 13.9. Openings should be covered with appropriate materials
- 13.10. Horn must be removed or disconnected.
- 13.11. The brake support bolts for both front and rear brake have to be wired. The rear brake caliper bolts which are inserted from the inside (wheel side) do not have to be wired.
- 13.12. The oil cap, oil filter bolts and pipes must be retained with stopper wire.
- 13.13. 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.

## **14. Accessories and Telemetry**

- 14.1. Accessories and sensors that have not been produced by the manufacturer for the motorcycle may not be used.
- 14.2. Installed accessories may stay on put, but may not be functional during before mentioned times.
- 14.3. Cameras mounted on the motorcycle have to be fixed stationary and be wired.