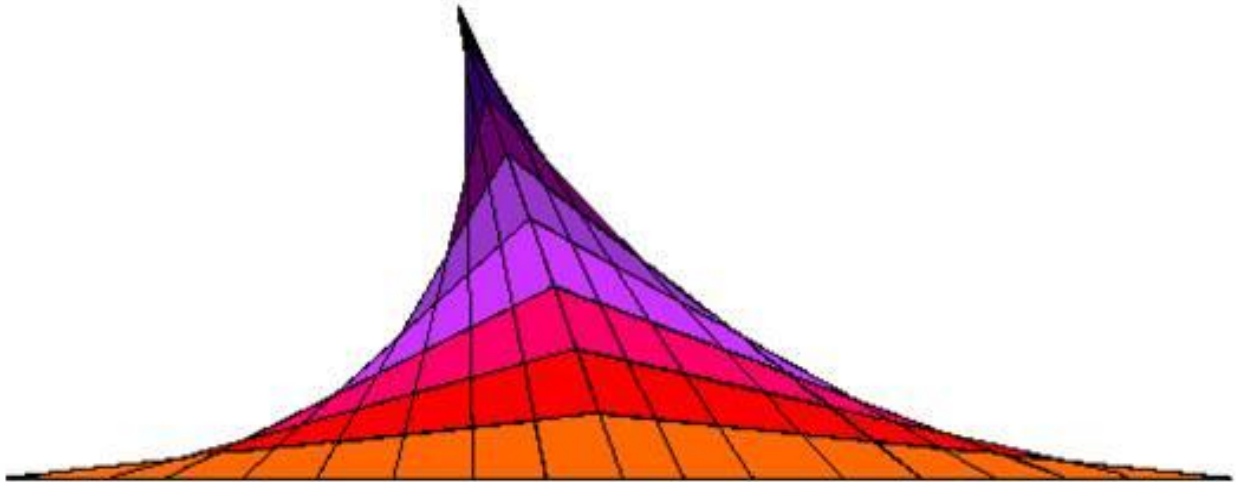
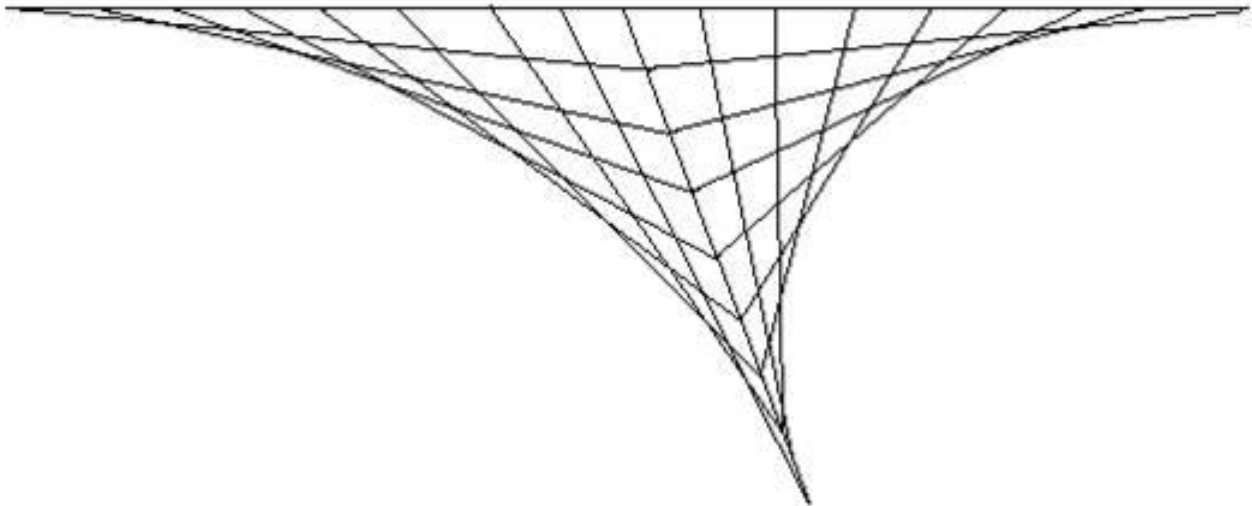


***Continental Championship Race Tech.®***  
***Cup***



***Continental Championship Race Tech.®***  
***cup***



***Motorcycle Road Racing  
Competition Series.***

***TECHNICAL RULES***

This is the revision 0 of the technical rules , some articles of this document can be changed .

\*\*\*\*\* = in progress

## *Introduction*

- 1.1 The Competition **CCRT** is for motorcycles, i.e. vehicles **prototype\*** with two wheels that make one track propelled by an internal combustion engine, controlled by one rider.
- 1.2 Providing that the following regulations are complied with, the constructors are free to be innovative with regard to design, materials and overall construction of the motorcycle.
- 1.3 \* **Prototype is:** a completely new innovative machine, a machine made only for race, a machine made of a mix of parts derived from the series production, deeply revisited in its structure and its technology to upgrade the performance.
- 1.4 Technical decision and disputes are the competence of the control commission .  
The **CCRT** commission will meet two times a year , and only in this date will be discussed the new technical requests.
- 1.5 Before the acceptance all prototypes shall be analyzed by **CCRT** control commission.  
Ahead of the registration, every teams must send the complete documentation about its prototype (description and pictures on the special **CCRT** form) explaining which are the technological upgrades.

## *2 Classes*

- 2.1 The following classes will be accommodated, which will be designated by the engine capacity

### 50 cc:

Cubic capacity  $\leq$  **50cc**  
Maximum number of cylinders : free

### 125 cc:

Cubic capacity  $\leq$  **125cc**  
Maximum number of cylinders : free

### 250 cc:

Cubic capacity  $\leq$  **250cc**  
Maximum number of cylinders : free

- 2.1.1 The cubic capacity of a cylinder will be defined by the swept volume, i.e. the difference between the maximum and the minimum geometrical volume of the cylinder, multiplied by the number of times this volume changes during one cycle of the piston or rotor.  
Volumes of ports or valves will not be included in the calculation.

\*the cubic capacity for rotary engine is a volume summation for each complete turn of crankshaft

### 3 *Engine type*

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3.1 **Engine type : free.**

Are allowed any type of internal combustion engine .  
Aren't allowed electric engines as principal engine.  
Are allowed the KERS( kinetic energy recovery system) (mechanical ,electrical, or any)

3.2 **Supercharger:**

Are allowed all supercharger systems: turbo, volumetric compressor , comprex, or any system to compress air in the cylinders ,the number of supercharger systems is free.

Supercharger pressure is limited : (-) bar for 4t,(-) bar for ,2t(-)bar ,for Wankel (-)bar for diesel for 4t engine ,if to use the supercharger system the cubic capacity must to be half.

With all combination of engine and fuel, there will be a maximum imposed on the fuel consumption.  
At the end of each season for every aspect there will be an evaluation on the allowed fuel consumption and the method of achieving the metering of the fuel.

for 2012 the supercharging pressure is not limited

3.3 **Injection system:** are allowed all injection systems direct and indirect, without limits of pressure.

3.4 **Numbers and type of gear ratios:**

The number of systems to change the transmission ratio ( inside, and outside of the engine) is free, it's allowed to use any centrifugal device, or any other system to vary final and primary ratio.  
The traction control systems aren't allowed.

3.5 **Electronic and control systems : engine ,suspension, bike positioning system :**

Are allowed any systems to control, regulate and record the parameters of the engine, and of the bike suspensions.

The electronic systems using satellite rental for data transmissions (download , upload), the devices permitting real time communication between teams and electronic systems, and between teams and bikes aren't allowed.  
Only real time dialogue (voice) and recording between racer and teams are allowed.

Only real time parameters recording (download) that use the wi-fi system, between motorbike and teams, are allowed and not vice versa.

3.6 **Throttle valve control :**

Electronic throttle valve control systems aren't allowed .  
Only mechanical systems are allowed.

## *4 Safety and Construction Criteria*

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### 4.1 **Materials allowed:**

Materials of certified dangerousness for human being are Prohibited

### 4.2 **Chassis and engine Design and Construction:**

In all classes, the chassis and the engine must be prototype\*, the design and construction of which is free within the constraints of the **CCRT** Grand Prix Technical Regulations. The main frame, swingarm, and fairing/bodywork from a non-prototype (ie. series production road-homologated) motorcycle may not be used. These parts are allowed only if deeply revisited in their structure and technology to upgrade the performance.\*\*

\* Prototype see 1.3

\*\*after ccrt control commission examination and approval.

### 4.3 **Handlebars:**

Handlebars have a free width and their ends must be rubber covered, and spherical designed.

4.3.1 There must be at least 15 degrees of movement of the steering each side of the centre line.

4.3.2 Stops must be fitted to ensure a clearance of at least 30mm between the handlebar and the fuel tank frame and/or bodywork when at the extremes of steering lock.

### 4.4 **Footrests:**

Footrests must have rounded ends with a minimum solid spherical radius of 8mm.

### 4.5 **Exhausts:**

The outlet of the exhaust must not extend behind a line drawn vertically through the edge of the rear tyre.

4.5.1 For safety reasons the exposed edge of the exhaust pipe outlet must be rounded to avoid any sharp edges.

### 4.6 **Brake:**

Motorcycles must have a minimum of one brake on each wheel that is independently operated.

4.6.1 Brake calipers must be made from materials with a modulus of elasticity no greater than 80 GPa.

### 4.7 **Bodywork:**

The windscreen edge and the edges of all other exposed parts of the streamlining must be rounded.

4.7.1 Bodywork must not extend beyond a line drawn vertically at the leading edge of the front tire and a line drawn vertically at the rearward edge of the rear tire. The suspension should be fully extended when the measurement is taken.

4.7.2 No part of the motorcycle may be behind a line drawn vertically at the edge of the rear tire.

4.7.3 The seat unit shall have a maximum height of the (approximately) vertical section behind the rider's seating position of 200mm. The measurement will be taken at a 90° angle to the upper surface of the flat base at the rider's seating position, excluding any seat pad or covering. Any onboard camera/antenna mounted on the seat

unit is not included in this measurement.

- 4.7.4 Mudguards are not compulsory. When fitted, front mudguards must not extend:  
In front of a line drawn upwards and forwards at 45 degrees from a horizontal line through the front wheel spindle.  
Below a line drawn horizontally and to the rear of the front wheel spindle.  
The mudguard mounts/brackets and fork-leg covers, close to the suspension leg and wheel spindle, and brake disc covers are not considered part of the mudguard.
- 4.7.5 The aerodynamic elements may be fitted provided they are an integral part of the fairing or seat and do not exceed the width of the fairing or seat or the height of the handlebars. Any sharp edges must be rounded.
- 4.7.6 On motorcycles with four stroke engines, 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. 7 liters).
- 4.8 There must be a clearance of at least 15mm around the circumference of the tire at all positions of the motorcycle suspension and all positions of the rear wheel adjustment.
- 4.9 **Chain - belt guards:**  
A guard must be fitted in such a way as to prevent trapping between the lower drive chain or belt run and the final drive sprocket at the rear wheel.
- 4.10 **Wheel Rims and tyre :**  
Wheel and tyre rim sizes are free for all classes
- 4.11 **Weights:**

#### **Weights motorcycles + rider**

**The following are the minimum weights permitted:**

▲ 50cc	motorcycle + rider	<b>115</b> kg
▲ 125cc	motorcycle + rider	<b>133</b> kg
▲ 250cc	motorcycle + rider	<b>152</b> kg

### Weights only motorcycles

The following are the minimum weights permitted:

▲ 50cc	motorcycle	55 kg
▲ 125cc	motorcycle	73 kg
▲ 250cc	motorcycle	92 kg

#### 4.12 Maximum number of tires allowed (for all Classes):

During all practice sessions, warm up and the race are allowed a maximum of 14 tires

#### 4.13 Aerodynamics:

Any system to upgrade the aerodynamic penetration of the motorbike and the racer are allowed\*

The” body bell “ aren’t allowed

See also 4.7.5\*

#### 4.14 Fuel tank for liquid fuel:

Fuel tank breather pipes must include a non-return valve. Fuel tank breather pipes must discharge into a suitable container, one per motorcycle with a minimum capacity of 250cc .

##### 4.14.1 Fuel tanks of all construction types must be filled with fire retardant material or be lined with a fuel cell bladder.

In all classes, fuel tanks made of non-metallic composite materials (carbon fiber, aramid fiber, glass fiber, etc.) must be fitted with a fuel cell bladder, or have passed the appropriate [REDACTED] test standards for composite material fuel tanks as described in the [REDACTED] Fuel Tank Test Procedure for fuel tank homologation.

Such composite fuel tanks without a fuel cell bladder must bear a label certifying conformity with [REDACTED] 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 **CCRT** Secretariat of its fuel tank model(s) which have passed the [REDACTED] test standards, together with a copy of the fuel tank label.

Full details of the [REDACTED] Fuel Tank Test Standards and Procedures are available from the [REDACTED].

Fuel cell bladders must conform to or exceed the specification [REDACTED]/FCB2005. Full details of this standard are available from the [REDACTED].

##### 4.14.2 Except for the case that a fuel tank is fixed on the chassis with bolts, all fuel lines from the fuel tank to the engine/carburetor system should have a self sealing breakaway valve. This valve must separate at less than 50% of the load required to break any part of the fuel line or fitting or to pull it out of the fuel tank. This rule is mandatory for all classes.

##### 4.14.3 It’s permitted to vent the fuel tank to the atmosphere via the air box in order to equalize pressure in the air box and fuel tank.

#### 4.15 Specials requisite for gas fuel tank:

The tank for gas fuel must follow the rules ECE-ONU R.110\*

\*see attached

#### 4.16 Suspension , adjustments to the suspension and steering damper

Free in any form.

## ***5 Fuels, oils and liquid coolants***

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### **5.1 Type of fuels allowed:**

ethyl alcohol  
methyl alcohol ( methanol)\*\*  
green benzine (95 98 99octane)  
racing benzine max 100 octane\*\*  
diesel  
colza oil  
natural oil  
GPL  
methane  
pure hydrogen  
methane-hydrogen mix  
any fuel of natural derive\*

\*after crt control commission examination and approval.

\*\*see schedule pag 10

#### **5.1.1 The auxiliary \*\* gas injection (gpl, hydrogen, methane, or other \*) are allowed.**

\*after crt control commission examination and approval.

\*\* auxiliary gas injection is a system that work only for a non continuative time

#### **5.1.2 The nitrous oxide and any oxygenating in any form aren't allowed**

#### **5.1.3 Approved fuel brands and requirements to homologate**

### **5.4 Oils:**

Oils from natural derivation ( 80%) are allowed

Only for 2012 are allowed all oil types

### **5.5 Liquid coolant:**

Only water is allowed

#### **5.6 Bonus for natural fuel use :**

5.7 Special classified for low consumption of fuel

## 6 Limits and other rules

### 6.1 Noise limit and rules of tests:

Noise tests must be conducted in an open area with a space of at least 10 meters between the motorcycle being tested and walls or other obstacles. There should be a minimum amount of ambient noise in the area.

6.1.1 The measuring equipment must be calibrated prior to the test and recalibrated at regular intervals.

6.1.2 The measuring equipment should be placed 100 cm from the end of the exhaust pipe and at 45 degrees angle to the pipe either to the side or above.

6.1.3 The maximum noise levels at all times are:

- ▲ 2 stroke: 98.5 dB/A
- ▲ 4 stroke: 98.5 dB/A
- ▲ Any other future potential system : 99.0 dB/A

For convenience, made possible by the similarity of piston stroke per engine configuration within capacity classes, the test may be conducted at a fixed RPM.

Engine configuration within capacity classes, the test may be conducted at a fixed RPM:

	1 cylinder	2 cylinders	3 cylinders	4 cylinders and more
50cc	7000 RPM	7000 RPM	7000 RPM	7000 RPM
125cc	7000 RPM	5000 RPM	5000 RPM	5000 RPM
250cc	7000 RPM	7000 RPM	7000 RPM	7000 RPM

6.2 **Max number of motorbikes for racer:** it's allowed to have max 2 motorbikes for each racer.

6.3 **Max and min age permitted for racer:** min 15 years and max depending of the medical test



6.4 **Number types and backgrounds:**

The racing number must be affixed to the front of the motorcycle fairing in a central position, and laterally (left and right)

6.4.1 Numbers should have a minimum height of 140 mm.

6.4.2 Numbers must be easily legible, in a clear simple font and contrast strongly with the background color.

6.4.3 In all the classes, numbers must be a one single color which contrasts strongly with the background color.

6.4.4 the color numbers and backgrounds is different for all class, the color must to be:

classes	numbers	backgrounds
50cc	black	white
125cc	white	azure
250cc	white	green

6.4.5 Backgrounds must be of one single color over an area large enough to provide a minimum clear area of 25mm around the numbers.

6.4.6 In all classes, teams with more than one rider must differentiate between the riders by using different number and/or background colors.

6.4.7 In case of a dispute concerning the legibility of numbers, the decision of the Technical Director will be final.

6.5 **Protective Clothing and Helmets:**

Riders must wear a complete leather suit with additional leather padding or other protection on the principal contact points, knees, elbows, shoulders, hips etc.

6.5.1 Linings or undergarments must not be made of a synthetic material which might melt and cause damage to the riders' skin.

6.5.2 Riders must also wear leather gloves and boots, which with the suit provide complete coverage from the neck down.

6.5.3 Leather substitute materials may be used, providing they have been checked by the Chief Technical Scrutineer.

6.5.4 Use of a back protector is highly recommended.

6.5.5 Riders must wear a helmet which is in good condition, provides a good fit and is properly fastened.

6.5.6 Helmets must be of the full face type and conform to one of the recognized international standards:

- Europe ECE22-05'P'
- Japan JIS T 88133:2000,JIS T 8133:2007
- USA SNELL M2005,SNELL M 2010

6.5.7 Visors must be made of a shatterproof material.

6.5.8 Disposable "tear-offs" are permitted.

## *Schedule Racing benzine*

PROPERTY	STANDARD UNIT	TEST METHOD	TYPICAL VALUE
Aspect	-	Visual	clear/limpid
Colour	-	Visual	Green
RON	-	EN-ISO 5164	100,7
MON	-	EN-ISO 5163	88,5
Density at 15° C	kg/m <sup>3</sup>	EN-ISO 3675	749
Oxygen Content	%wt	Elemental analysis	2,68
Nitrogen Content	%wt	ASTM D 3228	<0,1
Peroxides and nitroxides Content	ppm	ASTM D 3703	<10
Lead Content	g/l	ASTM D 3237	<0,003
Benzene Content	% vol	ASTM D 3606	<0,5
Reid vapour pressure	hPa	ASTM D 323	672
Sulphur content	%wt	EN ISO 20884	<0,005
Aromatic content	%vol	ASTM D 1319	<35
<b>Distillation:</b>			
Evaporated at 70 °C	%vol	ISO 3405	44
Evaporated at 100 °C	%vol		59
Evaporated at 180 °C	%vol		94
Final Boiling Point	°C		165
Residue	%vol		<1,0

*methanol*

99.95% pure racing methanol

<b>Fuel Property</b>	<b>Typical Specifications</b>
Specific Gravity @ 68° F	.795
Boiling Point	147° F
Freezing Point	-144° F
Vapor Pressure@ 60 F	47.3 mmHG
Pounds/Gallon	6.63
Odor	mild alcohol
Color	clear

## ***Other fuels in the next revision***

### ***Index***

#### ***1 Introduction***

	<i>pag.</i>
▲ 1.1	2
▲ 1.2	2
▲ 1.3	2
▲ 1.4	2
▲ 1.5	2

#### ***2 Classes***

▲ 2.1	2
▲ 2.1.1	3

#### ***3 Engine type***

▲ 3.1	3
▲ 3.2	3
▲ 3.3	3
▲ 3.4	3
▲ 3.5	3
▲ 3.6	3

#### ***4 Safety and Construction Criteria***

▲ 4.1	4
▲ 4.2	4
▲ 4.3	4
▲ 4.3.1	4
▲ 4.3.2	4
▲ 4.4	4

▲ 4.5	-----	4
▲ 4.5.1	-----	4
▲ 4.6	-----	4
▲ 4.6.1	-----	4
▲ 4.7	-----	4
▲ 4.7.1	-----	4
▲ 4.7.2	-----	4
▲ 4.7.3	-----	4
▲ 4.7.4	-----	5
▲ 4.7.5	-----	5
▲ 4.7.6	-----	5
▲ 4.8	-----	5
▲ 4.9	-----	5
▲ 4.10	-----	5
▲ 4.11	-----	5
▲ 4.12	-----	6
▲ 4.13	-----	6
▲ 4.14	-----	6
▲ 4.14.1	-----	6
▲ 4.14.2	-----	6
▲ 4.14.3	-----	6
▲ 4.15	-----	6
▲ 4.16	-----	6

**5 Fuels, oils and liquids coolants**

▲ 5.1	-----	7
▲ 5.1.1	-----	7
▲ 5.1.2	-----	7
▲ 5.1.3	-----	7
▲ 5.2	-----	7
▲ 5.3	-----	7
▲ 5.4	-----	7
▲ 5.5	-----	7
▲ 5.6	-----	7
▲ 5.7	-----	7

**6 Limits and other rules**

▲ 6.1	-----	8
▲ 6.1.1	-----	8
▲ 6.1.2	-----	8
▲ 6.1.3	-----	8
▲ 6.2	-----	8
▲ 6.3	-----	8
▲ 6.4	-----	8
▲ 6.4.1	-----	8
▲ 6.4.2	-----	8
▲ 6.4.3	-----	8
▲ 6.4.4	-----	9
▲ 6.4.5	-----	9
▲ 6.4.6	-----	9
▲ 6.5	-----	9
▲ 6.5.1	-----	9
▲ 6.5.2	-----	9
▲ 6.5.3	-----	9

▲ 6.5.4	-----	9
▲ 6.5.5	-----	9
▲ 6.5.6	-----	9
▲ 6.5.7	-----	9
▲ 6.5.8	-----	9
▲ 6.6	-----	9

***Fuel Schedule***

▲	-----	10
---	-------	----

***Index***

▲	-----	11
▲	-----	12

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