



## BMCRC Thunderbike UK Championship Regulations 2023

### Introduction :

This series is based on a power – weight ratio restriction and is aimed at older bikes, or those which comply with class engine limits, plus later hybrids and "specials" admitted at the BMCRC Eligibility Officer's discretion. Please check the specific date/model of your proposed bike against the detailed rules and with our Eligibility Officers before you proceed to build. (See list of contacts at end of rules)

The range of machines are classed into 3 divisions, Thunderbike Sport (Tb.) Thunderbike Extreme (Tb.Ex.) and Thunderbike Ultra (Tb.Ul.) All machines in these classes are restricted to a power-to-weight limit, and an overall maximum power limit, ***in order to promote close and fair competition***. The power restrictions are measured at the rear wheel using BMCRC's scales and dyno.

### ***Thunderbike Sport Class***

- Any Three or Four Cylinder Machine Up to and Including 2004 Model Year
- Any Year Twin Cylinder Machine up to 750cc *Including 'Supertwin' type machines*
- Any Single Cylinder four stroke Machine
- Any 2 or 3 valve per cylinder four stroke Machine
- Any Air Cooled four stroke Machine
- Any two stroke Machine (*Including 'GP' 125cc*)

(Model year refers to year of manufacture, proof of which lays with the competitor. Year legacy rules will apply whereby a model extends past 2004 but remains unchanged)

In addition to this, some machines which fall particularly well into the performance envelope of the class are granted eligibility on a case by case basis. Machines already eligible under this accommodation include the Honda VTR1000 Firestorm and Yamaha TRX850.

If you have a bike which you think fits with the 'Spirit of Thunderbikes' please contact us to see if it would be approved.

### ***Thunderbike Sport – Power Limits***

*Single Cylinder Thunderbikes (Tb.).....1 SAE bhp per **1.56 kg** weight.*

*Light Weight Thunderbikes (Tb.).....1 SAE bhp per **1.63 kg** weight up to a maximum of **75 bhp**.*

*Thunderbike Sport (Tb.).....1 SAE bhp per **1.81 kg** weight up to a maximum of **105 bhp**.*

### **Thunderbike Extreme class.**

- Single cylinder Unlimited.
- Twin cylinder air cooled Unlimited Capacity
- Twin cylinder liquid cooled Unlimited Capacity up to and including year 2002 model
- Three cylinder air cooled Unlimited Capacity
- Three cylinder Liquid cooled Unlimited Capacity up to and including 2002 model.
- Four cylinder Air cooled and liquid cooled Unlimited Capacity up to and including 2002 model
- Any two stroke machine up to and including 2002

(Model year refers to year of manufacture, proof of which lays with the competitor. Year legacy rules will apply whereby a model extends past 2002 but remains unchanged)

*Thunderbike extreme (Tb.Ex.).....1 SAE bhp per **1.46 kg** weight up to a maximum of **130 bhp***

### **Thunderbike Ultra Class**

- **Any 2, 3 or 4 cylinder with Unlimited Capacity up to and including 2007**
- **Minimum Cylinder Capacity 745cc**

(Model year refers to year of manufacture, proof of which lays with the competitor. Year legacy rules will apply whereby a model extends past 2007 but remains unchanged)

Thunderbike Ultra (Tb.Ul.).....1 SAE bhp per **1.00 kg** weight up to a maximum of **170 bhp**

**Please note the power to weight ratio applies to all machines.**

**All machines must have unaltered VIN Frame and Engine numbers.**

**All machines must comply with the machine preparation regulations as set out in the current ACU Handbook for road race meetings.**

If eligible, riders can choose between Thunderbike Sport (Tb.) and Thunderbike Extreme (Tb.Ex.) at every meeting. Choice to be made on entry.

### **The Rules & Technical specifications :**

#### **1. Race numbers and background colours:**

1.1 Race numbers for the Thunderbike Sport class should be as specified in the ACU Handbook for your class of bike, as follows:

GP125 – White on Black

Ninja 300 & YPM – White on Green

400 – White on Blue

Minitwin – Black on Yellow

600 – Blue on White

**White on Black** background for **Thunderbike Extreme (Tb.Ex.)**

**White on Red** background for **Thunderbike Ultra (Tb.Ul.)**

## **2. Chassis :**

2.1 Frame, engine cases, and cylinder heads must be from the same production model and year where applicable.

(Year legacy rules will apply whereby a model extends past cut-off date but remains unchanged)

2.2 Single cylinder motorcycles and accepted "technically interesting" motorcycles may use any frame but the engine must conform within the engine (section 4) guidelines.

2.3 Anything other than frame or crankcases may be modified or changed subject to:

2.3.1 Seat sub frames where fixed may be replaced by bolt on replaceable rear sub frames.

2.4 Hybrid bikes (Big engine, small frame) whose engine conforms to the rules stated may also be considered and approved on an individual basis by the series coordinator(s) and/or eligibility officer(s). In the case of hybrid bikes, 4 stroke engines must be mounted in a 4 stroke chassis. 2 Stroke engines mounted in a 2 Stroke chassis.

## **3. Wheels and tyres**

3.1 Wheels may be replaced. Tyres can be treaded or slick. Rain tyres may be used.

## **4. Engine**

4.1 Reducing engine size of machines from stock displacement to meet BMCRC Thunderbike class displacement limits is not allowed.

4.2 Crankcases may be strengthened.

4.3 Cylinder heads may be modified but must retain the original number of valves.

## **5. Electronic control systems**

5.1 The use of electronic control systems to aid launch or traction are strictly forbidden.

5.2 'Sport' and 'Extreme' machines are only permitted to have one loaded fuel map at any one time, and any bike found with multiple maps loaded in the software will be excluded. Any 'On-the-fly' switch-able map is strictly forbidden.

5.3 'Ultra' machines available with OE switchable ECU maps are permissible (Standard map change switchgear and clocks for that Year/Model must be retained.)

## **6. Controls**

6.1 Throttle stops or cable adjustments must be fixed or secured in a manner that will prevent adjustment by the rider or crew without the use of tools prior to dyno testing.

6.2 Switches or other methods designed to affect horsepower readings during dyno testing are strictly prohibited.

6.3 Machines are restricted to the mounting and use of one ignition or engine management module during all competition. Modules with more than one setting must be mounted in such a way that the settings cannot be altered by the rider or crew while on course or prior to dyno testing.

## **7. Technical Inspection**

7.1 The dyno operator, Technical Official or person appointed by the race or series organisers to ensure eligibility, may request removal of bodywork before, during or after dyno testing, and may request removal of other components for inspection.

7.2 Any machine not capable of post race dyno testing will be deemed to have failed the dyno test.

7.3 Machines will be run on the dyno until, in the opinion of the dyno operator the maximum output is achieved. If in the opinion of the dyno operator or race official, an unsafe condition exists while performing the dyno testing, the test will be stopped and the Clerk of the course in conjunction with the Technical officer will make the final decision on the dyno test results.

7.4 Machines will be selected at random by race officials to run on the dyno as soon as possible following the end of the race. **Failure to report directly to the dyno when requested to do so after the end of a race will result in automatic disqualification.**

7.5 **All machines must have at least 1 spark plug lead or coil lead accessible to the Dyno operator** to allow the pick up clip from the dyno to be attached. This ensures the quality of the test and is in the competitors own interests. Machines where the lead is unavailable may be disqualified.

7.6 All machines will be weighed on the BMCRC Technical Officials own scales. They will be calibrated in house before each round and yearly as deemed necessary. They are definitive. (Circuit scales will only be used if the BMCRC scales are unavailable).

7.7 Machine test procedure will be as follows.

Machine(s) will be selected.

The machine will be weighed with fuel but without rider.

**The machine will be Dyno tested and a Pass or fail given. No other information will be supplied.**

7.8 Bikes which have been deemed to have failed the power to weight or technical rules may be excluded from the race results. This exclusion may be for the entire meeting at the discretion of the clerk of the course.

**Eligibility Contacts:**

Mark Dent (Senior Tech Official)	mark@performancefab.co.uk	07831 711079
Dave Court (Eligibility Officer)	davecourt33@yahoo.co.uk	07941 320466
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