

# INTERNATIONAL RULES 1/5th SCALE R/C BIKES

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## 1 General

The World Championship shall always start on Sunday and end on the following Saturday. The Track is closed one week before the event for participating drivers. Only R/C motorcycle in 1/5th scale are allowed to participate in the race.

## 2 Technical rules

### 2.1 Wheelbase:

- Maximum distance between axles: 320mm.
- Minimum distance between axles: 280mm.

### 2.2 Height of the bike including rider:

- Maximum height limit: 300mm.
- Minimum height limit: 240mm.

### 2.3 Appearance

- The global aspect of the motorcycle must be realistic with a complete painted body shell including a painted rider with hands, feet and helmet.
- Fairing, body shell and rider parts must fit a 1/5th scale size.
- During the championship, the rider appearance must be complete for each race start.
- In the area that is used to grab the bike, no cutouts bigger than 8mm ("a finger") are allowed, except for mechanical reasons, like crash bar mounts. If there are a separated rider/upper cowling there are to be no openings in between those parts. This is to avoid marshals getting hurt.

### 2.4 Tires/Wheels

The tires must comply with the rules below:

- Specifically designed for 1/5th scale motorcycle use.
- Commercially available.
- In black rubber with the exception of the sidewall.
- New Tires must be available to everyone 30 days before the Warm-Up race.
- Tires must feature an embossed manufacturer ID on the sidewall.
- Every type of tire insert is allowed.
- Foam tires are prohibited.
- Only non-smelling tire additive is allowed except if prohibited by regulations of the track.  
Tire additive has to be applied outside of the pits, in a designated area.
- Tire warmers are allowed for all racing classes.
- Wheels with solid center (e.g. disc) are not allowed.

#### 2.4.1 **Rear** wheel diameter (including tire):

- Maximum limit: 135mm.
- Minimum limit: 120mm.

#### 2.4.2 Front wheel diameter (including tire):

- Maximum limit: 120mm.
- Minimum limit: 105mm.

### 2.5 Transmission

- Chain or belt drive is allowed.
- Direct drive is prohibited.

### 2.6 Aerodynamics

- Any aerodynamic add-on which does not conform to the real aspect of the represented real model is prohibited.

### 2.7 Exhaust (Nitro-class)

- The exhaust system must be fitted on the motorcycle in such a way that the risk of injury to mechanics and marshals is minimized.

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### 2.8 Crash Bars

- The crash bars must not be dangerous for the marshals.
- The system to fix the crash bars to the chassis must not be articulated (use of hinges, springs, dampers is prohibited).
- The system to fix the crash bars on the chassis can allow adjustment of the length of the crash bar.

#### 2.8.1 Allowed systems:

- Standards bars (nylon, steel) with one or two fixing points on each side.
- Wheel based system.

#### 2.8.2 Specifications for use of a wheel based system:

- Maximum wheel diameter: 20 mm.
- Material of the wheels used as crash bars must not give any adherence to the bike when in contact to the track: wood, steel, hard plastic are allowed while foam or O-rings are forbidden.

## 3 Racing Classes:

- There are electric Stock and Superbike class as well as Nitro powered bikes.

### 3.1 Electric Stock Bike

Chassis:	<ul style="list-style-type: none"> <li>• Choice of the chassis is free. It must be in accordance with the rules described in § 2.</li> </ul>
Motor:	<ul style="list-style-type: none"> <li>• <b>Motor 1:</b> SpeedPassion 1/10 Competition MMM series 13.5R Brushless #SP000038 Position of the timing insert is free. Any modifications of the motor is prohibited. Sensor-Unit: #SP000034 Rotor: #RS13802</li> <li>• <b>Motor 2:</b> SpeedPassion Competition V3.0 Brushless Motor - 13.5R #138135V3 Position of the timing insert is free. Any modifications of the motor is prohibited. Sensor-Unit: #SB218 Rotor: #RS13803NA</li> <li>• <b>Motor 3:</b> REELY ET BRUSHLESS-MOTOR TC-04 /EB-04 #237096-62 You can find it at <a href="http://www.conrad.com">http://www.conrad.com</a></li> </ul>
ESC:	<ul style="list-style-type: none"> <li>• <b>ESC 1:</b> SpeedPassion Cirtix Stock Club Race ESC #12280</li> <li>• <b>ESC 2:</b> SpeedPassion Reventon "Stock Club Race" #SP000048</li> <li>• Optional Bluetooth module is only allowed during free practice.</li> <li>• <b>ESC 3:</b> REELY BRUSHLESS-REGLER FIGHTER 45A #704788-62 or 1482944-62 You can find it at <a href="http://www.conrad.com">http://www.conrad.com</a></li> </ul>
Batteries:	<ul style="list-style-type: none"> <li>• Every kind of batteries i.e. NiMh, NiCd, LiPo and LiFe batteries up to 7.40 nominal Voltage are allowed.</li> <li>• The voltage must not exceed 4.20 volts/cell. Random checks will be made before the start run by race officials, (not during practice). If the battery exceeds 8.40 volts (4.20V/cell) the bike is not allowed out on the track and the driver will have a warning. If this happens more than one time the responsible driver will be disqualified from the race.</li> </ul>
Weight:	<ul style="list-style-type: none"> <li>• The minimum admitted weight is 1700 grams</li> </ul>
Brake System:	<ul style="list-style-type: none"> <li>• The only braking system allowed is on the rear wheel over ESC brake. Any other system or mechanical brake on front or rear wheel is prohibited.</li> </ul>
Gearing:	<ul style="list-style-type: none"> <li>• Free</li> </ul>
Tyres:	<ul style="list-style-type: none"> <li>• According to rule 2.4.</li> <li>• Beginning from the qualifying rounds, every driver has to use marked tires.</li> <li>• Tire marking can be done between the heats by the technical inspection.</li> <li>• 3 set of front and rear tires for dry and wet conditions.</li> </ul>

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General	<ul style="list-style-type: none"><li>The SuperBike top guys (podium finishers) are not allowed to drive Stock for 3 years</li></ul>
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### 3.2 Super Bike

Chassis:	<ul style="list-style-type: none"><li>Choice of the chassis is free. It must be in accordance with the rules described in § 2.</li></ul>
Motor:	<ul style="list-style-type: none"><li>Any type and size of motor is allowed.</li></ul>
ESC:	<ul style="list-style-type: none"><li>ESC is free.</li></ul>
Batteries:	<ul style="list-style-type: none"><li>Every kind of batteries i.e. NiMh, NiCd, LiPo and LiFe batteries up to 7.40 nominal Voltage are allowed.</li><li>The voltage must not exceed 4.20 volts/cell. Random checks will be made before the start run by race officials, (not during practice). If the battery exceeds 8.40 volts (4.20V/cell) the bike is not allowed out on the track and the driver will have a warning. If this happens more than one time the responsible driver will be disqualified from the race.</li></ul>
Weight:	<ul style="list-style-type: none"><li>No weight limit.</li></ul>
Brake System:	<ul style="list-style-type: none"><li>Mechanical front and rear brakes are allowed.</li></ul>
Gearing:	<ul style="list-style-type: none"><li>Free</li></ul>
Tyres:	<ul style="list-style-type: none"><li>According to rule 2.4.</li><li>Beginning from the qualifying rounds, every driver has to use marked tires.</li><li>Tire marking can be done between the heats by the technical inspection.</li><li>4 set of front and rear tires for dry and wet conditions.</li></ul>

### 3.3 Nitro Bike

Chassis:	<ul style="list-style-type: none"><li>Choice of the Chassis is free. It must be in accordance with the rules described in § 2.</li></ul>
Motor:	<ul style="list-style-type: none"><li>2-Stroke: maximum size is 3.5 CC</li><li>4-Stroke: maximum size is 10 CC</li></ul>
Weight:	<ul style="list-style-type: none"><li>No weight limit.</li></ul>
Brake System:	<ul style="list-style-type: none"><li>Mechanical front and rear brakes are allowed.</li></ul>
Gearing:	<ul style="list-style-type: none"><li>Free</li></ul>
Gear Box:	<ul style="list-style-type: none"><li>2-stroke engine &lt; 2.11 cm<sup>3</sup>: gear box allowed</li><li>2-stroke engine ≥ 2.11 cm<sup>3</sup>: gear box prohibited</li><li>4-stroke engine: gear box allowed</li></ul>
Tank Size:	<ul style="list-style-type: none"><li>There is no tank size limit</li></ul>
Exhaust System:	<ul style="list-style-type: none"><li>Any driver facing an exhaust system failure during a race or timed practice must immediately go back to the pits to have the problem resolved. Further laps with a risky bike and/or noisy engine will make the result of such race invalid after first warning decided by the Race Director or Referee, whose decision is final.</li></ul>

## 4 Racing Rules:

### 4.1 Free Practice; Race order and duration

#### 4.1.1 Race timing:

Timing / race timing schedule / rolling forward procedure / warning time will be defined and communicated in ADDENDUM.

#### 4.1.2 All Classes

- Tracktime: The track should be open in the mornings and evenings before/after the official race schedule for fun driving (based on time limits of local track). Track is closed at lunch time.  
First day of WC is free practice without groups. Second day of WC is free practice without groups but max. number of drivers on rostrum controlled with numbered cards. Third day in groups.
- To determine the training series, the result of the previous RC Bike World Championship will be used.
- New entrants will be added in alphabetical order at the end.
- The three best laps in consecutive order will give the start positions for qualifying runs.

### 4.2 Qualification and Finals; Race order and duration

#### 4.2.1 All Classes

- Training and qualifying runs will be started by in "flying start" type.

#### 4.2.2 Electric Bikes

##### **Qualification:**

- Duration of each qualifying run is 10 minutes.

Point-system will be used for the total result.

- For qualification the round by round point scheme will be used where all drivers will be awarded points based on their finish against all others for each round. If the 'Round by Round' qualifying method is used, the number of Rounds to count are as follows:
  - Six rounds three to count
  - Five Rounds three to count (Minimum for World Championship)
  - Four Rounds two to count
  - Three Rounds two to count
  - Two Rounds one to count.
  - Less than two Rounds completed event null and void. All other qualifying round scores will be discarded. Qualifying Round has to be completed for any heats in that round to be counted.
- If the intended maximum number of rounds cannot be completed, due to weather or unforeseen circumstances, the number of rounds to count will follow the same format. Fastest competitor (based on laps & time) in each round will score zero (0) points, second place 2 points, third place 3 points, fourth place 4 points and so on. If two (or more) competitors achieve an equal time in any round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular round.
- In the event of a tied position the driver with the single highest finishing position in either of the best two rounds that counted will be awarded the tie. In the event of a continuing tie then the laps and times from the best result in points will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared.
- When a driver incurs a penalty which results on his time and therefore points in any round being disallowed, then all drivers below the disallowed position will move up one place. (In the event the penalized driver is a tie on obtained points the one with the best time will be lost).
- In order to give drivers an equal chance during qualification, organizer may reseed these drivers that are obviously way above or under the average in their group into a more suitable heat whenever possible.
- Position 1.-10. goes to Final A
- Position 11.-20. goes to Final B.
- Position 21.-30. goes to Final C and so on.

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## **Finals:**

- Duration of all finals are 10 minutes.
- Start order will be the same for every final.
- All finals will be driven three times.
- All finals will be started in "Le Mans" type with a 3 meter interval between each bike.
- 30 second warning at which time all bikes must be present for the starter to assemble the grid will be applied. Missing numbers or late arrival at the grid will result in a start from the back of the grid.
- Point system will be used for the finals.
- The winner of a final gets 1 point; the second gets 2 points and so on up to 10 points for the 10<sup>th</sup> driver. In the event of a tie regarding time in a final, the points will be equally awarded to each driver and the next driver not tying will be given two points more.
- In the event of a tied position the driver with the single highest finishing position in either of the best 2 finals that counted will be awarded the tie. In the event of a continuing tie then the laps and times from the highest finishing position will be compared.
- When some drivers of a final do not run a final, they will be awarded the remaining points in the order of their bike numbers.
- The finalist with the lowest number of points will be the winner of the final.
- The winner determined from the combined A finals will be the World Champion. If the A finals cannot be completed, the awards will be made based on the final Qualifying positions.

## 4.2.3 Nitro Bikes

### **Qualification:**

- Duration of each qualifying run will be 10 minutes. The best result counts.
- ODD numbers (1-13) position 1-7 in ½ "A". Even numbers (2-14) position 1-7 in ½ "B"
- ODD numbers (15-27) position 1-7 in ¼-final "A". Even numbers (16-28) position 1-7 in ¼-final "B".
- ODD numbers (29-) gets position 1-7 in ⅛-final "A" and so on.

### **Finals:**

- The main-final will be started in "Le Mans" type with a 3 meter interval between each bike.
- Each sub-final will be started from the start/finish line with mechanics pushing the bike in start order from previous sub-final/qualification.
- 30 second warning at which time all bikes must be present for the starter to assemble the grid will be applied. Missing numbers or late arrival at the grid will result in a start from the back of the grid.
- Sub-finals before semi-finals will be started one-time A and one-time B . The 3 best drivers from each sub-final A and B goes up to the next level (1/32 -> 1/16 -> 1/8 etc.).

### **Length of finals:**

- All finals are only to be driven once.
- Finals lower than "semi": Duration will be 10 minutes.
- "Semi"-finals: Duration will be 20 minutes with one mandatory refueling stop.
- "Main"-final: Duration will be 30 minutes with one mandatory refueling stop.
- The 4 first semi-finalists of each semi-final A and B moves up to the Final grid to positions 1 to 8
- Position 9 and 10 will be determined by the fastest time of the 12 remaining semifinalists.

## 5 Penalties

### 5.1 Common:

- Depending on the track, it can be quite difficult for RC bikes to pass through the pits. Du to this fact, penalties for Jumpstart, Shortcutting or Unfairness will be applied as time reduction and not with a pass through or stop go penalty.

### 5.2 Jumpstart:

- 10 seconds will be added during the race (qualifying heats and or finals)

### 5.3 Shortcut:

- 1 lap will be reduced during the race (qualifying heats or and finals)

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### 5.4 No immediate return to the pits while running a bike

Experiencing a failure, risk for marshals "physical integrity" (exhaust system failure, burning batteries...):

- Cancellation of the heat after first warning.

### 5.5 Negligence of marshaling duty:

- 1 lap will be reduced from the best race.

### 5.6 Unfairness:

- 10 seconds will be added during the race (qualifying heats or and finals).

## 6 Miscellaneous

### 6.1 Language

- Official Language during the Event is English.

### 6.2 Position on the rostrum:

- Starting at the finals the fastest driver after qualification chooses his/her position on the rostrum, then the second fastest, then the 3rd fastest and so on in consecutive order.

### 6.3 Marshals

- Marshal technique, duties and etiquette will be specified at the drivers briefing at which attendance is mandatory for all entrants.
- Marshals must wear high visibility jackets and security gloves. Fluorescents jackets and gloves will be provided by the organization and are available at each marshalling point.
- Marshals must recover and launch the machines as instructed at Drivers Briefing.
- Marshals must be in place by the announcement of 2 minutes prior to race start, and remain in position until Race Control indicates that the race is over and all vehicles have finished.
- Penalties (ranking of penalties at discretion of the Race Director from time penalty to exclusion of the meeting) will be made for being late or absent at the marshal position or leaving the marshal before the "Race-Over-Signal". The race will not start before every marshal is in place.

## 7 Other Specifications (Transponder, "Lipo-safe-bag" etc.)

- Every type of remote control which is commercially available is allowed if it is according to the rules for radio equipment used in the country of the World Championship.
- Use of a personal transponder is mandatory. The same transponder number can be used in different categories.
- Repairs of a damaged model on the race track is strictly prohibited.
- Always follow the assignments of the race director.
- Each bike goes directly from the track to the technical inspection after each race.

## 8 Protests:

- Appreciation is to give the drivers the possibility to demand on the adherence by the rules.
- The Team manager committee will decide about the submitted protests by simple voting.
- Protest can only be submitted by the concerned driver. Protest must be submitted written and at latest 15 minutes after the affected run. The protest must be submitted to the own Team manager first.
- The Team manager informs the Race director and he will call a Team manager Meeting.
- Protest charge is € 25.00 (twenty five euro).
- If the protest is declined by the Team managers, the protest charge will be deducted.
- If the protest is approved, the protest submitter will get the protest charge back.
- Against this decision no more protest is allowed.
- The decision of the Team manager committee is final.
- Protests must be decided immediately by the Team manager Committee.

*For example: There is a protest because of violation against the rules in 1/8 Final B. If the decision is positive the up climbers would change. That means the decision must be made before the start of the 1/4 final B.*

## 9 Changing of the rules:

- Changing the rules during the event is prohibited.

## 10 Awards / Price ceremony

### *Electric Bikes*

- Prices to all 10 A-finalists and top 3 for the lower finals will be given.

### *Nitro Bikes*

- Prices to all the main finalists will be given.

## 11 Location of the World Championship Race

- Every Country has the right to apply for hosting the World Championship.
- The Application should be given to the Team Manager of that Country, who will present it at the Team Manager meetings.
- Locations for World Championship races are fixed two years ahead (so in 2015 the host for the race in 2017 will be decided)
- If more than one Country applies to host the race, Countries that did not have a World Championship race in the past are prioritized. If all Countries that apply already hosted a race, the Country whose race was farther in the past is prioritized.
- The choices will be presented to their drivers by the Team Managers, and the results will be voted in the Team Manager Meeting.
- History of past World Championship Races:
  - 2006: England
  - 2007: Italy
  - 2008: Spain
  - 2009: Germany
  - 2010: France
  - 2011: Switzerland
  - 2012: San Marino
  - 2013: Austria
  - 2014: Sweden
  - 2015: Spain
  - 2016: Germany
- Confirmed future races
  - 2017: Italy
  - 2018: France

## 12 History of the voting results

### 12.1 Sweden 2014

- Allow the „Wet“ Stockcombo in dry races as well YES (8:3)
- Change Start position in the finals for each run NO (10:1)
- Limit Number of Superbike Tires NO (6:2)
- Change Number of Stock Tires to 3 Dry + 1 Wet Set YES (9:2)
- Vote for World Championship Location 2016 Leipzig
- Change Qualification mode to only count best run NO (9:2)
- Change Stock weight to 1700g NO (5:5)
- Mark Stock tires during the event YES (9:2)
- Add a History List of World Championship Locations to the rules, so that a country that never had one or had it a long time ago is prioritized YES

### 12.2 Spain 2015

1. 4 + 1 tyres for superbike only from Quali.
2. World Championship from Su. till Sa.
3. World Championship Track closed one week before event for participating drivers.
4. Stock 1700g minimum allowed.
5. SuperBike top guys (podium) not allowed to drive Stock for 3 years.



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6. Italy World Championship 2017
7. Change 4.2.2 "three to count" because it was wrong (was two)

### 12.3 Leipzig 2016

1. Tyre limit will be reduced from 4+1 (dry + rain) to 4 in Superbike and from 3+1 to 3 in Stock.
2. New tyres for every driver only out of a central box at technical inspection. (work in progress: not in 2017)
3. First 2 days of WC is free practice without groups but max. number of drivers on rostrum controlled with numbered cards. Third day in groups.
4. Track open in the morning/evening before/after the official race schedule for fun driving (based on time limits of local track).  
Track closed at lunch time.