

1. CONSTRUCTION RULES

- 1.1 The essence of the sport of Radio-controlled car racing is competition between realistic models of racing automobiles. All cars must comply with dimensional requirements stated in these Rules.
- 1.2 Minimum weight for LMP12 classes is 730 grams. Minimum Weight for LMP12-GT class is 790 grams.
- 1.3 Wheel rim diameter maximum is 38mm and minimum of 30mm.
- 1.4 The tyres must be black except for side wall detail.
Tyre treatments are permitted at the organiser's discretion and are the user's responsibility. Organisers who ban use of specific products should state on the entry forms. Flammable and toxic substances are not recommended.
- 1.5 The BRCA has not yet found a substance that it can recommend for the treatment/ cleaning of tyres. The BRCA draw organiser's attention to the possible hazard created by large numbers of competitors using tyre treatments in a confined space.
The BRCA recommend that the competitor adheres to the methods of usage as stated by the supplier of the treatment. A list of legal additives will be published prior to start of each season. New additives may be added during the season, subject to approval by the BRCA 12th section committee. Additives may also be removed during the season should they be deemed unsuitable by the BRCA 12th section committee. Tyre additives used trackside to be kept in their original bottles.
- 1.6 Tyres must have a minimum width of 13mm and a maximum width of 40mm.
- 1.7 Wheel nuts and/or axles must not protrude more than 2.0 mm beyond wheels. No more than 1.5 mm of wheel outer side may be exposed (not covered with rubber) on the outer edge of wheels.
- 1.8 Bumpers may be fitted but must be designed to minimise injury that could result from being hit by a car, also to reduce the risk of damage to other cars. Rigid bumpers made from non-resilient materials such as metal are not allowed. Other sheet materials should have an edge radius not less than 1.5mm.
- 1.9 Only one wing is allowed on the car, maximum dimensions to be, width 172mm, chord 51mm, unless the original had more than one wing. The second wing must be to scale within 10% in size and location.
- 1.10 Overall maximum width of the rolling chassis to be 172mm.
- 1.11 All cars must have transparent windscreens, unless the actual car did not have transparent windscreens.
- 1.12 Side and/or rear windows, if any, must be clear or open.
- 1.13 A driver figure, if fitted, must be painted in realistic colour and garb.
- 1.14 All cars to have clearly visible identifying numbers to the Race Directors satisfaction.
- 1.15 Numbers must be at least 25mm high with minimum stroke of 4mm. They must be black numerals on a white background.
- 1.16 No portion of the chassis, wheels and tyres or any equipment may extend beyond the body, except rollover masts and four posts for the purpose of mounting the bodyshell
- 1.17 Roll-over masts/antennas may be fitted. When fitted the mast must have a safe blunt end. The minimum height of the rollover mast is 150 mm from the track surface. Rollover masts/antenna will be made from fibre-glass or carbon-fibre only, with a minimum outside diameter of 2.9 mm and a maximum outside diameter of 3.4 mm.
- 1.18 Openings in the body or cockpit floor other than ones appropriate to full size cars shall be kept to a minimum.
- 1.19 Wheel cut-outs may not be more than 10mm larger than the tyre radius. Exception- scale size and/or shape wheel well cut-outs. Wheel wells must be cut out if the original cars are cut out.
- 1.20 When initially entered in a meeting the body shell must be neatly finished and complete.
- 1.21 Body and chassis must be securely joined at all times while the car is on the track.
- 1.22 Only one drive motor is allowed per car.
For LMP12 Classes bodyshells must meet the requirements shown in Appendix 1 to these Rules. Body shells must be approved by the Committee, a list of approved shell will be maintained on the BRCA website. For the LMP12-GT class only 1/12th GT Style bodyshells will be permitted. A list of approved bodyshells will be maintained on the BRCA website.
- 1.23

- 1.24 The minimum ground clearance of the car, not including the spur gear, is 3mm; this will be checked before each qualifying heat and final race.
- 1.25 Only Personal Transponders will be used to record laps. The section will have Personal Transponders available for competitors to purchase.
- 1.26 The rear axle must not have any articulated element and may be fitted with a differential (one solid rear axle). Only a single fixed ratio transmission is allowed. Cars may only have two driven rear wheels with the drive being to the rear axle. No independent rear suspension is allowed.

2 DEFINITION OF A SPEC MOTOR

- 2.1 Motors allowed – Spec, or Stock, class. Any motors listed in any of the Electric Board "Brushless Spec Motor" lists as updated from time to time.
- 2.2 Motors must conform to the relevant technical specifications detailed in the Electric Board Rules.

3 DEFINITION OF A MODIFIED MOTOR

- 3.1 Any approved motors from the EB Modified motor list can be used, star or Y winds only. Motors from the 10.5T, 13.5T and 17.5T lists can also be used, but only with the number of turns as homologated. The minimum number of turns allowed is 6.5T.
- 3.2 Motors must conform to the relevant technical specifications detailed in the Electric Board Rules.

4 DEFINITION OF A ZERO-TIMING SPEED CONTROLLER

- 4.1 Speed controllers may not be equipped with any form of automatic or programmable timing advance. If this feature is available on the particular speed controller it must be disabled and placed in an approved mode - i.e. the "ROAR blinking LEDs mode." Brushless Speed Controllers built without automatic or programmable timing advance will be allowed. The BRCA 12th Committee will provide a list of eligible speed controllers. Details of the requirement for the approved mode are contained in Appendix 2 – Zero-Timing Brushless Speed Controllers – and this requirement must be met for a speed controller to be eligible for racing in relevant 12th Classes (see Procedural Rule 1)

5 BATTERIES ALLOWED

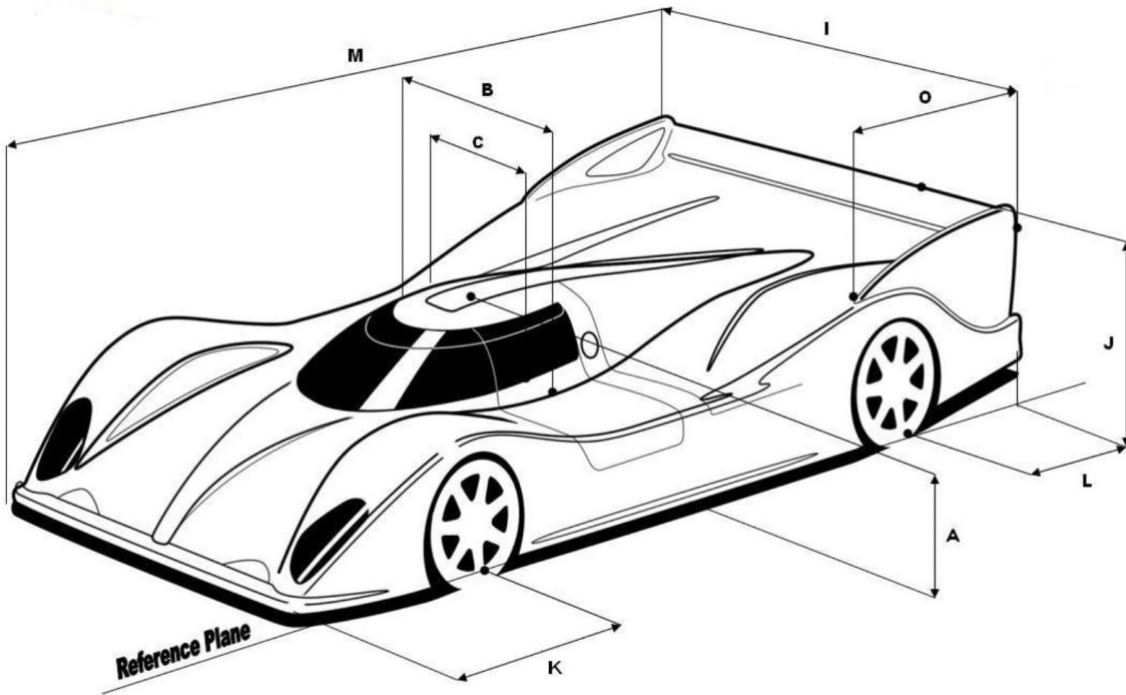
- 5.1 Any cells conforming to the current Electric Board battery list.
- 5.2 Cars will be powered by cell/s with a maximum nominal voltage of 3.8v.

THE FOLLOWING APPENDICES ARE PART OF THE RULES ABOVE

APPENDIX 1 - BODYSHELLS – (CONSTRUCTION) RULE 1.23

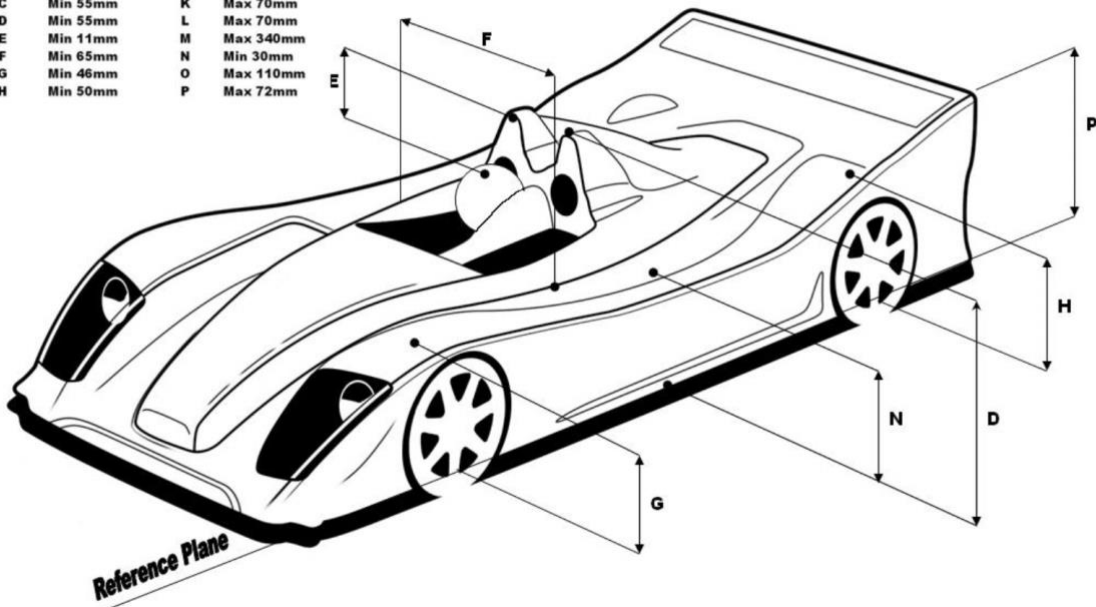
The following is the specification for approval of 1/12 Prototype Sports car body shells. They should be used by the Section to enable clear and consistent application of standards for future approvals,

- 1 Lower body cut line is to be used as the reference plane for all height dimensions.
 - 2 Minimum cockpit height – Closed cockpit – 55mm (Excluding any air scoops / air boxes)
 - 3 Minimum cockpit width – Closed cockpit – 70mm (Measured at the point it intersects with the side pod)
 - 4 Minimum cockpit width - 55mm (measured at the lower window line)
 - 5 Minimum Roll bar height – Open cockpit – 55mm
 - 6 Maximum distance from Drivers helmet to top of roll bar – Open cockpit -11mm
 - 7 Minimum cockpit width – Open cockpit – 65mm (Measured at the point it intersects with the side pod)
 - 8 Minimum front wheel arch height – 46mm (Including vents) (measured at a point 15mm from edge of body)
 - 9 Minimum rear wheel arch height – 50mm (measured at a point 10mm from edge of body)
 - 10 Maximum overall width – 176mm
 - 11 Minimum overall width – 168mm
 - 12 Max wing / spoiler height – 65mm
 - 13 Max front overhang (From centre of front wheel)– 70mm
 - 14 Max rear overhang (from centre of rear wheel) – 70mm
 - 15 Max length overall – 340mm
 - 16 Minimum side pod height – 30mm
 - 17 The side dam must blend fully (disappear) into the main body shape within 110mm of the rear edge of the body/side dam.
 - 18 Max side dam height – 72mm
 - 19 The body side forward of the side dam must have a radiused edge, no lips or upward extensions are acceptable
 - 20 Bodies must be a representation of a full size LMES / ALMS / LMP / WSC prototype.
 - 21 Open cockpit cars to have twin roll bars as current LMES / ALMS
 - 22 Open cockpit cars must have a representative drivers helmet and cockpit opening
 - 23 The name of the prototype must be used for the homologation process.
 - 24 The name of the prototype does not have to be used for general sales and marketing.
 - 25 Only fins or strakes that are present on the full size prototype will be allowed.
 - 26 Cut-outs in the shell will be allowed only if clearly defined on the full size prototype
 - 27 Once Homologated there must be no changes to the design, trim lines, detail lines or any feature of the body. All changes will require resubmission for approval and an additional revision letter added to the part number- Example 15001A - Original - 15001B for a 2nd Rev. Etc
- The manufacturer's part number must be clearly marked on the shell alongside the windscreen area.
- Note, original Rule 26 removed. "The body must not be cut above the lower cut line"



Body Specifications 1/12th Scale On Road

A	Min 55mm	I	168 to 176mm
B	Min 70mm	J	Max 65mm
C	Min 55mm	K	Max 70mm
D	Min 55mm	L	Max 70mm
E	Min 11mm	M	Max 340mm
F	Min 65mm	N	Min 30mm
G	Min 46mm	O	Max 110mm
H	Min 50mm	P	Max 72mm



APPENDIX 2 – 'ZERO TIMING' BRUSHLESS SPEED CONTROLLERS –
(CONSTRUCTION) RULE 4

'ZERO TIMING' BRUSHLESS SPEED CONTROLLERS

A speed controller that has a 'zero timing profile', that does not alter the fixed position pre-set mechanical timing of the motor in any way and disables any advanced motor control; functions (ie. Boost, Cheat mode, Turbo etc.). This profile is known as 'Boost 0'.

The commutation sequence is limited to "6-step" type and commutation of the Speed control must follow the motors hall sensor signals 1:1. Therefore no change of timing (either advance or retard) is allowed at any RPM. When the "Boost 0" profile is activated, it will be identified by a blinking LED or LEDs while the ESC is armed and in neutral position.

The BRCA 1/12 Electric Circuit Section reserves the right to retain a speed controller and motor after the conclusion of a meeting to measure its performance against the above criteria in a controlled environment. The equipment, or identical new replacements, will be returned to the competitor within 5 working days. Sanctions may be taken against a competitor and/or manufacturer if a controller is found to be non-compliant.

END OF APPENDICES

REVISION HISTORY

- V1.0 - EGM rule changes added - 8th October 2012
- V1.1 - Classes aligned - 9th September 2012
- V2.0 - EGM rule changes added - 28th July 2013
- V3.0 - EGM rule changes added - 27th May 2014
- V3.1 - LMP12 Procedural rules separated - 17th October 2014
- V4.0 - EGM rule changes added - 2nd September 2015
- V5.0 - EGM rule changes added - 16th August 2016
- V6.0 - EGM rule changes added - 7th August 2017
- V7.0 - EGM rule changes added - 27th September 2018
- V8.0 - EGM rule changes added - 2nd August 2019
- V9.0 - EGM rule changes added - 6th July 2022
- V10.0 - EGM rule changes added - 14th September 2023
- V11.0 - AGM rule changes added - 19th July 2024