

Document Details	
Section	IC
Type	Technical Specification
Class	1/10 <sup>th</sup> 200mm Touring Car
Release Date	December 2010. Revised January 2013

Version		
0.1		Initial extract from <i>IFMAR 1/10th I.C. TRACK RACING AND TECHNICAL RULES</i> Amended March 2008. Full IFMAR rules available from <a href="http://www.ifmar.org/pdf/ifmar_wc_10_track_2008.pdf">http://www.ifmar.org/pdf/ifmar_wc_10_track_2008.pdf</a>
0.2	Dec 2008	Removed sections related to engine tagging and control fuel. Added original AARCMCC fuel rules. Renumbered Rules. Changed wording of IFMAR to AARCMCC where applicable.
1.0	May 2009	Reordered rules into categories. Breakdown long rules where multiple items were in a single rule. Added diagrams. Clarified many rules. Removed front bumper body cut line requirements as many approved bodies do not have this molded. Reduced size of glow plug hole to 15mm.
2.0	Dec 2010	Updated wing overhang and INS Box. Revised overall format, numbering and layout. <b>Competitors must also reference IC Onroad General Rules, Section 5.10, for Engine allowance.</b>
2.1	Jan 2011	Clarified that INS Box must be used
2.2	Jan 2013	Defined weight limit and body thickness.
<b>Changes are marked in RED text</b>		

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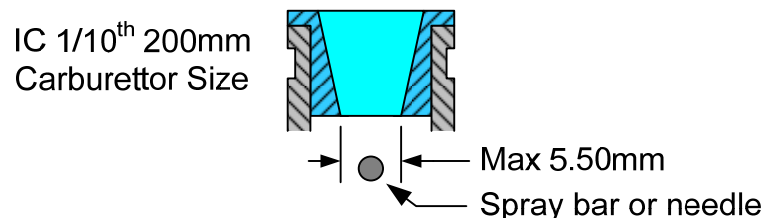
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## 1. General

- 1.1. The class run will be the AARCMCC IC 1/10<sup>th</sup> 200mm Touring Car.
- 1.2. The official measurements in these Technical Specifications are the metric measurements.
- 1.3. All measurements referred to in these rules are maximum or minimum values.
- 1.4. It is the object of these rules to ensure that the AARCMCC IC 1/10<sup>th</sup> 200mm Touring Car Championship be a test of driver skill.
- 1.5. It is the responsibility of the driver to ensure that their car complies with the rules and regulations at all times it is on the track. The organiser may check any car at any time during the championship for compliance with the regulations. On checking immediately after a race, if a car is found to be under the minimum weight or has incorrect dimensions, positive proof of race damage may prevent disqualification.

## 2. Engine

- 2.1. The engine shall have a total capacity of not more than 2.11cc (0.12 Cu.In).
- 2.2. The engine shall be air-cooled, with front rotary valve, two-stroke induction.
- 2.3. The engine shall have a maximum of four (4) ports in the liner, including the exhaust port, seen with the piston at its lowest position. Additional slits or openings in the liner are allowed as long as they do not reach the top of the piston at its lowest position.
- 2.4. No form of forced induction is allowed.
- 2.5. No form of variable port timing is allowed.
- 2.6. Only glow plug ignition is allowed. Standard or conical glow plugs are allowed.
- 2.7. The piston skirt may only be relieved **on the crankshaft counterweight side**. No additional openings in the piston are allowed.
- 2.8. The carburettor size is to be a maximum diameter of 5.50mm, as measured directly above the spray bar or needle of the carburettor.



- 2.9. A mechanical or electrical starting mechanism is optional.

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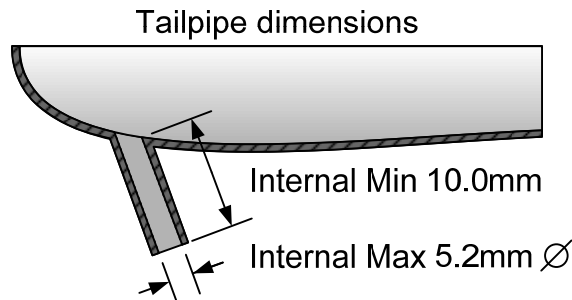
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2.10. Internal engine modifications are allowed so long as they are within the parameters of rules 2.1 through 2.9.

### 3. Exhaust

- 3.1. Homologated mufflers with at least double chamber design, including silencer chamber, and a homologated INS box, must be used.
- 3.2. The muffler and INS box must be IFMAR listed as homologated by ROAR, EFRA, FEMCA or FAMAR, and must bear its homologation number during the entire competition.
- 3.3. With a fitted INS box, the muffler may not produce more than eighty five (85) decibels (dBA) measured at ten (10) metres distance and one (1) metre high. AARCMCC's definition of a noise level is always final.
- 3.4. Muffler and INS box measurements, both internally and externally, may be checked for compliance with homologation drawings and/or samples at the completion of a qualifying heat and/or final.
- 3.5. The IFMAR Muffler and Inlet Noise Silencer Box Lists, where possible with detailed drawings, must be available in Technical Control.
- 3.6. The outlet or tailpipe of the muffler must project horizontally or downward. No upward or vertical muffler outlet or tailpipe is allowed.
- 3.7. Tail Pipe dimensions.

Maximum internal diameter*	5.20mm
Minimum internal length	10.00mm
* This dimension includes a tolerance to account for manufacturing variations in commercially available tubing.	



3.8. The shape of the muffler has to be of a straight circular rotated type. Any other shape like oval, bent or any other form that is not reproducible by a lathe is not allowed.

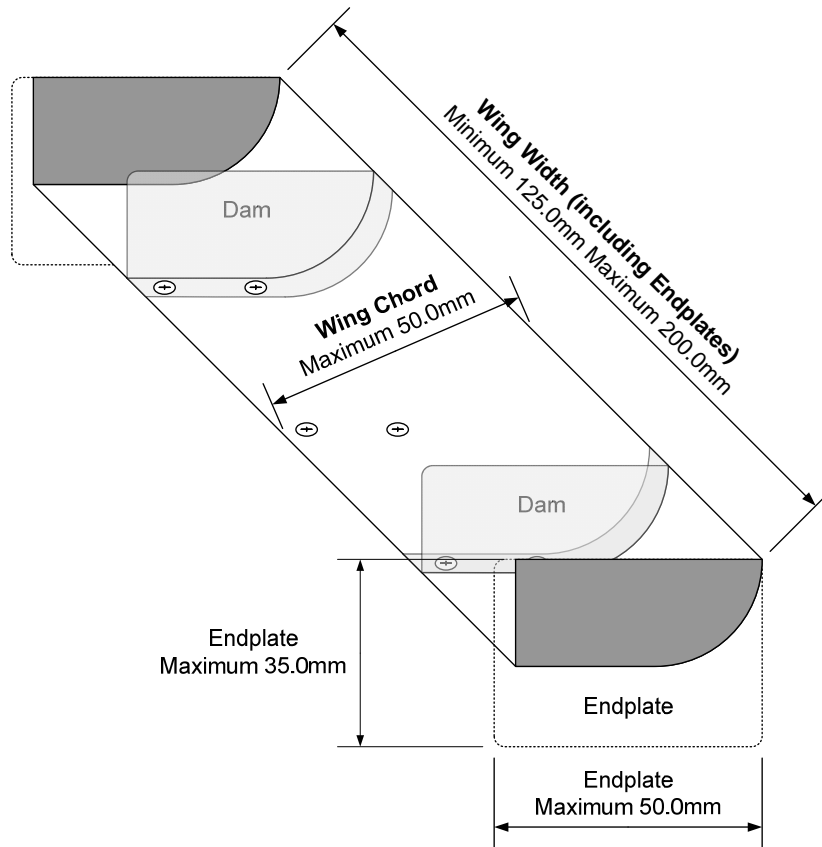
## 4. Body

- 4.1. Bodies must be a 1:10 scale in character reproduction of touring car (sedan) 2 and 4-door vehicles that exists or has existed, and raced in an international Touring Car series.
- 4.2. The body must be IFMAR listed as homologated by ROAR, EFRA, FEMCA or FAMAR, and must bear its manufacturer and/or homologation number during the entire competition. This number must be moulded in at **an** edge of the front windscreen.
- 4.3. Only the muffler outlet or tailpipe, antenna, body posts and transponder mount may protrude outside the body shell. Where the muffler outlet or tailpipe protrudes through the body, it must be within the maximum width without body of 200mm.
- 4.4. The body and spoiler and/or wing must be made from a flexible material and be painted. The driver's name and flag may be placed on the rear side windows. A painted sun visor is allowable on the top of the front windscreen. Thin lines of a contrasting colour may be painted along the outer edge of any window, within the marked window line. All remaining window space must remain clear and not be painted over in either solid or semi transparent colour.
- 4.5. Details of all front and rear lights, and windows must be clearly contrasted from the surrounding paintwork. Where present, details such as grills and air intakes should be clearly contrasted from the surrounding paintwork.
- 4.6. Bodies are not to be cut above the lower bumper line at the front or the back or above the bottom line of the doors.
- 4.7. The rear of the body may not be cut away higher than 50.00mm measured with a 10.00mm spacer under the chassis plate.
- 4.8. All bodies must have the front and rear wheel arches cut out for the wheels if the original was so designed.
- 4.9. Only the following openings and sizes are permitted in the body shell;
  - 4.9.1 One opening may be made in the front windscreen with a maximum dimension of 60.0mm in any direction not intruding into the roof, bonnet or front pillars.
  - 4.9.2 An additional opening of 50.0mm may be made above the fuel filler cap when viewed from above. Where this opening intrudes into the front windscreen the 60.0mm opening in 4.9.1 cannot be used.
  - 4.9.3 The minimum distance between any openings is 5.0mm.
  - 4.9.4 An opening with a maximum diameter of 15.0mm is allowed above the cooling head, for easy glow plug access.
  - 4.9.5 Additional openings may be made for body posts, radio antenna, carburettor access and a transponder to a maximum diameter of 10.0mm. On chassis where an additional 3<sup>rd</sup> front body post is fitted, that body post may protrude through an additional opening in the front windscreen. Where the radio antenna is mounted under the front windscreen, the antenna may pass through an additional opening in the front windscreen.
  - 4.9.6 An opening for the exhaust must be no greater than 25.0mm in any direction. Where the exhaust opening cuts through the side lower edge of the body, a slotted opening is allowed.

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- 4.9.7 Front side windows and rear window may be removed to the line of each window. For cars with pull-start engines, the rear side window may be removed instead of the front side window.
- 4.10. Body bracing may be fitted under the body, however the body must remain within the maximum body dimensions and must conform to rule 5.12.
- 4.11. The height of the body and wing and spoiler is to be measured with the chassis on a 10mm spacer. The body height measurement is taken from the highest point of the roofline and excludes items such as fixings and moulded features.
- 4.12. Wing/Spoiler;
  - 4.12.1 One (1) wing and one (1) spoiler may be mounted to the body. If the original full-size car had more, it is allowed to do the same.
  - 4.12.2 Wings/spoilers (excluding endplates) are to be of single moulded construction (no flat-packs/bend your own).
  - 4.12.3 Wing and spoiler must be mounted to the body in the same place as was intended by the body manufacturer. Piano wire cannot be used to mount the wing/spoiler.
  - 4.12.4 Additional dams may be added to the wing/spoiler providing they are within the allowable dimensions of the spoiler.
  - 4.12.5 Wing, including endplates and dams, and spoiler must not protrude outside the maximum dimensions of the fitted body.
  - 4.12.6 Minimum width of wing/spoiler including endplates is 125.0mm. Maximum width of wing/spoiler including endplates is 200.0mm.
  - 4.12.7 Maximum size of endplates is 35.0mm x 50.0mm
  - 4.12.8 The wing/spoiler (including endplates) overhang must not exceed 10.0mm at the furthest point, to be measured from the rear most part of the rear bumper to the rear most part of the wing/spoiler and endplates.
  - 4.12.9 The height and angle of the wing/spoiler may be adjusted but the wing/spoiler, including endplates must not extend higher than the roofline.
  - 4.12.10 The maximum chord of the wing/spoiler is 50.0mm.
- 4.13. Bodies must be made from polycarbonate with a minimum thickness of 0.75mm. Measurement will be done at 4 specific points on the body where there must be a minimum thickness of 0.55mm or the sum of the 4 measurements must be equal or bigger as 2.2mm. – Effective 1<sup>st</sup> July 2013.**



## 5. Chassis

- 5.1. The car will be four wheel drive (4WD).
- 5.2. A body must be fitted to the chassis while driving on the track.
- 5.3. Only one (1) brake, working on the central power transmission, is allowed. No second, pressurised or individual brake system(s) for front and/or rear axles or single wheels is allowed.
- 5.4. Maximum 2-speed gearbox allowed.
- 5.5. The front bumper must follow the body contour and must be constructed so as to minimise injury that may result from being hit by a car. The bumper must be made from foam rubber or a flexible plastic material.
- 5.6. The aerial support must be flexible. Carbon, GRP, steel, etc. are not allowed.
- 5.7. Foam and/or rubber tyres may be used. Any materials used in, or on, the tyres must not damage the racing surface. **Treatment of the tyres with additives is prohibited.**
- 5.8. Wheels must be fixed by a screw or nut to an axle. The axle and fixing screw or nut in the wheel rim may not extend beyond the outside edge of the wheel rim. Quick change wheel systems are not allowed.

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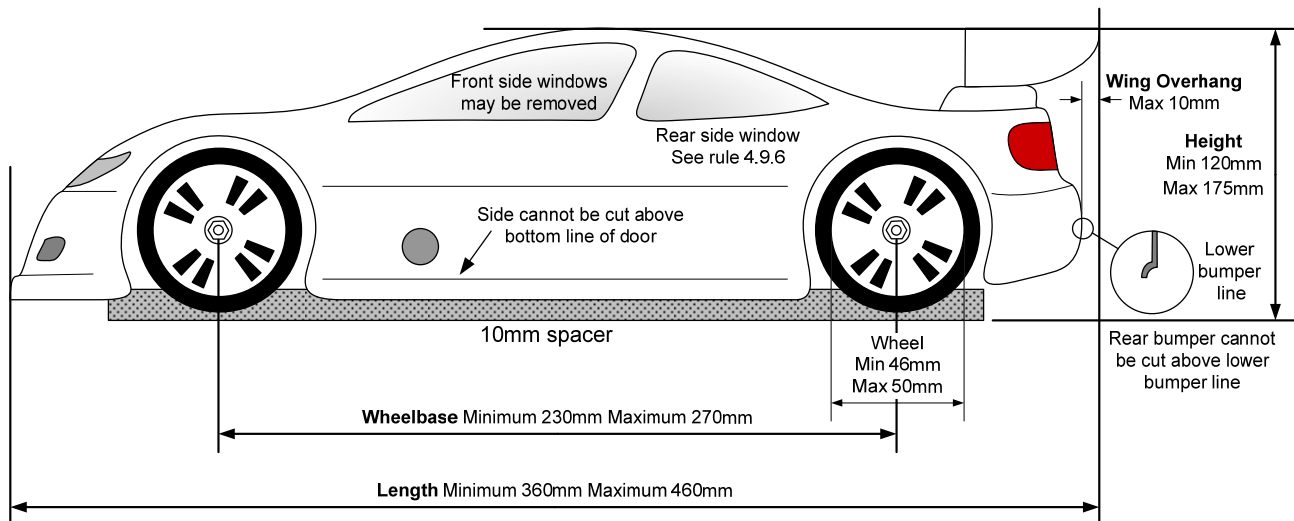
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- 5.9. Only two (2) servos are allowed.
- 5.10. All cars must have a de-clutching device and have an operating brake capable of stopping the car and holding the car motionless with the engine running.
- 5.11. **Minimum weight without fuel: 1650.0g (including transponder).**
- 5.12. Under body/chassis aerodynamic aids of any nature are not allowed.
- 5.13. Roll-bars (roll-over bars) must be mounted under the body.
- 5.14. General Dimensions;

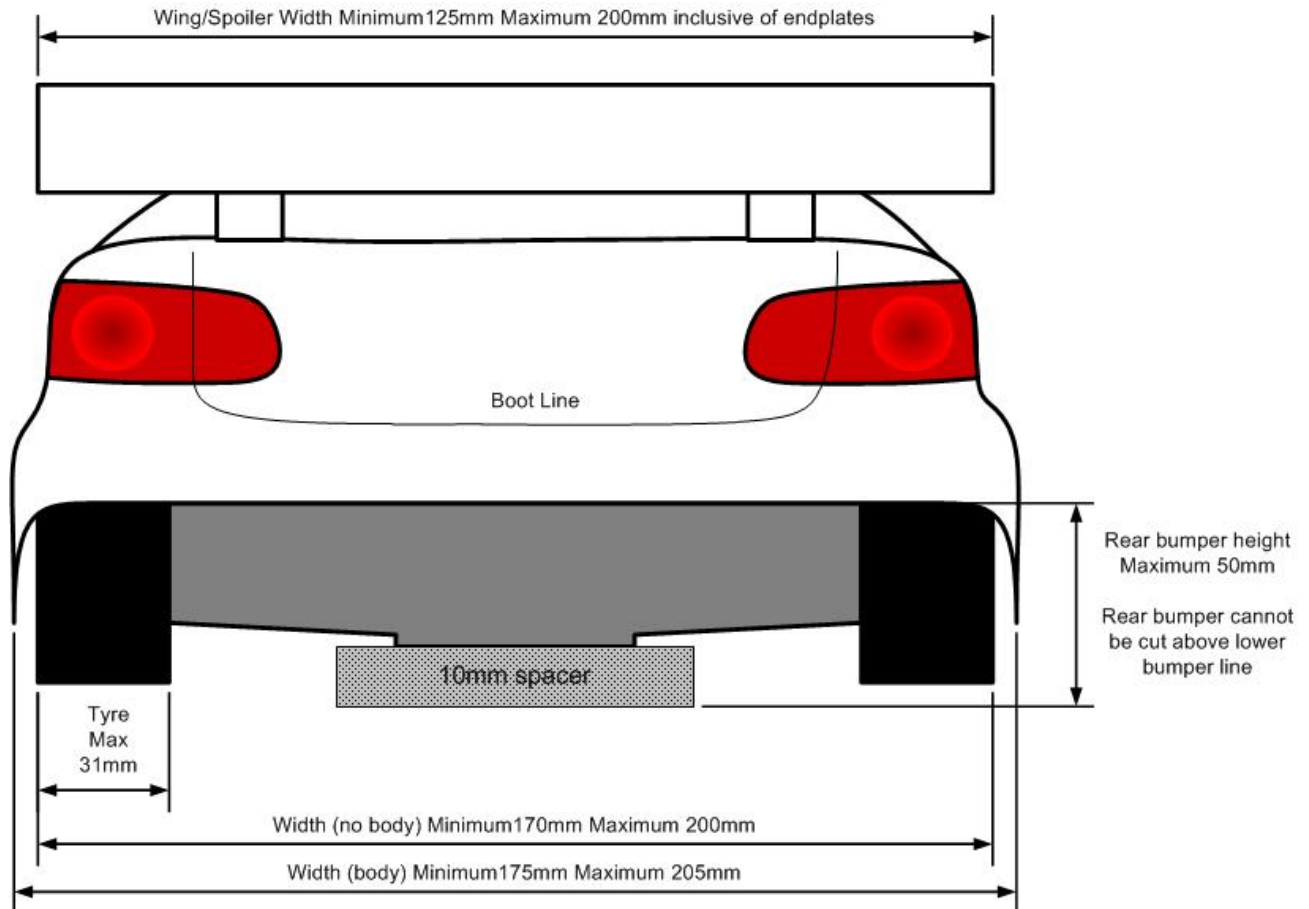
General Dimension	Minimum (mm)	Maximum (mm)
Wheelbase	230.00	270.00
Width (without body)	170.00	200.00
Width (with body)	175.00	205.00
Length (including body and wing)	360.00	460.00
Height (to top of roof measured with a 10.00mm spacer under the chassis plate on level)	120.00	175.00
Wing width including endplates	125.00	200.00
Wing Chord	-	50.00
Wing endplate – equal size		35.00mm x 50.00mm
Wing overhang (at rear)		10.00
Wheel diameter (excluding tyre bead)	46.00	50.00
Wheel width (including bead)	-	30.00 + 1mm Tolerance
Tyre width (across sidewalls)	-	31.00mm

Highest point of the roofline is the highest point of the moulded roofline. It does not include external fixings, moulded features or other items added after manufacture. Added exterior items may need to be removed for scrutineering.

Wing cannot be higher than highest point of roofline



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## 6. Fuel

- 6.1. Fuel may be tested and samples and counter samples taken for testing at any time during the championship. Competitors whose fuel does not pass inspection will be disqualified. Competitors whose fuel samples are found to contain prohibited additives will be stripped of all results and further actions, including bans from future racing will be imposed.
- 6.2. Fuel will only contain methanol (methyl alcohol), lubricating oil, coloring agent and a maximum of 16% nitro-methane in volume. Any other additives are strictly prohibited.
- 6.3. The specific gravity of the mixture may not be heavier than 0.87. An IFMAR approved fuel tester, e.g. Nitromax 16, will be used to verify the fuel's conformity to the rules.
- 6.4. Fuel capacity to be 75.00mL including fuel tank, fuel tubing up to the carburettor, filters, etc. No loose inserts are allowed inside the tank.
- 6.5. Any fuel capacity found to be illegal (over 75mL) after a heat or final shall be inspected for a second time after an initial 'cool down' period of fifteen (15) minutes. The fuel tank, fuel tubing up to the carburettor, filters, etc may be removed from the car. This 'cool down' period is only necessary in the case of temperatures above 20°C.



## 7. Technical Exclusions

- 7.1 It is not allowed to use any electronic devices with the exception of:
  - 7.1.1 Two radio channels of the receiver which will be used to operate steering, throttle and brakes.
  - 7.1.2 Not more than two (2) servos.
  - 7.1.3 A passive data recording or information system to record functions of the car can only be used up to the end of controlled practice.
  - 7.1.4 A transponder.
  - 7.1.5 An electronic failsafe.
  - 7.1.6 A voltage regulator and/or battery level indicator.
- 7.2 The use of traction control devices, active suspension devices and any steering control aided by gyroscopes/'G'-force sensors is strictly forbidden.
- 7.3 Sensors are only allowed for the purpose of passive data recording and cannot be used for adjusting the performance of the car whilst in motion. Sensors may only be used up to the end of controlled practice.
- 7.4 Not allowed;
  - 7.4.1 4 wheel brakes. Independent controlled or pressurised braking systems including pneumatic or hydraulic systems, are not allowed.
  - 7.4.2 Liquid cooled engines.
  - 7.4.3 Hydraulic systems.
  - 7.4.4 No more than 2-speed transmissions.
- 7.5 Quick change wheel systems are not allowed.