

## SECTION 2: Electric Off Road, Technical Rules

### Off Road Electric Classes

2.0 For the purpose of State and National Sanctioned Events, the following sanctioned classes must be run.

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|------------------------------------|--|
| 1. Two Wheel Drive Modified        | (Modified Class Motors)  |
| 2. Two Wheel Drive Super Stock     | (19-turn Super Stock & 10.5 brushless Motors)                  |
| 3. Two Wheel Drive Stock           | (Spec 27-turn 24 degree Brushed & 17.5 brushless Stock motors) |
| 4. Four Wheel Drive modified.      | (Modified Class Motors)  |
| 5. Four Wheel Drive Super Stock    | (19-turn Super Stock & 10.5 brushless Motors)                  |
| 6. Four Wheel Drive Stock          | (Spec 27-turn 24 degree Brushed & 17.5 brushless Stock motors) |
| 7. Two Wheel Drive Modified Truck. | (Modified Class Motors)  |
| 8. Two Wheel Drive Stock truck     | (Spec 27-turn 24 degree Brushed & 17.5 brushless Stock motors) |

**All classes to run 5-minute +1 lap in heats and finals.**

2.0.1 All motor and battery specifications, refer to section 4, **MOTOR & BATTERY RULES**

2.0.2 **No cross entering between motor classes.**

2.0.3 **Junior Drivers**, under the age of 16 years at the time of the event. The highest placed Junior will be recognised as the Junior state or national champion for their performance for stock 2 WD and 4 WD during the meeting. The host club can also recognise the highest placed junior in modified as a state or national champion. **Senior Drivers** are to be a minimum age of 40 years at the time of the event. Seniors are to compete in the Super Stock class. The highest placed Senior will be recognised as state or national champion for their performance for 2WD and 4WD

### 2.1.0 TECHNICAL INSPECTION

2.1.1 All cars must be presented for technical inspection during the running of the prior heat. No car will be allowed on the track surface without undergoing technical inspection.

2.1.2 All cars must be presented for technical inspection at the end of each final.

2.1.3 All motors and batteries to be inspected as necessary during qualifying with mandatory inspection after the finals.

2.1.4 Maximum of number of six (6) sub C cells is allowed for motive power and cooling fans only in all car classes, and must conform to the battery section rules in ELECTRIC MOTORS AND BATTERIES. Receiver battery packs must only power receivers, Transponders, electronic speed controls, steering and/or throttle servos. No other devices will be powered from a receiver pack.

2.1.5 **Radio equipment: All transmitters must be inspected and approved prior to use in the event. A maximum of two control devices may be used: i.e. two servos or a servo and a speed control.**

### 2.2.0 GENERAL SPECIFICATIONS

2.2.1 Technical inspection will be prior to the start of racing and each heat/final. Cars may be inspected at anytime during the racing program.

2.2.2 All cars in the A-finals will be impounded at the end of the finals for further technical inspection, such as motors, etc.

2.2.3 Only one car per driver per class is allowed. No cross entering between motor classes allowed. Super Stock 2 WD & 4 WD may choose to race in either Truck Stock or Truck Modified.

2.2.4 All cars must be presented to Technical Inspection for an Initial Inspection before the start of Controlled Practice. The purpose of this Initial Inspection is to determine that the car meets the AARCMCC Technical

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Rules for this event. When the car passes this Initial Inspection, the Technical Inspector will mark the chassis of the car. Marks, which are made by engraving, and/or removal of chassis material, are to be avoided. A driver may refuse to have their chassis marked by methods, which include removing chassis material. Once the chassis is marked, the chassis may not be changed without the approval of the Race Director. The chassis may only be changed in the case of damage, which cannot reasonably be repaired. Drivers must race the car he or she passed technical inspection with during qualifying and finals in accordance with the rules above.

<b>2.2.5 Dimensional requirements</b>	<b>(all classes except truck);</b>
Maximum overall length	457.2mm (18.00 inches)
Maximum overall width	250.0mm (9.84 inches)
Maximum height	203.2mm (8.00 inches)
Minimum Wheelbase	228.6mm (9 inches)
Maximum Wheelbase	292.10mm (11.5 inches)

### **Truck:**

Maximum overall length	457.2mm (18.00 inches)
Maximum overall width	330.0mm (13 inches)
Minimum wheelbase	228.6mm (9 inches)
Maximum Wheelbase	292.10mm (11.5 inches)

**Note:** Width should be measured using a ramp at 30 degrees with sides higher than the tyre diameter allowing 0.5mm additional width. The vehicle must be checked as raced, however the motor may be disengaged from the gearbox to assist rolling. The Vehicle must roll completely off the ramp.

- 2.2.6 Bodies: All cars must use a 1:10<sup>th</sup> size body and have the appearance of full-size off-road racing cars. Pipe type bodies may be utilised on cars originally supplied in that configuration. A driver figure (minimum: head, shoulders, arms) must be firmly secured in proper position on cars using pipe type bodies. A driver figure is not required on enclosed body cars.
- 2.2.7 Bodies must be cut to the mould lines where ever possible. No extra air scoops or vent holes are to be cut into the body unless moulded into the body from the manufacturer.
- 2.2.8 Side dams and spoilers: No add on side dams or spoilers allowed. Those moulded in body as on original car are allowed. Exception is truck class where an add on spoiler with a maximum chord of 50.8mm and width of the rear part of the body the spoiler is mounted too is allowed.
- 2.2.9 The body must be securely attached to car at all times while racing. If the body becomes loose and a track hazard or falls off during race, car must pull off the track until the body is re-attached.
- 2.2.10 Openings in the body or cockpit floor other than appropriate to full size cars (scoops, vents, etc.) shall be kept to a minimum. Openings for wing mounts, antennas, and battery on-off switch shall provide no more than 5 mm in clearance. Specifically, servos, receivers, batteries, and servo savers are not allowed to protrude through original shell.
- 2.2.11 Wings (2wd & 4wd only)  
A maximum of two wings may be used. One front and one rear of the car.  
Max size of wings:  
Front 5 inches wide by 2.5 inch cord (127.00 mm x 63.5mm)  
Rear 7 inches wide by 3.0 inch cord (177.00 mm x 76.2mm)  
Max wing side dam sizes: Height 50mm/1.969in.  
Length 100mm/3.937 in.  
Rear bi-level wings are permitted.
- 2.2.12 Rollover antennas are not allowed. Antennas must be of a flexible non-metallic material.

### 2.2.12 **Tyres:**

**Controlled tyres must be used for all classes.**

Spiked tyres are allowed but spikes must be of a pliable material. No metal or hard plastic spikes will be allowed. All tyres must be black. Foam tyres are not allowed. Foam/cap tyres are not allowed but internal foam

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inserts are permitted. Tyres will not be modified in any way that will affect their original dimensions or construction; tyre beads can be trimmed to fit into bead mount areas of rims.

The type of tyres and combinations are decided by the AARCMCC Electric Executive together with the race organiser (from race organiser recommendations). **The race organiser will forward the recommendations to the AARCMCC Electric Section four (4) months before the event.**

**The final decision will be made Three (3) months before the event, between the AARCMCC Electric Executive and the race organiser.**

2wd and Truck: Rear tyres controlled only, front tyre is open.  
4wd: Front and Rear tyres are controlled, different types maybe selected for the front and the rear axles. Specified tyres must be run on the corresponding axles.

The selected controlled tyre both classes must continue to be commercially available in all Australian states for four (3) months prior to the event and up until the commencement of the event.

### **Tyre sizes 2wd & 4wd Buggy:**

Max. width - 1.75 inches (45mm) No minimum width

Max. tyre diameter - 3.544 inches (90mm)

Wheel sizes: Min. bead mounting diameter - 1.625 inches (41mm)

Max. bead mounting diameter - 2.2 inches (56mm)

Note: Bead mounting dimensions are measured at the point where the internal tyre bead meets the wheel.

Max wheel diameter - 2.42 inches (62mm)

Note: Internal locking ring may be used for the purpose of retaining the tyre only. Ring can not be used to increase the wheel's original size and/or the stiffness of the sidewall.

Max wheel width - 1.500 inches (38mm)

### **Tyre Sizes Truck:**

Max. width - 2.36 inches (60mm)

Min width - 2 inches (51mm)

Min. tyre diameter - 3.74 inches (95mm)

Wheel sizes: Min. bead mounting diameter - 2.164 inches (55mm)

Max. bead mounting diameter - 2.244 inches (57mm)

Note: Bead mounting dimensions are measured at the point where the internal tyre bead meets the wheel.

Max wheel diameter - 2.42 inches (62mm)

Note: Internal locking ring may be used for the purpose of retaining the tyre only. Ring cannot be used to increase the wheel's original size and/or the stiffness of the sidewall.

Max wheel width - 2.00inches (51mm)

### **2.3.0 TWO WHEEL DRIVE CLASS**

2.3.1 Front wheel drive cars must run in 4wd class.

2.3.2 Two wheel drive/rear wheel drive cars only will be allowed.

2.3.3 Cars must conform to the general technical specifications.

2.3.4 Minimum weight limit:- 1500 Grams (including transponder)

### **2.4.0 FOUR WHEEL DRIVE CLASS**

2.4.1 Four wheel drive and 2 wheel/front wheel drive cars will be allowed.

2.4.2 Cars must conform to the general specifications.

2.4.3 Minimum weight limit:- 1600 Grams (including transponder)

### **2.5.0 TRUCK CLASS**

2.5.1 Two wheel drive/rear wheel drive trucks only will be allowed

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2.5.2 Trucks must conform to the general technical specifications.

2.5.3 Minimum weight limit:- 1725 Grams (including transponder)

### 2.6.0 DRIVERS AIDS

2.6.1 It is the objective of this rule to ensure that sanctioned Electric Circuit Events be a test of driver skill. AARCMCC seeks to limit the type of driver aids to a minimum to achieve this objective. Traction control, active suspension and steering control by gyroscopes are not allowed. Sensors fitted to the car for the purpose of measuring suspension movement, wheel speed or tyre slip whilst the car is in motion, is not allowed.

2.6.2 Unless an electronic or mechanical driver aid is listed below in rule 1.6.3 it is not allowed for use in AARCMCC Events.

2.6.3 The fixed single ratio transmission may include a mechanical device/s between the drive motor output and the gearbox input for the purpose of controlling torque (eg 'slipper' clutch/fluid clutch). This device must only be capable of setting or adjustment manually whilst the car is stationary.  
A differential may include a mechanism for apportioning torque over the axle/s (eg limited slip differential). This mechanism must only be capable of setting or adjustment manually whilst the car is stationary.  
A mechanical or electronic speed controller may include a mechanical or electronic device to limit the current/voltage passed from the batteries to the drive motor (eg timed delay, current limiter, keyboard programs). Setting or programming of such a device must only be possible whilst the car is stationary. Changes to the setting or program during a race are not allowed.

2.6.4 Radio control receivers carried in the car may only have two devices (normally the steering servo and speed controller) connected, plus an optional separate battery supply for powering of the radio control equipment/devices. The use of any further channels to receive electrical signals from sensors carried in the car is prohibited.

2.6.5 Motor cooling fans must be powered by the main battery pack that supplies power for the cars drive motor. Fans are not to be wired into a receiver powered by a receiver battery pack that is in use, or to a separate power supply.

2.6.6 Any competitor found in contravention of the spirit or fact of rule 1.6.3 will be disqualified from event.

2.6.7 Cells may not be charged or changed during races.