

**AARCMCC**

**E.P. Section**  
**On Road**

**GENERAL & TECHNICAL**  
**RULES**

V5  
**August 2011**

# INDEX

<b>1 GENERAL .....</b>	<b>3</b>	<b>6 CHAMPIONSHIP SCHEDULE.....</b>	<b>17</b>
1.1 Introduction .....	3	6.1 Practice .....	17
1.2 Rule Changes .....	3	6.2 Competitor Registration.....	17
1.3 National Ranking.....	3	6.3 Initial Technical Inspection.....	17
<b>2 PRE-CHAMPIONSHIP RESPONSIBILITIES.....</b>	<b>5</b>	6.4 Concourse .....	17
2.1 Championship Application.....	5	6.5 Drivers Briefing.....	18
2.2 Championship Calendar.....	5	6.6 Competitors and Members Meeting .....	18
2.3 Host Responsibilities.....	5	6.7 Qualifying Heats.....	18
2.4 Finances.....	6	6.8 Finals.....	19
2.5 National Championship Schedule .....	6	6.9 Technical Inspection .....	20
2.6 State Championship Schedule.....	6	6.10 Trophy Presentation.....	20
2.7 Championship Classes .....	6	<b>7. RACE PROCEDURES .....</b>	<b>21</b>
2.8 Championship Entry.....	6	7.1 Jumped Start.....	21
2.9 Competitor Responsibilities.....	7	7.2 Marshaling .....	21
<b>3 TRACK SPECIFICATIONS.....</b>	<b>8</b>	7.3 Wet Weather .....	21
3.1 Safety.....	8	7.4 Drivers Stand Access.....	22
3.2 Track Design.....	8	7.5 Official Race Announcements.....	22
3.3 Track Surface.....	9	<b>8 RACING REGULATIONS .....</b>	<b>23</b>
3.4 Track Length .....	9	8.1 Offences.....	23
3.5 Track Width.....	9	8.2 Penalties .....	23
3.6 Driver's Stand.....	9	8.3 Black Flag .....	24
3.7 Pit Lane (optional).....	9	8.4 Technical Disqualification.....	24
3.8 Outer Barriers.....	9	8.5 Protests.....	25
3.9 Marshal Locations.....	9	8.6 Requests for lap count checking .....	25
3.10 Starting and Finishing Lines.....	9	<b>9 TECHNICAL SPECIFICATIONS – Vehicle .....</b>	<b>26</b>
3.11 Race Control .....	10	9.1 On-Road Electric Classes.....	26
3.12 Pit Area .....	10	9.2 Technical Inspection.....	26
3.13 Technical Inspection .....	10	9.3 General Specifications.....	26
3.14 Track Preparation.....	10	9.4 Drivers' Aids.....	26
3.15 Other Areas.....	10	9.5 1/10 <sup>th</sup> ISTC Technical Rules.....	27
<b>4 OFFICIALS.....</b>	<b>11</b>	9.6 Body-Shells.....	28
4.1 Official Positions.....	11	9.7 Bumpers.....	28
4.2 Referee .....	11	9.8 TC Tires.....	28
4.3 Referee's Authority.....	11	9.9 1/12 <sup>th</sup> Scale Modified.....	29
4.4 Race Director .....	12	9.10 Tamiya Mini.....	30
4.5 Time Keeper .....	12	<b>10 MOTOR SPECIFICATIONS.....</b>	<b>31</b>
4.6 Technical Director .....	12	10.1 Motors per class.....	31
4.7 Technical Assistant .....	12	10.2 General Definition of a brushless motor.....	31
4.8 Concourse Judge.....	12	10.3 Stock 17.5 Brushless Motors.....	32
4.9 State Delegate .....	13	<b>11 BATTERY SPECIFICATIONS.....</b>	<b>33</b>
4.10 State Jury.....	13	11.1 General.....	33
4.11 AARCMCC officials .....	13	11.2 General Specifications.....	33
<b>5 CHAMPIONSHIP TECHNICAL DETAILS.....</b>	<b>14</b>	11.3 Technical Inspection Guidelines.....	33
5.1 Numbering of Cars .....	14	<b>Appendix A – Referee Notes .....</b>	<b>34</b>
5.2 Transmitters .....	14	<b>Appendix B – Sample Competitor Registration.....</b>	<b>35</b>
5.3 Transmitter Impound (optional).....	14	<b>Appendix C – Technical Checklist – Touring Car....</b>	<b>36</b>
5.4 Transmitter Frequencies .....	14	<b>Appendix D – Technical Checklist – 12<sup>th</sup> Scale.....</b>	<b>37</b>
5.5 Lap Counting and Timing .....	15	<b>Appendix E – Technical Checklist – Tamiya Mini.....</b>	<b>38</b>
5.6 Transponders.....	15	<b>Notes - .....</b>	<b>39</b>
5.7 Display and Distribution of Results.....	16		
5.8 Public Address System.....	16		

# 1 GENERAL

## 1.1 Introduction

- 1.1.1 This document is the AARCMCC EP On Road General and Technical Rules, which documents the requirements and procedures to host, or compete in, an AARCMCC EP On Road State or National Championship.
- 1.1.2 Clubs hosting an AARCMCC EP On Road Championship must be able to meet the requirements and guidelines within this document.
- 1.1.3 Competitors in an AARCMCC EP On Road Championship must follow and abide by the rules and guidelines within this document.
- 1.1.4 This document must be read in conjunction with the following AARCMCC documents;
  - AARCMCC Constitution
  - AARCMCC Event Application Form
  - AARCMCC EP On Road Sample Event Schedules
- 1.1.5 The purpose of an AARCMCC EP On Road State or National Championship is to obtain a Championship result to recognise State and National Champions.
- 1.1.6 This document is not a substitute or replacement for relevant local, state or national government or legal regulations.

## 1.2 Rule Changes

- 1.2.1 Proposals for changes to AARCMCC EP On Road General Rules and Technical Rules can be submitted to AARCMCC by affiliated AARCMCC EP On Road Clubs. The proposal must include an explanation or rationale and the justification for the change(s).
- 1.2.2 AARCMCC may submit rule changes where changes are made to relevant IFMAR or ROAR rules.
- 1.2.3 AARCMCC reserves the right to review any proposal to ensure its intent, legitimacy and applicability. In these cases AARCMCC will consult with the proposing club before deciding to proceed with the proposal.
- 1.2.4 Eligible Clubs will be notified of proposed changes and a voting notice will be sent to the nominated email address as submitted on their AARCMCC affiliation form. Clubs not using email will have voting papers sent to the nominated affiliation contact postal address.
- 1.2.5 Clubs will be given a minimum 1 month to return vote material, either by mail or email.
- 1.2.6 Changes are approved by a majority favourable vote of all eligible Clubs. Clubs not responding to the vote, or abstaining, will not be counted.
- 1.2.7 General and Technical rule changes come into effect on 1<sup>st</sup> January and 1<sup>st</sup> July, each calendar year. Other rule changes that are critical or important, such as safety matters, may be introduced as required.

## 1.3 National Ranking

- 1.3.1 The AARCMCC EP On Road State and National Championships are used to award points to competitors for National ranking for Championship qualifying grid seeding and for nominations for IFMAR World Championship events.
- 1.3.2 Competitors in each class will be nationally ranked according to how many points they have been allocated following a State or National Championship.
- 1.3.3 Ranking of competitors will be the lowest amount of points accumulated over four lowest points Championships over a two-year period.
- 1.3.4 For competitor nominations to IFMAR World Championship events, the cut-off date for competitor ranking will be the end of the preceding year for which the IFMAR World Championship event is being held.
- 1.3.5 Qualifying Points are awarded based on the competitor's final qualifying position divided by two.

AARCMCC  
EP On-Road General & Technical Rules

Qualifying Position Points Allocation							
Qualifying Position	Points	Qualifying Position	Points	Qualifying Position	Points	Qualifying Position	Points
1	0.5	11	5.5	21	10.5	31	15.5
2	1.0	12	6.0	22	11.0	32	16.0
3	1.5	13	6.5	23	11.5	33	16.5
4	2.0	14	7.0	24	12.0	34	17.0
5	2.5	15	7.5	25	12.5	35	17.5
6	3.0	16	8.0	26	13.0	36	18.0
7	3.5	17	8.5	27	13.5	37	18.5
8	4.0	18	9.0	28	14.0	38	19.0
9	4.5	19	9.5	29	14.5	39	19.5
10	5.0	20	10.0	30	15.0	etc	etc

1.3.6 Final Points are awarded based on the competitor's final finishing position.

Final Points Allocation							
Final Position	Points	Final Position	Points	Final Position	Points	Final Position	Points
1	1	11	11	21	21	31	31
2	2	12	12	22	22	32	32
3	3	13	13	23	23	33	33
4	4	14	14	24	24	34	34
5	5	15	15	25	25	35	35
6	6	16	16	26	26	36	36
7	7	17	17	27	27	37	37
8	8	18	18	28	28	38	38
9	9	19	19	29	29	39	39
10	10	20	20	30	30	etc	etc

- 1.3.7 Points will not be reallocated to lower placed competitors when international competitors compete in the same championship.
- 1.3.8 Championship classes with less than 8 competitors posting a counted qualifying and final result will not be counted.
- 1.3.9 Points awarded for a State Championship class with 16 or more competitors, or a National Championship class with less than 16 competitors, will be based on the competitors total points.  
*Points awarded = (Qualifying Position / 2) + Final Position*
- 1.3.10 National Championship classes with 16 or more competitors will have the total points divided by two.  
*Points awarded = [(Qualifying Position / 2) + Final Position] / 2*
- 1.3.11 State Championship classes with less than 16 competitors will have the points multiplied by two.  
*Points awarded = [(Qualifying Position / 2) + Final Position] x 2*

## 2. PRE-CHAMPIONSHIP CONSIDERATIONS & RESPONSIBILITIES

### 2.1 Championship Application

- 2.1.1 An application to host an AARCMCC EP On Road National Championship must be submitted to AARCMCC on the ARCMCC Event Application Form by 1<sup>st</sup> July in the proceeding year. Successful applicants will be notified in writing and the AARCMCC National Calendar updated.
- 2.1.2 Each State may host an AARCMCC EP On Road State Championship once per calendar year.
- 2.1.3 Each State in turn can apply to host the annual AARCMCC EP Off Road National Championship. The rotation order through each State is Victoria, Western Australia, Queensland, South Australia, ACT, and New South Wales.  
A State choosing to miss their turn must wait a full cycle before having another opportunity.

<b>2010</b>	<b>VIC</b>	Bendigo 2010
<b>2011</b>	<b>WA</b>	Ryper Perth 2005
<b>2012</b>	<b>QLD</b>	Brendale 2006
<b>2013</b>	<b>SA</b>	Littlehampton 2007
<b>2014</b>	<b>ACT</b>	Kambah 2008
<b>2015</b>	<b>NSW</b>	Whalan 2009
<b>2016</b>	<b>VIC</b>	

- 2.1.4 A copy of the host's Public Liability Insurance Certificate of Currency must be enclosed with the Event Application Form.
- 2.1.5 Once a host club has been sanctioned to host an AARCMCC EP On Road National or State Championship, that host is fully responsible for the promotion, organisation and management of that Championship.
- 2.1.6 When hosting a National Championship, the host club should have held an AARCMCC sanctioned championship in the twelve months prior to start of the National Championship. The purpose of this is to test that the host club is ready to host a National Championship. This Championship does not need to be the same classes or section. The host club cannot assume that sanctioning of a National Championship automatically guarantees sanctioning of a similar State Championship in the proceeding twelve months.

### 2.2 Championship Calendar

- 2.2.1 The AARCMCC EP On Road Championship calendar is as follows to avoid conflicting with other AARCMCC Championships.

A.C.T. - February / March
NEW SOUTH WALES - April / May
SOUTH AUSTRALIA - August
WESTERN AUSTRALIA - March
QUEENSLAND -
VICTORIA -
NATIONALS - 2 <sup>nd</sup> or 3 <sup>rd</sup> Week in November

- 2.2.2 EP Sanctioned events must be a minimum of 4 weeks apart

### 2.3 Host Responsibilities

- 2.3.1 The host fully accepts responsibility for the organisation and management of any AARCMCC sanctioned event that they hold.
- 2.3.2 The host fully accepts the financial responsibility of any AARCMCC sanctioned event that they hold.
- 2.3.3 The host fully accepts the insurance requirements and responsibility of any AARCMCC sanctioned event that they hold.

AARCMCC  
EP On-Road General & Technical Rules

## 2.4 Finances

- 2.4.1 The host club must price the entry fee appropriately.
- 2.4.2 The host club, once selected, is fully and totally responsible for all finances and funding for the Championship.
- 2.4.3 The entry fee for subsequent classes should be less than the initial entry fee.

## 2.5 National Championship Schedule

- 2.5.1 National Championships should be run over a period of 5 Days, comprising 2 days of practice, 2 days of racing and an allowance for a rain day.
- 2.5.2 The rain day to be scheduled for a Monday.
- 2.5.4 There will be no practice once the championship has commenced (ie Drivers briefing), unless there are extraordinary circumstances such as a significant change in the weather, eg Rain.

## 2.6 State Championship Schedule

- 2.6.1 State Championships should be run over a period of 5 Days, comprising 2 days of practice, 2 days of racing and an allowance for a rain day
- 2.6.2 Allowance must be made for an additional rain day.
- 2.6.3 The rain day to be scheduled for a Monday.
- 2.6.4 There will be no practice once the championship has commenced (ie Drivers briefing), unless there are extraordinary circumstances such as a significant change in the weather, eg Rain.

## 2.7 Championship Classes

- 2.7.1 The following AARCMCC defined classes must be available for AARCMCC EP On Road State and National Championships;

- Touring Cars Modified	(Modified Class Motors)	5 Minute duration
- Touring Cars Stock	(17.5 Brushless Motors)	6 Minute duration
- 12 <sup>th</sup> Scale Modified	(Modified Class Motors)	8 Minute duration
- Tamiya Mini	(HW + OEM, 13t sensorless)	6 Minute duration
- 2.7.2 The minimum number of entries in a class is 8 to be recognised as a championship class. Classes with less than 8 entries may be run at the discretion of the host club.
- 2.7.3 Cross entries between chassis types allowed (TC, Mini, 12<sup>th</sup> scale), cross entry within TC classes prohibited.
- 2.7.4 Sanctioned events must be a minimum of 4 weeks apart.
- 2.7.5 The host club of a sanctioned event can apply for Provisional and Demonstration classes to be run in conjunction with the sanctioned event. These classes do not warrant National or State Championship status.
- 2.7.6 Sanctioned classes will always have priority over Provisional and Demonstration classes, and must yield to the sanctioned classes, should there be time delays.
- 2.7.7 It is the clubs responsibility that drivers from Provisional or Demonstration classes are capable to marshal a following sanctioned class to a high standard. If not, the club must supply marshals that are capable to carry out the duties of marshalling.

## 2.8 Championship Entry

- 2.8.1 Entry into an AARCMCC EP On Road Championship is open to current financial members of AARCMCC EP affiliated clubs.
- 2.8.2 International competitors are welcome to enter into AARCMCC Championships, however they must be members of organisations who are ultimately affiliated with IFMAR.
- 2.8.3 Draft entry forms need to be submitted and approved by AARCMCC a minimum of 4 months before the start of the Championship.
- 2.8.4 All AARCMCC EP On Road sanctioned championships are to be promoted as per the following; 20xx AARCMCC EP On Road Australian Championships OR 20xx AARCMCC, State, EP On Road Championships.  
Sponsors Names may be included.
- 2.8.5 Entry forms need to include information about the event such as Championship dates, practice dates, location, host club, entry fees, classes offered, control tyres, accommodation, specific venue rules, etc. It also needs to include a competitor entry nomination page for information such as name, sponsor, contact details, classes entered, transponder number and nominated frequencies.
- 2.8.6 Entry forms for State Championships need to be publicly available at least 3 months prior to the

AARCMCC  
EP On-Road General & Technical Rules

- Championship.
- 2.8.7 Entry forms for National Championships need to be publicly available at least 4 months prior to the Championship.
- 2.8.8 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.** The selected controlled tyre must continue to be commercially available in all Australian states for four (4) months prior to the event and up until the commencement of the event.
- 2.8.9 The closing date for State Championships is the third Sunday prior to the start of the Championship.
- 2.8.10 The closing date for National Championships is the fourth Sunday prior to the start of the Championship.
- 2.8.11 Championship places are limited and will be filled as received with full payment of entry fees until the championship is full. Entry after the advertised closing date or competitors who have not paid the entry fee in full will not be guaranteed entry into the Championship.
- 2.8.12 Late entries may be offered by the host club; however they are subject to availability and will be subject to an additional late fee.
- 2.8.13 Entry may be received by both mail and electronic means.
- 2.8.14 All entry forms and monies are to be returnable to the hosting club of the event.
- 2.8.15 Where a competitor withdraws from the Championship before the entry closing date, or the Championship has no remaining places, the competitor will be entitled to a full refund of any paid entry fee.
- 2.8.16 Competitors who withdraw from the championship after the closing date or who do not show up will not be entitled to a refund. It is at the host clubs discretion to apply a refund in this situation.
- 2.8.17 A confirmation of entry must be sent, using mail or electronic means, to each competitor at least one week before the Championship starting date.
- 2.8.18 A proposed Championship Schedule must be sent to, and approved by, AARCMCC once entries have closed. Changes to this approved schedule prior to the start of the Championship must be reapproved by AARCMCC.
- 2.8.19 A preliminary Qualifying Heat list showing Competitor, Sponsor and Transponder number, must be sent to, and approved by, AARCMCC once entries have closed and before it is publicly announced. The purpose of this is, where possible, to grade competitors into heats of similar abilities.

## 2.9 Competitor Responsibilities

- 2.9.1 The Competitor fully accepts that they will act responsibly, in a sportsmanlike manner and within the rules of the Championship.
- 2.9.2 The competitor fully accepts that penalties, including disqualification and possible sanctioning from future State, National and International Championships may arise from breaches of the rules.
- 2.9.3 The competitor is responsible for ensuring that they are a current financial member of an AARCMCC EP affiliated club.
- 2.9.4 The Competitor fully accepts that they are responsible for their equipment, and that it is in a safe and useable condition, and meets any Local, State and National regulation required for that equipment (i.e. electrical equipment).

### 3. TRACK SPECIFICATIONS – EP10 On Road

#### 3.1 Safety

3.1.1 Motor sport has inherent risks and potential dangers, including within scale model radio controlled car racing. The safety of visitors, spectators, officials, volunteers and competitors is of prime importance and must be considered when laying out track, competitor and spectator areas.

3.1.2 Spectators, competitors and officials must be efficiently protected against the cars by adequate safety barriers. Track barricades and markers must be shaped and placed in a way that prevents cars from being projected into public areas.

##### 3.1.3 First Aid

3.1.3.1 It is recommended that a qualified First-aid Officer is present throughout the Championship including practice.

3.1.3.2 A current and suitable first aid kit must be available and its location clearly marked throughout the Championship including practice.

##### 3.1.4 Marshals

3.1.4.1 Marshals must be adequately protected from being hit by cars whilst at their marshaling location.

3.1.4.2 Marshals should be provided with a fluorescent safety vest or similar item to aid being seen whilst in the track area.

3.1.4.3 Marshals must always put their safety first.

3.1.4.4 In the event that a marshal is incapacitated, or falls onto the track surface placing themselves in danger, the heat or final in progress must immediately be stopped. All cars must stop where they are and follow the instructions of the Race Director.

3.1.5 Access for emergency services must be available to all areas at all times.

3.1.6 Suitable fire extinguishers must be available at all times in areas around the track such as pit lane, the pits, technical inspection and other areas identified by the host club.

3.1.7 Technical inspection must always include the safety aspects of the cars. No sharp edges or other protruding parts of the cars that may cause serious injuries in case of an accident are permitted.

3.1.8 The only people authorised to be within the enclosed track area are officials, marshals and competitors. All other people must be removed from the enclosed track area whilst the Championship is in progress.

3.1.9 All personnel within the enclosed track area must wear fully enclosed shoes. Thongs, sandals, slippers etc are not allowed.

3.1.10 Proper care and handling of Li-Po Batteries must be observed.

3.1.11 Where extension leads are used, the host club must follow relevant electrical safety procedures as applicable in that State.

3.1.12 Host clubs must be adequately insured. Host clubs must have public liability insurance of not less than \$A10 million or a higher amount as determined by individual club requirements. Clubs should obtain expert advice to determine their insurance requirements.

3.1.13 Smoking is not allowed within the enclosed track area, driver's stand, race control, pit lane, nor any other areas identified by the host club. Any designated smoking areas must comply with relevant state government legislation.

3.1.14 Whilst the racing is progress, the consumption of alcohol or illegal substances by competitors, mechanics and officials will not be tolerated.

3.1.15 In the event of an electrical storm in the immediate area, the racing will be suspended. Racing will resume once the storm has passed. During this time, the drivers stand will be closed.

#### 3.2 Track Design

3.2.1 Track design must include both left and right turns with one or more straights.

3.2.2 The track design should employ the basic components that are found on real on-road circuits from which 1:10 scale racing has been modeled after.

3.2.3 Maximum distance from the middle of the driver's stand to the furthest point of the track is 60m.

3.2.4 Corner cutting must be discouraged. For purpose built tracks a kerbing and/or grass infields is necessary. Barriers should be firmly anchored onto the racing surface.

3.2.5 Direction of travel shall be at the discretion of the host.



AARCMCC  
EP On-Road General & Technical Rules

### 3.3 Track Surface

- 3.3.1 Surface should be clean and free of excessive debris. Preferably asphalt, in the even of a painted surface the condition should not be degraded; the old surface must not be visible on any part of the racing surface.
- 3.3.2 Track repairs should be made between heats as needed. If a schedule is set up for regular maintenance it should be staggered so that all drivers enjoy any advantage or disadvantage such maintenance may offer.
- 3.3.3 Unless extreme conditions exist, practices such as blowing/sweeping down the surface should be discouraged as this generally degrades the clean racing line.

### 3.4 Track Length

- 3.4.1 Track design and length should be such that lap times are kept in excess of 12 seconds per lap.
- 3.4.2 The minimum track length is 200m. The recommended track length is 250-300m.
- 3.4.3 Course length shall be the length of the infield boundary line.

### 3.5 Track Width

- 3.5.1 The minimum width of the track is 3.0 metres.
- 3.5.2 The maximum width of the track is 6.5m between marking lines.

### 3.6 Driver's Stand

- 3.6.1 Minimum height of the driver's stand is 1.5m from track level.
- 3.6.2 No obstacles may interrupt the vision from the drivers' stand to all parts of the track.
- 3.6.3 The driver's stand must suitably provide for 10 drivers standing side by side. As a guide, 70-100cm should be provided for each driver.
- 3.6.4 The drivers stand should provide competitors with overhead protection from weather.
- 3.6.5 The drivers stand must be a minimum of 1.5m from the edge of the racing surface.
- 3.6.6 The drivers stand must be a maximum of 50 metres from the furthest part of the racing surface.

### 3.7 Pit Lane (optional)

- 3.7.1 The pit lane area (if provided) should be clearly distinct and separated from the main track and located as close as possible to the drivers' stand.
- 3.7.2 Entry and exit to pit lane is advised to be on a slow section of the track.
- 3.7.3 The width of the Pit Lane should be at least 2 Car widths wide (0.6 metre).

### 3.8 Outer Barriers

- 3.8.1 Outer barriers must provide a positive means of stopping a car when missing a corner or out of the driver's control.
- 3.8.2 The consideration for selection of the outer barriers shall be the safety and protection of the public and not the cars, although, if both can be obtained, it is ideal.
- 3.8.3 The outer barriers should be at least 40cm away from the outer marking lines of the track.

### 3.9 Marshal Locations

- 3.9.1 Marshal locations must be available for every 30m of the track length.
- 3.9.2 Marshal locations may not obstruct the vision of the drivers.
- 3.9.3 Marshal locations must be clearly numbered 1 through 10 and spread such that less than 10 marshals can adequately marshal the entire track.
- 3.9.4 When a marshal location is at a less safe part of the track, such as a straight or a fast corner, the location must provide safe protection for the marshal.

### 3.10 Starting and Finishing Lines

- 3.10.1 A starting line for heats must be painted across the track, preferably close to race control/time keeping.
- 3.10.2 A starting grid (either staggered or in-line) for finals must be painted on the track. It must have 10 rows with a minimum of 2.5m spacing between the cars front. Grid positions must be clearly marked.
- 3.10.3 A finishing line must be painted across the track at the same location of the lap counting sensing wire.
- 3.10.4 A Stop/Go penalty box must be painted on the track. It must be located near the finish line, away from the racing line, be in clear view of the drivers stand, and be 0.5 x 0.4 metres with an 'X' painted inside.
- 3.10.5 The pit lane (if available) is not to be used for carrying out any penalties.

AARCMCC  
EP On-Road General & Technical Rules

- 3.10.6 The driver's view of the starting line/grid must not be obstructed.
- 3.10.7 No chalk is to be used on the track racing surface.

### Example - Grid Spacing

<b>Metres - 2.5m spacing</b>	<b>0.00</b>	<b>2.50</b>	<b>5.00</b>	<b>7.50</b>	<b>10.00</b>	<b>12.50</b>	<b>15.00</b>	<b>17.50</b>	<b>20.00</b>	<b>22.50</b>
<b>Metres - 3.0m spacing (preferred)</b>	<b>0.00</b>	<b>3.00</b>	<b>6.00</b>	<b>9.00</b>	<b>12.00</b>	<b>15.00</b>	<b>18.00</b>	<b>21.00</b>	<b>24.00</b>	<b>27.00</b>
<b>Car#</b>	1		3		5		7		9	
<b>Car#</b>		2		4		6		8		10

Minimum spacing 2.5m, but use as a guide only, if track permits spread grid further apart

### 3.11 Race Control

- 3.11.1 A designated area or building with suitable electrical supply and weather protection should be located adjacent to the drivers stand.
- 3.11.2 Race control needs to provide sufficient space to house the electronic timing system and the necessary staff to manage and observe the event.
- 3.11.3 Race control must have an unobstructed view of the starting and finishing lines.

### 3.12 Pit Area

- 3.12.1 A covered pit area should be provided for the use of all competitors.
- 3.12.2 The pit area should provide adequate weather protection, lighting and power.
- 3.12.3 Temporary pit areas must be level and well drained.
- 3.12.4 For larger Championships, the host club may allocate pit space. Places should be grouped by State and Club.

### 3.13 Technical Inspection

- 3.13.1 A designated area or building with suitable electrical supply and weather protection should be located adjacent to the drivers stand for Technical Inspection.
- 3.13.2 Technical Inspection must have the appropriate documentation for the Championship to make decisions on the technical details of the classes being run.
- 3.13.3 Technical inspection must have the correct test equipment for the Championship. Weight scales must be set up on a solid flat surface and have a windbreak around them.
- 3.13.4 AARCMCC test equipment is available for correct application of scrutineering. A body height gauge and scales can be supplied by AARCMCC.

### 3.14 Track Preparation

- 3.14.1 For open practice the track surface must be prepared the same as it would for the start of a championship so that good quality practice will be obtained when practice commences.
- 3.14.2 The track surface must be prepared to a consistent, clean state before the start of a championship.
- 3.14.3 The track surface may be blown clean before the commencement of each days racing throughout the championship.
- 3.14.4 For tracks using spray-on additives on the track surface, this can only be done before the start of open practice. Spray-on additives cannot be reapplied each day nor after a weather delay.
- 3.14.5 In the event of a weather delay, the host club must provide suitable tools to return the track to a useable condition in a reasonable time.

### 3.15 Other Areas

- 3.15.1 Amenities - Male and Female toilet facilities must be provided for the duration of the Championship from the start of open practice.
- 3.15.2 Water - Running water should be available.
- 3.15.3 Results Board - A suitably sized board or display area must be available to display result sheets and other information.
- 3.15.4 Power – A suitable Power distribution board within a suitable distance of the pit area, with adequate power for all the competitors, Race Control, Scrutineering etc.

## 4. OFFICIALS

### 4.1 Official Positions

- 4.1.1 The following Race Officials are required for each Championship. These positions are non-racing, ie they cannot be filled by a competitor in the Championship. The names of these officials must be included on the Event Application Form.
- Referee
  - Race Director
  - Time Keeper
  - Technical Director
- 4.1.2 The following Race Officials are delivered by the host club during the Championship. These positions may be filled by a competitor and does not need to be the same person for the duration of the Championship.
- Technical Assistants
  - Concourse Judge
- 4.1.3 A representative of the host club must be available should the Race Director need to engage the host for event organisation matters, for example;
- Spare Marshals
  - Track preparation
- 4.1.4 Non-racing Race Officials may be financially subsidised at the discretion of the host club.

### 4.2 Referee

- 4.2.1 One or more referees must be present for the Championship. The Referee must be experienced and unbiased, with a good knowledge of the current AARCMCC rules.
- 4.2.2 The main task of the Referee is to observe the racing, and in particular, the good sportsmanship during the racing. The Referee will ensure that the current rules are observed by everyone.
- 4.2.3 The Referee may be called for information by the State Jury.
- 4.2.4 Referees must be provided with an area from where all parts of the track, the drivers' stand and pit lane can be observed.
- 4.2.5 At all times during qualifying heats and finals, the Referee present will be watching and observing the racing from start to finish.
- 4.2.6 The Referee will keep a record of the instructions, warnings, and penalties issued. Warnings and penalties will be posted on the result sheet.

### 4.3 Referee's Authority

- 4.3.1 The Referee on duty is authorised to make decisions about the Championship, and to issue and announce instructions, warnings, penalties and disqualifications.
- 4.3.2 The Referee has the right to use their discretion to issue a penalty instead of a warning for any serious infringement of the rules.
- 4.3.3 The Referee has the right to issue penalties for racing infringements. The penalties will range from Stop/Go + time in seconds, to a one-lap penalty.
- 4.3.4 A Referee may take action after an initial warning, but in all cases, three warnings or penalties means automatic disqualification.
- 4.3.5 The Referee has the authority to instruct other Race Officials to take remedial action in any situation, which might compromise the well running of the race meeting. Any serious situation will be referred to either the State Jury, AARCMCC EP representative or the Host Club representative before taking any action.
- 4.3.6 Under no circumstances may an instruction, warning or penalty issued by the Referees lead to the interruption of the whole race.
- 4.3.7 Instructions issued by the Referee must be observed immediately.
- 4.3.8 Reasons for warning or instruction will be announced at the time of issue. Further explanation, if necessary, will be given to the competitor or the State Delegate at the end of the race.
- 4.3.9 During the event, if the Race Director and Referee agree, they will have the authority to disqualify a competitor and/or a whole team, if one member of that team is positively interfering with the racing of another car in the event.
- 4.3.10 Appeals to the decision of the Referee must be addressed to AARCMCC in writing. AARCMCC is not obliged to act on such a complaint.

AARCMCC  
EP On-Road General & Technical Rules

#### 4.4 Race Director

- 4.4.1 The Race Director is responsible to follow the schedule of the Championship and liaise with the host club as required. The Race Director ensures that the various tasks under their responsibility are well done, including, but not limited to;
- Time keeping
  - Start procedures
  - Marshalling
  - Display of results
  - Comments to the public
  - Comments to the drivers
  - Technical inspection
  - Frequency control
- 4.4.2 The Race Director receives and processes protests and decides if the State Jury has to meet. They take urgent decisions or stop a race for safety, rain or any other unforeseen situation. They are under the authority of AARCMCC.

#### 4.5 Time Keeper

- 4.5.1 The Time Keeper is responsible for recording all the individual lap times and total laps plus finishing time of all drivers during all qualification heats and finals. They are responsible for the classification of the results and for selecting of the finals. The Race Director must verify this classification and selection.
- 4.5.2 After the finish of any heat or final, the results of the first and second time keeping systems are compared by the Time Keeper. Should there be a difference in the result, the Time Keeper will investigate both results and make a decision of the final result.
- 4.5.3 In case of a request for checking of the results, the Time Keeper, together with the Race Director, will check on the questioned result and will make the decision. The Race Director will authorise any change of results.

#### 4.6 Technical Director

- 4.6.1 A Technical Director will be appointed by the host club to supervise all technical inspection matters.
- 4.6.2 The Technical Director is responsible for overseeing the Technical Inspection of all cars throughout the Championship and ensuring that cars meet the technical rules.
- 4.6.3 The Technical Director has the authority to technically disqualify any car or item that does not meet the relevant technical rules.
- 4.6.4 The Technical Director may delegate inspection duties to Technical Assistants. The Technical Director must ensure that the Technical Assistants are consistent in their application of the rules.
- 4.6.5 The Technical Director must delegate their duty to another suitable Race Official where a direct conflict of interest with a technical inspection or technical decision occurs.
- 4.6.6 All technical issues will be referred to the Technical Director.
- 4.6.7 Technical Inspection is always the responsibility of the Technical Director. It is not the duty or the responsibility of the Race Director or Referee to check if cars conform to the technical rules.

#### 4.7 Technical Assistant

- 4.7.1 Technical Assistants need to be appointed by the host club to assist the Technical Inspector to inspect competitor's cars.
- 4.7.2 Where a Technical Assistant is a competitor or mechanic, they cannot inspect any car in the same entered class once qualifying heats have commenced.
- 4.7.3 Technical Assistants must refer any question, technical detail they are unsure of, or any item that breaches the technical rules to the Technical Inspector.

#### 4.8 Concourse Judge

- 4.8.1 A concourse judge is used to decide the best presented car at the start of a Championship.
- 4.8.2 The concourse judge must be familiar with the concourse judging criteria.
- 4.8.3 If the concourse judge is a competitor, their own car is ineligible to be judged.

AARCMCC  
EP On-Road General & Technical Rules

#### 4.9 State Delegate

- 4.9.1 The responsibilities of the State Delegate are:
- To look after the welfare and behaviour of their State's competitors.
  - To attend State Jury Meetings and any driver's briefing that the host may call.
  - The State Delegate is the link between their state team and race officials by receiving all information referring to timetable changes, frequency change requests, results of qualification heats and finals, and all other information referring to the race.
  - The State Delegate is allowed to stay in the pit lane area when a qualification heat or final has a competitor from their state competing.
  - The State Delegate investigates lap counting check requests.
  - The State Delegate is responsible to pass on complaints, protests or suggestions from their State's competitors to the Race Director.
- 4.9.2 The State Delegate, or a nominated deputy, must be present during all official racing.
- 4.9.3 The State Delegate and a deputy are elected by nominations and a simple show of hands by their State's competitors at a short state meeting at the start of the Championship.
- 4.9.4 State Delegates may be participants in the event but must allow deputy jury representatives to serve and vote in any protest involving the said State Delegate as a participant in the protest.

#### 4.10 State Jury

- 4.10.1 The State Jury consists of State Delegates of each State competing in the Championship. Each State will have a total of one vote, regardless of the number of representatives at the Championship.
- 4.10.2 The responsibilities of the State Jury are;
- To decide in unforeseen situations.
  - To handle protests unable to be covered by the Race Director's responsibility.
  - To make official by announcement any decision voted on by the State Jury.
  - To monitor that the race is run according to the official rules.
- 4.10.3 The Race Director will decide whether a State Jury meeting should be called to discuss and vote on the matters raised. If the Race Director does call such a meeting and the majority of the State Delegates support the matter raised, the Race Director must then refer to the Referee for final decision.
- 4.10.4 The Race Director is a member of the Jury but does not normally vote in the decisions. The Referees may be called by the Jury for opinions and explanations as deemed necessary. All decisions are taken by simple majority vote. The Race Director may cast a deciding vote where a decision is tied.
- 4.10.5 The State Jury may request evidence and/or presence of drivers involved or Team Managers.

#### 4.11 AARCMCC Officials

- 4.11.1 Every attempt will be made to have an AARCMCC Official present at each event.
- 4.11.2 In the event that no member of the AARCMCC Committee is present, the responsibility of this role shall fall to the AARCMCC state delegate, of the host state.
- 4.11.3 A list of all members of the AARCMCC Committee and each state delegate is available on the AARCMCC website.

## 5 CHAMPIONSHIP TECHNICAL DETAILS

### 5.1 Numbering of Cars

- 5.1.1 Only the numbers supplied by the host will be used on the cars.
- 5.1.2 The number on each decal to measure not less than 60mm high x 40mm wide with a stroke of 6mm.
- 5.1.3 Cars will be numbered 1 to 10 in each qualifying heat or final.
- 5.1.4 Each car must have 3 numbers: - one on the front (windscreen), and one on each side, placed on a vertical plane so that it is visible from ground level.
- 5.1.5 Car numbers may change during the qualifying heats should a driver re-grade be necessary. The host will provide replacement numbers for altered heats and finals.
- 5.1.6 Competitors are responsible for the correct numbering of their car.
- 5.1.7 Car numbers may not be trimmed to eliminate the background.
- 5.1.8 Under no circumstances will a heat or a final be re-run due to a car not having the correct numbers or placement of these numbers.
- 5.1.9 Incorrect numbering of a car in a heat or final may incur a 1 lap penalty

### 5.2 Transmitters

- 5.2.1 Transmitters do not need to be numbered.
- 5.2.2 External transmitter battery packs are not permitted.

### 5.3 Transmitter Impound (optional)

- 5.3.1 Where possible a transmitter impound will start on the same day as the start of the Championship.
- 5.3.2 All transmitters must be switched off and placed in the transmitter impound upon arrival at the track and may not be removed until the completion of that days racing.
- 5.3.3 Competitors can remove their transmitter from the transmitter impound immediately prior to their practice session, qualifying heat or final, once all competitors in the previous race have switched off and returned their transmitters to the transmitter impound.
- 5.3.4 Transmitters without the approval of the Race Director, in the pit area, or areas other than the driver's stand and transmitter impound, during official competition hours, will cause disqualification.
- 5.3.5 With the approval of the Race Director, a competitor's transmitter may be removed for the purpose of resetting the configuration of the car. This may only be done when no racing is in progress.

### 5.4 Transmitter Frequencies

- 5.4.1 The following are valid frequencies for use in Australia. Other frequencies are not allowed. 36MHz and 70-72MHz are forbidden to be used in Australia for Radio Control vehicles.

27MHz	26.995	26.975	27.025	27.045	27.075	27.095	27.125	27.145	27.175
	27.125	27.145	27.175	27.195	27.225	27.255			
29MHz	29.725	29.745	29.765	29.785	29.805	29.825	29.845	29.865	29.885
40MHz	40.665	40.670	40.675	40.680	40.685	40.690	40.695	40.700	40.705
	40.710	40.715	40.720	40.725	40.730	40.735	40.740	40.745	40.750
	40.755	40.760	40.765	40.770	40.775	40.780	40.785	40.790	40.795
	40.800	40.805	40.810	40.815	40.820	40.825	40.830	40.835	40.840
	40.845	40.850	40.855	40.860	40.865	40.870	40.875	40.880	40.885
	40.890	40.895	40.900	40.905	40.910	40.915	40.920	40.925	40.930
	40.935	40.940	40.945	40.950	40.955	40.960	40.965	40.970	40.975
	40.980	40.985	40.990	40.995					
2.4GHz	DSM/DSS. Eg Nomadio, Spektrum, Futaba FASST								

- 5.4.2 In the case of two drivers using the same frequency and qualifying for the same final, the higher placed driver may keep their frequency and the lower placed driver must change. The time allowed for frequency change will be ten (10) minutes. The lower placed driver who cannot or will not change their

AARCMCC  
EP On-Road General & Technical Rules

- frequency may not take part in the final for which they qualified.
- 5.4.3 If a driver must change their frequency before the start of a semi-final or a final due to an organiser's error, they will be allowed ten (10) minutes.
  - 5.4.4 If a driver finds their radio defective or has made an error in the selection of their frequency at the start of a final, the race will not be delayed.
  - 5.4.5 For the entire duration of the event, the frequencies in use by all drivers will be known only by the Race Director, Time Keeper and each individual driver. The organiser shall not display any driver's transmitter frequency on any heat sheets, result sheet or race schedule to preserve the security of the frequency control systems.
  - 5.4.6 All frequency changes must be authorised by the Race Director before the change is made.
  - 5.4.7 Each driver in the main final, on approval from the Race Director, shall be permitted to change their frequency before the start of the race.

### 5.5 Lap Counting and Timing

- 5.5.1 An AMB lap counting system or AARCMCC approved equivalent must be used in duplicate. Suitable working computers with proper race proven software and hardware must be provided to sort lap times, print results from heats and sort final positions from each round of heats within 15 minutes of the completion of each round of qualifying heats or finals.
- 5.5.2 Significant stops (crashes etc.) may be noted by the Time Keeper, Referee or Race Director, with times of stop and restart. This record may not include every incident, however, its intent is to verify incidents, whenever possible.
- 5.5.3 Chronometers must give time to 1/1000th of a second. In all cases, the thousands will be utilised.
- 5.5.4 If both the primary and support lap counting systems fail during a qualifying heat, that heat will be rerun at the conclusion of that round of qualifying heats.
- 5.5.5 If both the primary and support lap counting systems fail during a final, should no result be known, that final will be rerun once the timing system is operational and a suitable allowance given to competitors to prepare their cars. In all other cases, the wet weather finals procedure will be used
- 5.5.6 Under no circumstances will any lap score or time, other than those from the official time keeping equipment, be accepted for any purpose to do with the running of an AARCMCC Championship.

### 5.6 Transponders

- 5.6.1 Competitors are required to install a small transponder into their cars according to the manufacturers and host club's instructions.
- 5.6.2 Every competitor must provide their own AMB compatible personal transponder or AMB compatible club transponder.
- 5.6.3 At the discretion of the host club, a limited number of club transponders may be provided for those competitors who do not have a personal transponder. For competitors using this service it is solely the competitor's responsibility to collect, install and return the transponder without interrupting any race official. Neither the host club, nor any race official has any responsibility to that competitor should that competitor fail to return their transponder for charging. Where these transponders are provided, the host club must provide them free of charge. A deposit of the replacement value for the transponder may be demanded. If a competitor by any reason damages, destroys or does not return a loan transponder, they forfeit all of their deposit.
- 5.6.4 If the host is using a non-AMB compatible transponder system, they must provide to all competitors a transponder for every heat and final.
- 5.6.5 The competitor must ensure that their transponder belongs to the marked chassis.
- 5.6.6 Each competitor is responsible for attaching the lap counting transponder to their car.
- 5.6.7 During qualifying, any car starting without a lap counting transponder will not be counted.
- 5.6.8 If a lap counting transponder fails or falls off during the a heat or final, any car without a lap counting transponder may be counted manually by a manual back-up system. In this case, the Race Director will verify the results and their decision will be final.
- 5.6.9 If a lap counting transponder fails or falls off during a heat or final, under no circumstances will that heat or a final be re-run due to the car not having laps counted.
- 5.6.10 Where two competitors have the same transponder number, the competitor who has the original manufactured transponder will be required to change to a different transponder number. When neither competitor has an original manufactured transponder, the competitor with a later Championship entry must change to a different transponder number.

AARCMCC  
EP On-Road General & Technical Rules

**5.7 Display and Distribution of Results**

- 5.7.1 The results of each specific heat or final must be displayed in or nearby to the pits.
- 5.7.2 At the end of each qualification heat or final, a copy of results of all cars will be displayed with the result within 15 minutes of the end of that heat or final. At the end of each qualification round, results of the general class classifications will be made available.
- 5.7.3 Electronic means of displaying live race and other data should be available in the technical inspection and pit areas.
- 5.7.4 The time of display of the result will be written on the result sheet.
- 5.7.5 Results of the Championship must be forwarded to the AARCMCC EP ONR section within 2 weeks of the conclusion of the Championship, along with the Race Directors report.

**5.8 Public Address System**

- 5.8.1 A public address (PA) system must be available for use by the Race Director and Referee for announcements. It is preferable to have a PA system that supports two independent channels, one channel for Competitors and Mechanics in the pit lane and driver's stand, and a second channel for the pit and general areas.
- 5.8.2 Announcements must be audible in the driver's stand, pit lane and pit areas.
- 5.8.3 Where a single PA system is used, announcements for non competitors must be restricted to times when drivers are not competing on the track.



## 6. CHAMPIONSHIP SCHEDULE

### 6.1 Practice

- 6.1.1 Practice for State Championships must be available for competitors for a minimum of 2 full days immediately prior to the start of the event.
- 6.1.2 Practice for National Championships must be available for competitors for a minimum of 2 full days immediately prior to the start of the event.
- 6.1.3 Classes should be separated and given equivalent track time.
- 6.1.4 Where excessive numbers of competitors are present, practice sessions should be limited to a suitable number of heat groupings, or a suitable number of cars on the track, or competitor positions available on the driver's stand. A Maximum of 15 cars are permitted on the track at any time.
- 6.1.5 A frequency board or similar must be used and available for competitors using non 2.4GHz radio systems. The transmitter impound is not used during practice.
- 6.1.6 It is optional for the host club to provide electronic timing of open practice.
- 6.1.7 Marshals are not provided or used during open practice.
- 6.1.8 A controlled practice can be run in the second half of the allotted practice schedule, should it be deemed necessary due to the high number of competitors.
- 6.1.9 Competitors, Time Keeper and Race Director should use controlled practice as a final test that the electronic timing system, radio frequencies, transponders and car numbers are ready to begin qualifying heats.
- 6.1.10 Results from controlled practice should be displayed on the results board.

### 6.2 Competitor Registration

- 6.2.1 Each competitor must register their attendance and sign a registration form which states that they accept, and will abide by, the published rules of the Championship.
- 6.2.2 Registration for competitors may be done at the same time as initial technical inspection.
- 6.2.3 Competitors must be registered before the start of the Championship
- 6.2.4 Competitors unable to meet this deadline may use a proxy to complete their registration.
- 6.2.5 The host club may authorise late competitor registration at its discretion.

### 6.3 Initial Technical Inspection (pre-Scrutineering)

- 6.3.1 All cars must be presented for technical inspection prior to the commencement of the event. No car will be permitted on the track surface without undergoing technical inspection. The purpose of this inspection is to determine whether the vehicle meets the AARCMCC Technical Rules for this event. When the car passes the initial inspection, the cars chassis will be marked in a manner, not to permanently scar the chassis or remove chassis material. Once the chassis is marked, the chassis cannot be changed without the approval of the Race Director, and can only be approved for change if it is damaged beyond reasonable repair. Drivers must race the car that has been passed by technical inspection.
- 6.3.2 Competitors or mechanics must present their car(s) with Body, Battery, Transponders and radio transmitters before the start of the Championships, (ie prior to Concourse and the Driver's Briefing).
- 6.3.3 Technical Inspection must be open with sufficient time before the start of the Championship to have all competitors' cars inspected to ensure they comply with the class Technical Rules in effect at the time of the Championship.
- 6.3.4 Only one car per class per driver will be accepted.
- 6.3.5 All transmitters must be inspected and approved prior to the event. A maximum of two channels for control devices may be used (i.e. Servo and Speed Control).

### 6.4 Concourse

- 6.4.1 Concourse marks the start of the Championship and is held first.
- 6.4.2 Concourse is judged in one category per chassis type (i.e. TC, 12<sup>th</sup> and Mini). There will be a minimum of one trophy awarded for each chassis type.
- 6.4.3 Cars and their body shell entered for concourse must be complete and ready to race, excluding car numbers. Body shells only are not eligible for concourse selection.
- 6.4.4 Cars and their body shell entered for concourse must participate and complete at least one recorded lap of a qualifying heat or final. When racing, the body entered for concourse must be correctly numbered.
- 6.4.5 Concourse judging is based upon the realism, presentation and workmanship of the presented chassis and body combination. The Concourse Judge should pay particular attention to the colour scheme,

AARCMCC  
EP On-Road General & Technical Rules

effects such as shading and blending, detail, accuracy and authenticity of the body shell. A car, which is fully painted, should be judged ahead of pre-painted or stickered bodies.

- 6.4.6 Drivers may enter one vehicle in concourse for each class in which they are racing.

### 6.5 Drivers' Briefing

- 6.5.1 A drivers briefing will be held immediately after Concourse. It will welcome all participants to the Championship, introduce the Officials and State Delegates, and brief participants on any important matters.
- 6.5.2 Additional drivers' briefings are to be held at the Race Directors and State Jury's discretion.
- 6.5.3 All drivers' must attend the driver's briefing.
- 6.5.4 Drivers' meetings must be conducted so that competitors or officials are not occupying the racing surface, to prevent damage or tracking of dirt onto the racing surface.

### 6.6 Competitors and Members Meeting

- 6.6.1 A meeting of all competitors and financial members of all attending Clubs will be held prior to the start of the Championship.
- 6.6.2 The meeting will be broken into State divisions who will then nominate and vote, by a show of hands, for meeting attendees to be the State Delegate and deputy State Delegate for the duration of the Championship.
- 6.6.3 The State Delegate may be a competitor, or a financial member of a Club represented at the Championship.

### 6.7 Qualifying Heats

- 6.7.1 Maximum number of 10 cars in each heat.
- 6.7.2 There should be a minimum 2 minute gap between the end of one heat and the start of the next. This gap must allow for drivers in the previous heat to exit the drivers stand, transmitters to be returned to the transmitter impound or scrutineering, issuing of transmitters to the drivers in the next heat, drivers in the next heat to take their places on the drivers stand.
- 6.7.3 An audible warning will be given in English language at one minute to the start of the race.
- 6.7.4 During qualifications the "staggered or IFMAR start" system will be used. Each car will start separately within one second of its number being called. Starting before its number is called will be classified as a jump-start. If for any reason a car did not start prior to the completion of the first lap by any car, the time for that car will automatically begin the moment the first car has completed a lap.
- 6.7.5 Each individual official time will start when the car passes the timing system for the first time.
- 6.7.6 When the first car completes the first lap, all official timing not yet activated will be started.
- 6.7.7 During the first round of qualifying, heat starting order will be determined randomly. During further rounds, heat-starting order will be determined by their finishing order in their previous heat.
- 6.7.8 Heats should be graded before the commencement of qualifying so that drivers of similar ability are placed in the same heat (as per S2.8.18). Re-grading drivers should be carried out after the second round of qualifying when there are only 4 qualifying rounds. When 5 or 6 qualifying rounds are to be run, re-grades will be carried out after the second and fourth rounds, or at the race directors discretion should schedule interruption be imminent. This is to be announced by the race director prior to the start of the meeting.
- 6.7.9 There will be a minimum of four (4) maximum six (6) rounds of heats at State Championships and a minimum of six rounds of heats at a Nationals.  
**Note:** The minimum number of qualifying heats at a National event can be reduced to four, due to bad weather or time issues with the agreement of the State Jury.
- 6.7.10 Drivers will accumulate points over the required number of qualifying rounds that will be counted towards the final qualifying positions. A drivers lowest scoring round or rounds are to be discarded. Discarded rounds will not be used for tiebreaks.  
The format for the amount of dropped rounds will be based on the following:  
3 rounds of qualifying, 2 will count, 1 to be dropped  
4 rounds of qualifying, 2 will count, 2 to be dropped  
5 rounds of qualifying, 3 will count, 2 to be dropped  
6 rounds of qualifying, 4 will count, 2 to be dropped
- 6.7.11 In each round, drivers will score points based on the distance and time achieved in relation to all other drivers. Points will be distributed so the fastest driver will accumulate maximum points for the round, with the points decreasing on 1-point increments for the preceding drivers. If more than 100 entries are received for a class, the point's score will be adjusted accordingly so the lowest place driver will receive at least one (1) point. DNS and DQ drivers will receive zero (0) points for that particular round.

AARCMCC  
EP On-Road General & Technical Rules

*Example:*

Fastest Driver in each round will score 100 Points  
2nd fastest will score 99 points  
3rd fastest will score 98 points  
4th fastest will score 97 points

If drivers tie for time and distance in a round, they will share the points for the same position. The following drivers point score will be relative to their positions.

*Example:*

Fastest 10 laps	5.10.00 will score 100 point
2nd 10 laps	5.12.00 will score 99 points
3rd 10 laps	5.13.05 will score 98 points
4th 10 laps	5.13.05 will score 98 points
5th 10 laps	5.14.05 will score 96 points

- 6.7.12 In the case of a tie of points in the final accumulated qualifying points, the tie break method will be based on the fastest qualifying heat distance and time of the counted heats only. In the unlikely event of a further tiebreak being required, the next fastest scored run will be used. Dropped or discarded qualifying heats will not be used for any tiebreak situations.

## 6.8 Finals

- 6.8.1 The A-Final will be composed of three separate races composed of the top ten qualifiers after the completion of qualifying.
- 6.8.2 All finals will be of ten drivers, and have a minimum of 5 drivers. The B final should receive 2 finals, final finishing position determined using both race finishing positions.
- 6.8.3 Final positions will be decided by a point system based on ten points for the winner of each final on down to one point for the tenth placed finisher in each separate final. The best 2 of 3 results are counted. In the event of a tiebreak, the driver with the single best finishing position in either of the best two (2) finals that counted, will be awarded the tie, in the event of a continuing tie, then the laps and times from the best finishing position will be compared and the one with the fastest laps and time total will be awarded the tie. If still continuing, then times from the second best position will be compared. The discarded Final or Finals will **not** be used to settle a tiebreak situation.
- 6.8.4 There should be a minimum 2 minute gap between the end of one heat and the start of the next. This gap must allow for drivers in the previous heat to exit the drivers stand, transmitters to be returned to the transmitter impound or scrutineering, issuing of transmitters to the drivers in the next heat, drivers in the next heat to take their places on the drivers stand.
- 6.8.5 During finals, positions on the driver's stand will be selected by drivers in order of qualifying position, i.e. No. 1 qualifier has first choice, No. 2 qualifier has second choice, etc. Preferably the Race Director should introduce each driver onto the stand in Qualifying order, stand positions to remain same for each final.
- 6.8.6 An audible warning will be given in English language at 1 minute to the start of the final.
- 6.8.7 At the thirty second warning all cars must be placed on the track and the mechanics must leave the racing surface. After the thirty second warning no other cars will be allowed entrance to the racing surface until after the start of the race, at which time the car may be placed on the starting grid after all the cars have left.
- 6.8.8 A ten second warning will be issued followed by the start, which will be by an audible signal.
- 6.8.9 From 10 seconds until three 1 second, time is audibly counted down, second by second.
- 6.8.10 After a suitable pause, an audible start signal will sound to commence the race.
- 6.8.11 The official starting signal will be audible by means of a horn or similar. This signal will also start the timing systems.
- 6.8.12 There will be no restarts due to jump starts.
- 6.8.13 Only the Race Director may interrupt the race and order a restart in the event that they consider the starting procedures or the start were not carried out correctly, or in the event of a timing failure.
- 6.8.14 A video record will be made of all starts for review by the referees as necessary.
- 6.8.15 Cars will be positioned within 25mm behind their respective grid start line. Any car crossing the line from the final count down to the start signal will receive a 1-lap penalty.
- 6.8.16 If for any reason a car did not start prior to the completion of the first lap by any car, the time for that car will automatically begin the moment the first car has completed a lap.
- 6.8.17 All A main finals must use a staggered or inline grid start of 10 rows (see Section 3.10).
- 6.8.18 Any race stopped due to race equipment malfunction or official's error will be re-run after a suitable delay.

### **6.9 Technical Inspection**

- 6.9.1 At the completion of each qualifying heat or final all cars in that heat or final, whether they finished or not, must be presented for technical inspection. Cars which are not presented for technical inspection or have a technical infringement will be disqualified from that round. Race damage to the body, wing or spoiler will be taken into account and marked on the competitor's scrutineering sheet.
- 6.9.2 All cars will have motors, and batteries inspected as necessary during heats with mandatory inspections at the end of each final.
- 6.9.3 At any time, the Race Director may ask any competitor to present their cars to Technical Inspection.
- 6.9.4 Random inspection can occur in pit lane for car numbers, tyres, wings, and chassis.
- 6.9.5 No race will be delayed because of non-compliance by a competitor.
- 6.9.6 The chassis plate of each car may be checked at any time.
- 6.9.7 Only one chassis may be used for all qualifying heats and finals. The only exception to this rule will be in the case of a broken or bent chassis which may be changed with the Race Director's approval. The new chassis must be presented to technical inspection for marking before re-building the car.

### **6.9 Trophy Presentation**

- 6.9.1 A trophy presentation will be held at the conclusion of the Championship, after official final results have been posted and any protest time has passed.
- 6.9.2 The trophy presentation may take place at an alternative location.
- 6.9.3 As a minimum, the following trophies must be awarded for State Championships;
  - Concourse for each chassis type.
  - Top Qualifier for each qualifying class
  - Top 10 finishing positions for each class
- 6.9.4 As a minimum, the following trophies must be awarded for National Championships
  - Concourse for each chassis type.
  - Top Qualifier for each qualifying class
  - Top 10 finishing positions for each class
- 6.9.5 Competitors that do not receive a trophy should receive a participation plaque, medallion or similar.
- 6.9.6 Drivers in the main final must receive trophies larger than those in the lower finals.
- 6.9.7 Prizes and trophies are allowed to be presented. Cash prizes are not permitted.

## 7. RACE PROCEDURES

### 7.1 Jumped Start

- 7.1.1 A jumped start (i.e. any movement of a vehicle between the time the Starter announces 10 seconds to the start time and the starting signal.) will be penalized.
- 7.1.2 A jump start that is called by the Race Referee before the first lap is completed will incur a 1 lap penalty.
- 7.1.3 If a jumped start is not called by the officials immediately at the start of a race but can be verified afterwards by at least two race officials using any recording device, a one lap penalty will be added in a Final.
- 7.1.4 Under no circumstances will the race be stopped or restarted due to a jumped start.

### 7.2 Marshaling

- 7.2.1 Marshals must not place themselves in danger of being hit by a car on the track.
- 7.2.2 Where a heat or final has been stopped due to a Marshal being incapacitated or at risk of further injury, the qualifying heat or final will be rerun as per the Wet Weather restart procedures in section 5.7
- 7.2.3 Competitors will marshal the heat following their racing heat. Competitors in the final heat of a qualifying round will marshal the first heat of that qualifying round.
- 7.2.4 Competitors, or their designated substitute, must perform marshalling duties for qualifying heats and finals. It is the competitors' responsibility to ensure substitutes marshal from the correct marshalling location. Physically disabled drivers are not required to marshal.
- 7.2.5 Competitors, or their designated substitute, must marshal at the correct marshaling location, as per their corresponding car number. Failure to marshal at the correct location will incur a penalty.
- 7.2.6 The host club must provide marshals for vacant positions for which there are no available competitors.
- 7.2.7 All marshals must wear enclosed shoes and use the provided fluorescent jacket.
- 7.2.8 Marshals must return cars to as close as possible to where they left the track.
- 7.2.9 Where multiple cars require marshaling, it is to be done on a first come first go basis.
- 7.2.10 Where multiple cars require marshaling that was caused by another car; the car that caused the problem will be marshaled last.
- 7.2.11 Cars that are no longer able to return to the pit lane on their own are to be placed upside down outside the track perimeter until the completion of the race.
- 7.2.12 A marshal is responsible for the section of track designated by the track officials through a marker or number. Their responsibility is to return a vehicle that has overturned or tangled (with another vehicle or object) to the race surface in a manner that does not affect another approaching vehicle. Broken or Dead vehicles must be removed from the racing surface, and placed upside down in a safe position away from the racing surface. It is not the Marshals job to fix a broken vehicle (removing a tucked body shell is allowed). Pit crews will be permitted to fix simple problems, as long as it does not affect Drivers, Marshals and Race Officials carrying out their duties

### 7.3 Wet Weather

- 7.3.1 For State and National Championships a rain day must be set aside. Race Director must take reasonable steps to complete the championship on the final scheduled day. The rain day should only be considered for use in the event of substantial delays during finals, not qualifying rounds.
- 7.3.2 In the event that wet weather causes a Championship to delay the start of qualifying rounds, the Race Director, in consultation with the State Jury, may shorten the number of qualifying heats. Other times between heats may also be reduced.
- 7.3.3 During qualifying rounds, in the event that wet weather, or a weather forecast, is going to cause a Championship to not achieve a qualifying or final result, the Race Director, in consultation with the State Jury, may reduce the number of qualifying heats to obtain a qualifying result before moving into the final rounds. The Race Director must intend to obtain a qualifying result with sufficient time remaining to run all final rounds and obtain a final result.
- 7.3.4 If weather and time permit and there is no time restriction on track use, every endeavor should be made by the Race Director to run as many of the maximum six rounds of qualifying heats as possible.
- 7.3.5 **MAIN FINAL.**
- 7.3.5 For National or State Championships where weather interference has caused the main finals to be shortened, the following results will apply:-
  - If three (3) finals are completed, the best two (2) will count as per previous rules.
  - If two (2) finals are completed, the best one (1) final will count.
  - If one (1) final is completed, that one (1) final counts.
  - If no A-Main Finals are completed, the finishing order of qualifying will be used to determine the

AARCMCC  
EP On-Road General & Technical Rules

final results of the event.

A-Main Finals will have priority and may be moved in an attempt to have them completed if rain is imminent. Time must be allowed to charge batteries.

**7.3.6 FINAL RESULTS**

7.3.6.1 In the event of weather causing the Championship to fail to complete all scheduled qualifying rounds and finals, final results will be calculated as follows;

7.3.6.2 If no finals have been completed final results will fall to completed rounds of qualifying results.

7.3.6.3 Where final rounds have been completed without being weather effected, those final results will stand.

7.3.6.4 Final rounds that are weather affected and are unable to be completed will fall to qualifying results.

**7.4 Drivers Stand Access**

7.4.1 Only drivers and race officials are allowed to access the driver's stand.

7.4.2 Drivers from a following qualifying heat or final are not permitted to access the driver's stand until all the drivers have left the drivers stand.

7.4.3 Drivers in a finished qualifying heat or final must vacate the driver's stand in a timely manner at the completion of their qualifying heat or final.

7.4.4 Drivers with mobility problems may access the driver stand before their heat or final providing they do not interfere in any way with the qualifying heat or final in progress.

7.4.5 Drivers are not allowed to exit the drivers stand until all cars have completed the race.

**7.5 Official Race Announcements**

7.5.1 All official announcements concerning the race must be audible in the English language in the pit area, drivers' stand and track areas.

## 8 RACING REGULATIONS

### 8.1 Offences

- 8.1.1 Participants in the Championship must strictly observe instructions given by the Race Director, State Jury, Referee and other designated Race Officials.
- 8.1.2 An instruction is a direction issued by a Race Official to a particular competitor. All instructions will be announced in the English language with the words: "Car <Number> <Instruction>". For example; "Car 3. Faster Car behind you".
- 8.1.3 The Race Director and/or Referee will determine the issuing of warnings and the issuing of, and severity of, a penalty.
- 8.1.4 A warning will be given against a competitor when they have not followed an instruction, or the unsportsmanlike behaviour of competitors or marshals involved in the racing. For competitors who continue to ignore instructions, subsequent warnings may include a penalty. For example; *Instruction* "Car 4. Faster Car behind you". Car 4 has not given way within a reasonable distance to the faster car. *Warning* "Car 4. Warning. Faster car behind you".
- 8.1.5 A penalty is given against a competitor when there has been a breach of the rules. All penalties will be announced in the English language with the words: "Car <Number> <Penalty><Reason>". For example, "Car 7. Stop and go. Failing to yield to a faster Car."
- 8.1.6 A combination any three penalties or warnings during a single qualification heat or final will cause the competitor to be disqualified from that qualification heat or final.
- 8.1.7 A combination of any three technical or qualification heat or final disqualifications will cause the competitor to be disqualified from the Championship. A competitor who has been disqualified from a Championship will have their entire result removed from the record and will be placed last. (if this occurs after the commencement of the finals, neither the qualifying order nor the make up of the Finals will be changed). The competitor involved may be subject to further State, National or International sanctions being imposed.
- 8.1.8 Physical violence against any other person or object at a Championship, or any form of professional fouling by competitors or marshals will result in the disqualification and ejection from the Championship of that person and/or team. The person(s) and teams(s) involved may be subject to further State, National or International sanctions being imposed.
- 8.1.9 The bad sportsmanship and behaviour of any competitor, even outside the official race meeting, which could injure the image and promotion of the sport, may become the object of an official State, National or International sanction.

### 8.2 Penalties

- 8.2.1 The Race Director and/or Referee may impose penalties in addition to the guidance provided in these rules.
- 8.2.2 The stop and go penalty will be applied for minor racing breaches of the rules. Additional time in seconds may be added depending on the severity or repetition of the breach.
- 8.2.3 The penalised competitor must complete the penalty on the next possible lap after the penalty has been issued.
- 8.2.4 Where the penalty is applied on the last lap of a qualifying heat or final, additional time equivalent to the penalty will be added to that competitor's result.
- 8.2.5 The penalised car must come to a complete stop within the marked penalty box. The penalised car may leave the penalty box only after a Race Official has released the car. Failure to do so will result in further penalties.
- 8.2.6 Penalised cars are not allowed to be repaired during a stop and go penalty.

#### 8.2.7 Marshaling Penalties

- 8.2.7.1 Competitors, including their designated substitute, who are not in their marked marshaling location 30 seconds prior to the start of the heat will be penalised by the loss of their best qualifying result for the Championship and the issuing of an official warning to that competitor.
- 8.2.7.2 Competitors, including their designated substitute, who perform repair or maintenance on a car whilst marshaling, will be penalised by the loss of their best qualifying result for the Championship and the issuing of an official warning to that competitor.

#### 8.2.8 Driver Penalties

- Penalties may be applied to the competitor as follows;
- 8.2.8.1 Bad sportsmanship during racing, for example; impeding progress of other competitors, deliberate slowing down or walling of another car, deliberate short-cutting of corners, distraction of other competitors on the driver's stand.

AARCMCC  
EP On-Road General & Technical Rules

- 8.2.8.2 Reckless driving.
- 8.2.8.3 Verbal abuse of Competitors, Marshals or Race Officials.
- 8.2.8.4 Incorrect use of entry and exit of the track, or driving in the wrong direction.
- 8.2.8.5 Lapped cars must give way to the faster cars at the next reasonable opportunity.
- 8.2.8.6 Faster cars must exercise due care when overtaking to avoid hitting slower cars, ie pushing.
- 8.2.8.7 Competitors who drive another competitor's car in any qualifying heat or final either as a substitute driver or as a substitute car will be disqualified from the Championship.
- 8.2.8.8 A competitor who starts in the wrong qualification heat will be black flagged and penalised by the loss of their best qualifying result for the Championship.
- 8.2.8.9 A competitor who starts in the wrong final will be black flagged and disqualified from their allocated final. Additional penalties including disqualification from the Championship may be applied.
- 8.2.9 **Start Penalties**
- 8.2.9.1 Any car that has not started a qualifying heat or final using the official starting procedure must join the race from pit lane after the field has passed. Where no pit lane exists, the penalty box must be used.
- 8.2.9.2 A jumped start will incur a penalty (See Jump Starts).

### 8.3 Black Flag

- 8.3.1 When a Black Flag has been issued to a competitor, the competitor must return their car immediately to pit lane or pull off the track near the drivers stand.
- 8.3.2 A competitor who has been black flagged and not allowed to return to the track will be officially disqualified from that qualification heat or final. The competitor will have their result removed from the record and will be placed last in that qualification heat or final. The result sheet will be marked to show the competitor as being disqualified.
- 8.3.3 A Black Flag, may be issued by the Race Director or Referee, for:
  - Competitors who continually impede the progress of other participants.
  - Competitors who have three penalties or warnings issued in a qualification heat or final.
  - Unsportsmanlike racing.
  - Competitors driving in a manner deemed to be dangerous by the Race Director or Referee.
  - Competitors starting in the wrong qualification heat or final.
  - Competitors driving in the wrong direction on the track.
  - Competitors that do not observe the instructions and warnings by the Race Director and Referees.
  - The bad behaviour and/or deportment of any competitor, even outside an official race meeting, which could injure the promotion of the sport.
  - Vehicles judged to be in undriveable or dangerous condition by the Race Director. These vehicles, after being repaired, may be allowed to re-enter the track after permission by Race Officials.
  - Cars judged by the Race Director to be in an undriveable or dangerous condition.
- 8.3.4 Any damage incurred during a qualifying heat or final will not entail a forced stop or black flag of the competitor except in the following cases:
  - Loss of a body excluding the spoiler or wing.
  - A car which becomes dangerous or undriveable.Cars which lose their bodies must immediately stop and carry out the necessary repairs after which they may rejoin the race.

### 8.4 Technical Disqualification

- 8.4.1 Any breach, including illegal modifications or changes made to the car, of the Technical Rules in force at the time of the Championship, before the start of, during, or after a qualifying heat or final, as identified by technical inspection, will result in the technical disqualification of the competitor from that qualifying heat or final.
- 8.4.2 Where a car's body dimensions breach the technical rules, the body will be inspected and an allowance will be made for identified minor race damage. The race damage will be recorded on the competitor's scrutineering checklist. The competitor is responsible for ensuring that their car meets the required specifications prior to starting their next qualification heat or final.
- 8.4.3 Additions to the chassis and/or body shell, such as screws, stickers, etc, which inhibit or prevent the scrutineering of a car may need to be removed whilst the car is being scrutineered.
- 8.4.4 The Technical Director will recheck any car that has failed technical inspection. The car will be impounded at Technical Inspection until the competitor has been informed of and the reason for the technical disqualification. The competitor may request a recheck for their car that has failed technical inspection prior to removing the car from technical inspection.



## AARCMCC

### EP On-Road General & Technical Rules

8.4.5 A disqualified driver's position will be shown as the last position in that heat or final.

#### 8.5 Protests

- 8.5.1 Protests must be submitted by individual competitors, in writing (English), to the Race Director via their State Delegate, with a deposit of \$100.
- 8.5.2 Where a protest occurs during a qualifying heat, the protest must be submitted within the latter of;  
i) 20 minutes of the completion of the following qualifying heat.  
ii) 20 Minutes after the official posting of the race results.  
The deposit is forfeited if the protest is not upheld and the deposit is returned if the protest is justified or upheld.
- 8.5.3 Where a protest occurs during a final, the protest must be submitted within the latter of;  
i) 20 minutes of the completion of the following final.  
ii) 20 Minutes after the official posting of the race results.  
The Race Director may suspend the proceedings at the completion of the final in progress by no more than 20 minutes to process the protest.
- 8.5.4 Where a protest occurs involving a technical disqualification, the car and any batteries, must remain in, and not be removed from Technical Inspection until the protest has been resolved. Any protest involving a technical disqualification will be void if the car has been removed from Technical Inspection.
- 8.5.5 Protests are processed by the Race Director. If the outcome of the protest is not able to be determined, the Race Director will elevate the protest to the State Jury in consultation with the Referee. If the outcome of the protest is not able to be determined by the State Jury, further consultation with AARCMCC may be sought.
- 8.5.6 No frivolous or vexatious protests will be entertained. If the Race Director determines that a protest is frivolous or vexatious or that the protester has acted in bad faith they may impose a penalty.
- 8.5.7 Appeals against any protest decision made by the Race Director during the championship may be submitted by the protesting competitor to their State Delegate. Such appeal is to be handled by the State Jury in consultation with the Referee. After discussion, the State Jury, by majority vote, will decide the issue in question. The decision and findings of the State Jury will be binding on all parties to the dispute.

#### 8.6 Requests for lap count checking

- 8.6.1 Requests for lap count checking do not need to be written and need no deposit. They are submitted to the relevant State Delegate by the competitor. The competitor will show the State Delegate the result sheet in question and indicate where the competitor believes a mistake has been made.
- 8.6.2 The State Delegate will show to the Race Director or Time Keeper the result sheet in question and will indicate where they think an error has been made. The Race Director or Time Keeper will resolve the problem by checking with the second lap counter, and if necessary, with the manual record of stops. If the request is justified, the Race Director will approve the correction, and the result will be modified immediately. The Race Director or Time Keeper will advise the State Delegate of the result who will in turn advise the competitor. If the competitor persists with their request, they will have to present a written protest as per a normal protest.

## 9 TECHNICAL SPECIFICATIONS

### ON ROAD ELECTRIC

#### 9.1 CLASSES

- 9.1.1 1/10th ISTC Stock -17.5t Brushless
- 9.1.2 1/10th ISTC Modified – Open Brushless
- 9.1.3 1/12th Scale - Open Brushless
- 9.1.4 Tamiya Mini

#### 9.2 TECHNICAL INSPECTION

- 9.2.1 All cars must be presented for technical inspection at the start of the prior heat. No car will be allowed to enter the track surface without being presented for technical inspection.
- 9.2.2 All cars must be presented for technical inspection before and at the end of each final.
- 9.2.3 All motors and batteries to be inspected as necessary during qualifying and mandatory during finals.
- 9.2.4 All cars in the finals will be impounded at the end of the finals for further technical inspection, such as motors, etc.
- 9.2.5 Only one car per driver per class is allowed. See initial technical inspections.
- 9.2.6 A receiver battery pack must only supply power to radio receiver for its operation and the control only of addition equipment listed: speed controls, servos and transponders for their operation. No other devices will be powered from a receiver or additional battery pack, for devices such as cooling fans.

#### 9.3 GENERAL SPECIFICATIONS

- 9.3.1 When starting the race, a body-shell must be neatly finished and complete. The body-shell must be a reasonable, realistic and facsimile of the full-size car on which it is based, with particular attention to realistic height, cockpit area, scoops, vents, wings and aerodynamic devices.
- 9.3.2 All open-cockpit body-shells must have a realistic driver figure fitted in an appropriate position in the Cockpit at all times when racing. The driver figure must consist of at least a driver's head/helmet, shoulders and arms and should be reasonable scale in size. The driver figure must be painted in a realistic appearance, colour and garb.
- 9.3.3 All closed cockpit cars must have translucent windshields and/or side windows and/or rear windows. (eg. Internal detail to be clearly visible when on track situation) Open or opaque windshields and/or side windows and/or rear windows are not allowed.
- 9.3.4 The Organiser must approve the use of Tyre cleaners or traction additives.
- 9.3.5 Wheel nuts and/or axles must not protrude more than 3.0 mm beyond the wheels
- 9.3.6 No more than 1.5 mm of wheel outside diameter may be exposed from the tyre on the outside of the wheel when viewed from the tread (ie not covered by the tyre).

#### 9.4 DRIVERS' AIDS

- 9.4.1 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 data management, recording or logging etc (eg. measuring suspension movement, wheel speed, motor speed, temperature, lateral forces or tyre slip) whilst the car is in motion are not allowed.
- 9.4.2 Unless an electronic or mechanical driver aid is listed below, it is not allowed for use in AARCMCC sanctioned events.
- 9.4.3 The fixed single ratio transmission may not include a mechanical device/s between the drive motor outputs and the gearbox input for the purpose of controlling torque. (eg 'slipper' clutch/fluid clutch)
- 9.4.4 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.
- 9.4.5 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.
- 9.4.6 Radio control receivers carried in the car may only have a maximum of Three (3) devices (normally the steering servo, speed controller and transponder) connected when powered by 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.
- 9.4.7 Cooling fans must be powered from the main battery pack that supplies the motive power for the car.

## AARCMCC

### EP On-Road General & Technical Rules

Fans can be wired into the receiver when not powered by a separate receiver battery and cannot be powered from a separate power supply.

- 9.4.8 Any competitor found in contravention of the spirit or fact of rule 9.4.1 to 9.4.7 will be disqualified from the event.
- 9.4.9 Batteries may not be charged or changed during the race.
- 9.4.10 Reverse is not allowed - forward control only

### 9.5 1/10th ISTC Technical Rules

The essence of the ISTC class is competition between realistic models of full scale saloon/sedan cars raced in Touring Car classes worldwide.

**Note:** The Modified, and Stock classes have the same technical rules excepting motor rules (refer to the Battery & Motor Technical section).

#### Chassis and Drive Train

- 9.5.1 Two-wheel drive to front or rear wheels or four-wheel drive is allowed.
- 9.5.2 Chassis must have independent suspension on all four wheels. Each driven wheel must have a flexible joint, eg: dog bone/s or universal joint/s in its driveshaft. Drive train and suspension design is free from restriction. Flat Pan (1/12th and 1/10th Track Style) chassis are not allowed.
- 9.5.3 The Chassis must not be shaped to gain an aerodynamic advantage. In principle the underside of the chassis must be flat and parallel to the ground along the entire length of the body-shell. Aerodynamic shaped parts (splitters/diffusers/tunnels/etc) may not be fitted to the chassis.
- 9.5.4 Wheels nuts/axles must not extend more than 3mm beyond the wheels when viewed from above.

#### 9.5.5 Dimensions

Description (mm)	Min	Max
Wheelbase	250	270
Width to outside edge of wheels	170	190
Width (with Body-shell)	175	195
Length (overall with body-shell fitted)	360	460
**Roof Height, track surface to top of roof, when measured on a 10mm block	120	180
Wing width (including endplates and supports)	125	190
Wing chord (including any flaps or extensions)	20	40
Wing endplate (when separate)	40 x 20	
Flap or Gurney tab extension above plane of wing		3
Wheel Diameter	47	52
Wheel width (including tyre bead)	24	26
Tyre Width	20	28
Tyre Diameter	47	67
Ground clearance (at race ride height)	5*	

\* Ground Clearance for use on carpet or other surfaces that could be damaged to be specified on the entry form.

\*\* Roof and wing height must be measured with a gauge at a minimum of 120 mm in height. The roof must clearly exceed the 120mm gauge; while the wing must measure at or below the measured roof height.

All measurements are to be checked with chassis sitting on a 10mm block, As such a minimum of 110mm from the Block to the Min roof height point.

\*\*Roof cannot be modified in any way to gain extra height. Eg stickers.

Wing height should be checked prior to each race, in case of damage during racing.

- 9.5.6 **Weight: All Touring Car minimum weight: 1380 grams** ready to race including transponder, at all times during the race:
- 9.5.7 Only one wing allowed, fitted in the same place as the wing on the original car. The rear edge of the wing may overhang the rear of the body, including the bumper by no more than 10mm.
- 9.5.8 The wing must not extend higher at any point, including endplates and flap, than the roof height. Side dams may be fitted but must be a reasonable representation of those fitted to the original car and must fit in the 40 mm x 20 mm rectangle allowance as part of the wing. Gurney flaps if fitted must fit within the wing dimensions. Wing chord to be measured as 40mm, Measured as the horizontal width of the wing.
- 9.5.9 Front splitters/spoilers must be molded into the body-shell in the same position as the original car.
- 9.5.10 One tab or gurney flap only allowed which must be fitted securely to the rear wing, and must be contained

AARCMCC  
EP On-Road General & Technical Rules

within the wing dimensions.

- 9.5.11 Wings/splitters/spoilers/tabs/gurney flaps must be fixed rigidly to the body and or wing, and may not be moved whilst the car is in motion.

## 9.6 Body-shells

- 9.6.1 2 & 4 door sedan style bodies are allowed that are currently on the IFMAR, EFRA or ROAR body listings, and fit within the GLOBAL BODY SPECIFICATIONS for electric touring cars. Sports coupe, GT style or hybrid bodies will not be allowed unless approved by IFMAR, EFRA or ROAR.
- 9.6.2 All details of front and rear lights, air intakes and windows must be clearly contrasted from surrounding paintwork.
- 9.6.3 Body-shells may not be cut above the lower door line.
- 9.6.4 Body-shells may not be cut above the lower rear bumper line. (maximum height of 45mm)
- 9.6.5 Body-shells must be securely fixed to the chassis at all times during a race.
- 9.6.6 Only one cut out, maximum 10mm diameter for the radio antenna (If used), may be made in the body except for clearance for the wheels (wheel arches), body mounting holes and lap timing equipment.
- 9.6.7 All wheel arches must be cut out as on the original car. No more than 10mm clearance between the wheels and the wheel arches is allowed.

## 9.7 Bumpers

- 9.7.1 Foam bumpers may be fitted. No part of the bumper may extend outside the body-shell when viewed from any direction, nor be lower than the chassis.

## 9.8 TC Tires

- 9.8.1 Molded rubber tires only allowed. No sponge, closed-cell foam or pneumatic tires allowed. Tires must be black except for Technical Inspection markings.
- 9.8.2 A controlled tire, insert and wheel combination must be used.
- 9.8.3 The host club determines the tire to be used. The selected tire, insert and rim combination and supplier must be announced not less than three (3) months prior to the event. The supplier must set aside 300 sets of tires at least 2 months before the event to ensure supply. The rim must be suitable for all types of cars.
- 9.8.4 Tire assemblies should not be pre-glued –This is to prevent any disadvantage to the racer for poorly glued tires. Submissions to nominate for a control tire indicate if pre-glued.
- 9.8.5 Modification to the air holes in the rims will be at the clubs discretion and intentions to be publicised prior to a sanctioned race meeting. No other modification can be made to the wheel assembly except for suspension clearance.
- 9.8.6 The selected combination of tire, insert and rim must be commercially available from Australian hobby shops at the time of the announcement. Failure to comply may result in that supplier becoming ineligible for future supply.
- 9.8.7 The host club has a duty to ensure that, as part of its selection process, the preferred tire will be readily commercially available from Australian hobby shops for the duration of the period from their announcement until the meeting. The tire combination should also be suitable for expected weather and track conditions.
- 9.8.8 All tires used for the event should be supplied from the same manufactured batch wherever possible. Competitors will purchase tires for competition through the host club at the race meeting. A maximum price cap of AUD\$35.00 per set (4 tires, inserts and wheels), that is payable by the entrant will be fixed.
- 9.8.9 Any tire selected for use at an annual sanctioned event cannot be used at the same event the following year.
- 9.8.10 Tire material must not damage the racing surface.
- 9.8.11 Any driver using any other type of tire/insert or rim will immediately be disqualified from the event.
- 9.8.12 Tires quantities are restricted during the event:

### Qualifying

**Modified** = Maximum of one (1) set of four (4) tire & wheel assemblies per two (2) qualifying heats (3 complete sets of tires for 6 rounds of qualifying)

**Stock** = Maximum of one (1) set of four (4) tire and wheel assemblies per three (3) qualifying heats (2 complete sets of tires for 6 rounds of qualifying)

### Finals

**Modified** = Two (2) sets for A finalists.

**Stock** = One (1) set for A finalists.

**A Finals Option:** Qualifying tires can be used in the finals at the forfeit of the use of new tires. To run qualifying tires in the finals, only the equivalent number of qualifying tires can be used as allocated for the A finals and must be clearly remarked to indicate their use.

- 9.8.13 A driver cannot re-use any part of the tire assembly (i.e. inserts) in the assembly of another set. All tire assemblies must be made from new tires/inserts/rims.

# AARCMCC

## EP On-Road General & Technical Rules

- 9.8.14 Tire assembly will be performed in front of a Technical Inspector and to be marked by the Technical Inspector immediately. This marking will take place before each stage of the event (i.e. qualifying, finals).
- 9.8.15 Wheels and tires must be marked before the car is presented to Technical Inspection for qualifying heats or finals. Unmarked wheels/tires may not be used on the car during qualifying heats and finals. Every car will have their tires checked by a Technical Inspection prior to entry to the track before qualifying heats and finals.
- 9.8.16 Technical Inspection marks need to identify the following:
  - Each tire/wheel assembly uniquely identifies the driver and the class for the driver.
  - Technical Inspection is to leave its own unique mark on the tire/wheel assembly.
  - Technical Inspection shall be responsible for recording the number of tires used by each driver.
- 9.8.17 It is the driver's responsibility to ensure all technical inspection marks and any manufacturer identifying marks on any part of the tire assembly are kept intact and clearly visible for the Technical Inspectors. If this is not the case then that tire assembly cannot be used.
- 9.8.18 Tires will be issued to drivers at the beginning of each race day, and it is the responsibilities of the drivers to return to Technical Inspection all tires at the completion of each day. Tires must not be removed from the pit or race track area at any time. Failure to surrender the tires at the end of the day or removal of the tires from the pit area except for racing will result in the driver being disqualified from the event.
- 9.8.19 Qualifying tires must be surrendered to scrutineering before receiving the finals tires.
- 9.8.20 At the completion of the event the tires will be the property of the driver.

### 9.9 1/12<sup>th</sup> Scale Modified

- 9.9.1 For the purpose of AARCMCC sanctioned events GTP, Lemans, prototypes (LMP675 and LMP900), World Sports Cars (WSC) and FIA GT Racing Classes 1 and 2 (GT1 and GT2) bodies only are allowed.
- 9.9.2 One rear wing only may be used with the body-shell.
- 9.9.2.1 The rear wing may be either molded into the original body-shell as part of the continuous material used for the body-shell - This is defined as the part of the body-shell, from the centre of the rear axle line extended rearwards, which sweeps upward from the horizontal **OR**
- 9.9.2.2 Attached directly to the body-shell or chassis by separate supports. In this case the part of body-shell from the centre of the rear axle line extending rearwards must be horizontal, or swept downward from the horizontal. Separate wings must conform to the sizes. Side dams to the sizes below must be attached directly to the separate wing only. No part of the wing or side dam may be closer than 6.5mm to any part of the body-shell other than tail fins or side dams.
- 9.9.3 Additional side dams may not be fitted. Only side dams molded into the original body-shell, or supplied with the original body-shell are allowed.
- 9.9.4 Additional fences, tabs, trims, flaps, splitters or any other item fitted separately to the body-shell, may not exceed the height of the original molded side dams.
- 9.9.5 The body and chassis must be securely joined at all times when the car is on the track. If a body comes loose or falls off during a race, the car must be removed from the track until the body-shell is securely reattached.
- 9.9.6 Wheel arches must be cutout if the original full-size car ran that way.
- 9.9.7 The body-shell may not be trimmed higher than the lower body trims lines.
- 9.9.8 No part of the chassis, wheels, tires, suspension or mechanical/electrical equipment may be visible Outside the body-shell when viewed in any plane, except for directly from the rear of the chassis.
- 9.9.9 Openings in the body-shell (e.g. scoops, vents) must be appropriate to the full-size car on which the body shell is based. Additional openings in the body-shell are allowed only for the original cockpit (in open Cockpit cars) wing mounts, antenna, and lap recording equipment. No other openings in the body-shell are allowed.
- 9.9.10 Rollover antenna may be fitted. If fitted, it must have a blunt end for safety reasons. The antenna must be part of the mast along its length. Maximum height from ground 350mm.
- 9.9.11 Dimensions (Body-shell dimensions in millimeters)

	<b>Max</b>	<b>Min</b>
Overall width	176	155
Overall length	380	320
Clearance around openings	10	
Clearance around wheel arches (except shaped wheel arches)	15	
Rear Wing (separate)		
Width	172	
Chord	52	
Side dams	- 55 by 20	
- 9.9.12 Bumpers are not required. If fitted, bumpers must be constructed so as to minimise injury that may result

## AARCMCC

### EP On-Road General & Technical Rules

from being hit by the car. Bumpers made from sheet type material shall be not less than 2.5mm thick or more than 6.5mm thick, with all exposed edges smooth and well rounded. Rigid blade-like bumpers made of hard, non-resilient material such as metal, brittle plastic, plywood, masonite, etc., will not be allowed. All cars may run a rear bumper, which must be behind the rear tires. Bumpers may extend 6.5mm beyond the sides of the body, or to 176mm, whichever is less.

- 9.9.13 Tires must be black except sidewall detailing. Wheels and tires must be of such a material they cannot damage the surface of the track. Tire treatments will be at the discretion of the organizers, including health risk and track damage considerations.
- 9.9.14 Tires; Min width is 13mm. Max width is 40mm. The tire width is measured at the widest part of the tread or sidewall. Any tire diameter will be allowed. The diameter must be maintained over at least the minimum width of the tire. Maximum track width is 172mm. To be measured with calipers, or a suitable solid jig.
- 9.9.15 Wheel nuts and/or axles must not protrude beyond the wheels. No more than 1.5mm of wheel outside diameter must be exposed (not covered with rubber) on the outer side of wheels.
- 9.9.16 Wheel rim diameter is 29mm Min. and 39mm Max.
- 9.9.17 All cars must comply too the dimensional requirements.
- 9.9.18 Cars are not permitted to race with a reverse facility.
- 9.9.19 **The minimum weight limit, ready to run, is 750 grams cars including automatic timing equipment.** The weight of the car must not be below the weight limit at any time during the race. Race distortion or damage must be disregarded.
- 9.9.20 When racing on a track surface, which can be damaged, (e.g. carpet) a minimum ground clearance of 3mm must be maintained at all times. Before and after each heat, race or final, cars must pass over a 3mm block without any part of the chassis or body touching the block. Cars failing this test prior to their race will not be allowed on the track. Cars failing this test after their race will have their heat/race/final time disallowed. The organiser will state on the entry form if this rule applies to their track surface.
- 9.9.21 Drive to the rear wheels must be through the use of a solid rear axle, no independent rear suspension allowed. Independent front suspension allowed.

### 9.10 Tamiya Mini

- 9.10.1 Eligible chassis - Tamiya M03 and M05 series "Front Wheel Drive" chassis only, *assembled as per Instruction Manual*,
- 9.10.2 No chassis/power train modifications allowed, With the exception of the differential which may be of any style (eg spool, ball diff, open gear diff, or sealed gear diff) except one way, from any manufacturer.
- 9.10.3 Wheels/Tires - Any commercially available rubber mini-sized tire, in any combination and/or compound, with any insert, and standard offset mini-sized wheels. If practical a control tire for all competitors should be chosen at sanctioned events.
- 9.10.4 Bodies - Body shells are open, with the following restrictions - No 4 door Touring Sedans and/or 12th scale type Wedge/Can-am bodies.

#### 9.10.5 Motor & Transmission

- 9.10.5.1 20, 18 OR 16 Tooth pinions only
- 9.10.5.2 13T/3000KV Hobbywing OEM or re-branded COMPLETE SYSTEM with max 25 or 35 amp ESC and engraved /etched can. No modifications are permitted to motors.
- 9.10.6 ESC, bearings and Tamiya Hot-ups only permitted, with the following exceptions - official Tamiya optional components may be replaced with an equivalent aftermarket part.
- 9.10.7 Batteries - Any 2S, Hard-cased 7.4 Lipo packs that will fit the mini chassis (without modification to pack or chassis) - Per section 9
- 9.10.8 Minimum weight limit of 1330 grams (with transponder).

## 10 Motor Specifications

- 10.1.1 Modified Class – Only Brushless motors approved by IFMAR, ROAR, EFRA or BRCA may be used
- 10.1.2 Stock Class – 17.5t Wye wound, sensored only.

### 10.2 General Definition of a brushless motor:

- 10.2.1 Sensored or sensorless (modified only) motors allowed
- 10.2.2 The motor has to be rebuildable. Ball Bearings are allowed
- 10.2.3 **If the motor is sensored:** It Must use a six position JST ZH connector model number ZHR-6 or equivalent connector with 6 JST part number SZH-002T-P0.5 26-28 awg contacts or equivalent.

Wire sequence must be as follows:

Pin #1 - ground potential

Pin #2 - phase C

Pin #3 - phase B

Pin #4 - phase A

Pin #5 - temp control, 10 k Ohm Thermistor referenced to ground potential

Pin #6 - + 5.0 volts DC +/- 10%.

Compatible speed control must use the 6 position JST header part number X-6B-ZR-SMX-TF (where the X denotes the style of the header), or equivalent.

The power connector has to be clearly marked A, B, C.

A for phase A

B for phase B

C for phase C

- 10.2.4 "540" Size specifications:

**Motor Can:** Overall maximum diameter is 36.02mm measured at whatever point yields the maximum dimension, excluding solder tabs or lead wires. Overall minimum diameter is 34.00mm measured at whatever point yields the minimum dimension, excluding solder tabs or lead wires. Maximum length is 53.00mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name.

Minimum length is 50.00mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name.

Motor mounting holes must be on 25.40mm centers.

**Stack/Stator:** Stack minimum length 19.30mm, maximum 21.00mm. Stack inside diameter minimum 14.50mm, maximum 16.00mm. If a stack is used then it must be continuous. The laminations have to be one after the other without anything in between. The thickness of the stack plates is 0.35 +/- 0.05mm. All laminations must be of the same material.

**Winding For Modified:** Three slot (phase) "Y" wound stators, delta wound or slot-less stators allowed. Only circular (round) pure copper wire permitted.

**Rotor:** Shaft diameter must be 3.175mm. Only one piece, 2 pole bonded Neodymium or Ferrite (ceramic) magnetic rotors are permitted. The shaft outside diameter, where the magnet is mounted, shall be minimum 7.25 +/- 0.150mm for spec classes and minimum 6.00mm +/- 0.150mm for modified classes. This dimension must be measurable without destroying the rotor.

Magnet minimum length - 23.00mm, maximum 27.00mm.

Magnet minimum diameter 12.00mm, maximum 12.51mm, to be applied to spec classes only. Modified open to all option rotors.

- 10.2.5 All motors must have the original manufacturer's logo or name molded into the end bell.
- 10.2.6 No hybrid (mixing of parts from approved brushless motors) allowed.
- 10.2.7 Exchange of rotors from within the same manufacturer allowed, as long as they comply with the class restrictions in 10.2.4

### 10.3 Stock 17.5 Brushless Motors:

A Motor list will be compiled on a separate motor list, but will comprise those motors listed on either ROAR or BRCA approved motor lists, with an approval date no less than 30 days before the commencement of the event. Local distributors can apply to AARCMCC for Australian certification under specific conditions.

- 10.3.1 All brushless motors for the Stock class will be wind rating of 17.5 turns, clearly indicated by the manufacture on the external casing.
- 10.3.2 Assembled motors will be inductance tested and all motors must read above the recommended inductance reading. If a motor fails this test, the rotor should be removed and a further inductance test be carried out to ensure if the motor will be classified to pass or fail, and the rotor measured. UNI-T, model # UT602 inductance meter has been used to carry out testing  
Minimum Readings: Assembled = 60 mH,  
Rotor removed = 90 mH
- 10.3.3 Stator, Stock Motor: Only three slot "Y" wound stators are permitted. No delta wound or slot less stators are allowed. Only circular (round) pure copper magnet wire permitted. The three slotted stator must be wound with 17.5 turns of 2 strands of 20 AWG or 2 strands of 0.81 mm IEC per slot. The inductance for each slot of the stator shall be 100.00 Micro Henries minimum and 110.00 Micro Henries maximum, measured with the rotor removed from the motor.
- 10.3.4 Current motors locally approved by AARCMCC for use in the 17.5t class include:
  - R-Ace – Blue can, Duo 2 style motor
  - Team Orion – Gunmetal Grey 2010 spec
  - Team Orion – Grey 2011 spec
  - Keyence – Hacker OEM



## 11 Battery Specifications

- 11.1.1 Only Batteries that appear on the ROAR or BRCA approved battery lists, for a period of no less than 30 days prior to the event may be used.  
1/12<sup>th</sup> scale 1S LiPo (3.7 volt rating)  
All other classes of electric cars must use a maximum 2S 7.4 volt LiPo or 2S LiFe
- 11.1.2 Batteries Technical: LiPo (Lithium Polymer)  
Approved Lithium Polymer batteries only as per ROAR or BRCA web site listings.  
ROAR Lipo list - <http://www.roarracing.com/approvals/lipobattery.php>  
BRCA Lipo / Life Lists -  
2S LIPO sticks - <http://www.brca.org/BRCA/elecboard/news/2010%20BRCA%20S%20Stick%20LiPo%20List%20v1%20pdf2.pdf>  
2S LIPO saddles - <http://www.brca.org/BRCA/elecboard/news/2010%20BRCA%20S%20Saddle%20LiPo%20List%20v1%20pdf6.pdf>  
1S LIPO (1/12th etc) <http://www.brca.org/BRCA/elecboard/news/2010%20BRCA%20S%20Stick%20LiPo%20List%20v1%20pdf2.pdf>  
2S LIFE sticks - <http://www.brca.org/BRCA/elecboard/news/2010%20BRCA%20S%20Stick%20LiFe%20List%20v1%20pdf3.pdf>
- 11.1.3 Batteries must be factory sealed in a hard case that can withstand impacts as per ROAR testing procedures.
- 11.1.4 No soft cased batteries allowed, for primary battery source.
- 11.1.5 No modifications are allowed to the case and/or the battery, any physical distortion, denting, split seams, puncturing or other damage to the hard case of the Lipo battery will deem the battery to be ineligible for use.

### 11.2 General Specifications – To be used

- Nominal capacity must not exceed 3.7v/cell
- Full charge voltage not to exceed 4.2 volts + 0.2 volts per cell.
- Minimum rating of 20C

#### Maximum Physical Dimensions:

(Used for reference only, and will not prevent a listed battery from use)

Straight pack 2S	Saddle pack configuration 2S	Straight pack 1S	Saddle pack configuration 1S
Length: 139mm	Length: 70mm	Length: 93mm	Length: 47mm
Width: 47mm	Width: 47mm	Width: 47mm	Width: 47mm
Height: 25.1 mm	Height: 25.1mm	Height: 18.5mm	Height: 23mm

### 11.3 Procedures for Charging and Use

- 11.3.1 Whilst charging and/or discharging, batteries should be contained in a Lipo sack or other device (fire mitigation device able to withstand and contain a destructive failure without showing a flame)
- 11.3.2 Electronic speed controls should have either an inbuilt or an external cut-off electronic device installed that will not allow the battery to discharge below 3 volts per cell volts minimum.
- 11.3.3 Lipo capable chargers are only to be used; it is recommended that Lipo batteries are charged at a maximum charge rate of 1C. 1C charge amp rate = mAh capacity/1000
- 11.3.4 Overcharging is not allowed (voltage higher than 8.4v +/-0.04v for 2S, and 4.2v +/-0.02v for 1S), and can be subject to scrutineering prior to each race. Any battery exceeding the allowed voltage will not be allowed to participate in that race.
- 11.3.5 Maximum temperature for a charged Li-poly battery pack shall be ambient temperature +/- 5 deg.
- 11.3.6 The use of heating devices of any type to heat a Li-poly battery is strictly prohibited.
- 11.3.7 The use of cooling devices and or freeze sprays of any type to cool a Li-poly battery is strictly prohibited.
- 11.3.8 Batteries that are showing signs of failure from use, should be isolated from the immediate area of human and animal contact, and preferably contained in a Lipo sack or other device that will contain a destructive failure.

### 11.4 Tech Inspection guidelines

- 11.4.1 Disqualification will result if any of the three charging guidelines is breached
- 1) Charging the Lipo pack with anything but a charger capable of the standard Lipo CC/CV charging method.
  - 2) Charging a Lipo pack to a voltage higher than 8.40V +/-0.04V
  - 3) Charging a Lipo pack outside of a "Lipo sack" or other device proven to contain a destructive failure of a Lipo pack.

**Appendix A – Referee Notes**

<b>Championship:</b>						<b>Date:</b>	
<b>Car No</b>	<b>Heat</b>	<b>Round</b>	<b>Final</b>	<b>Time</b>	<b>Incident, Penalty, Warning or Comment</b>		

## Appendix B – Sample Competitor Registration

Host clubs should modify the Competitor registration form to suit their requirements and local rules, particularly as competitors often register online. The host club must meet any applicable State and National Privacy Regulations for information collected.

# 20xx AARCMCC EP On-Road <State/National> Championships

## Competitor Registration

**ENTRIES DUE BY**  
<date> <month> <year>

<Venue>

Please Complete this form  
and return to:-

THE EVENT COORDINATOR  
<Address>  
<City> <State> <Postcode>

**AARCMCC**  
rules apply

**Entrants Particulars:**

Drivers Name: .....

Address: .....

Phone: ..... Mobile: .....

Email: .....

Club: ..... D.O.B. (U16).....

Please tick classes to enter.

<input type="checkbox"/>	Touring Car Mod	1 <sup>st</sup> .....	2 <sup>nd</sup> .....	3 <sup>rd</sup> .....	Transponder .....
<input type="checkbox"/>	Touring Car S/Stock	1 <sup>st</sup> .....	2 <sup>nd</sup> .....	3 <sup>rd</sup> .....	Transponder .....
<input type="checkbox"/>	Touring Car Stock	1 <sup>st</sup> .....	2 <sup>nd</sup> .....	3 <sup>rd</sup> .....	Transponder .....
<input type="checkbox"/>	12 <sup>th</sup> Scale Modified	1 <sup>st</sup> .....	2 <sup>nd</sup> .....	3 <sup>rd</sup> .....	Transponder .....
<input type="checkbox"/>	Mini (demo)	1 <sup>st</sup> .....	2 <sup>nd</sup> .....	3 <sup>rd</sup> .....	Transponder .....

I agree to abide by and be bound by, the local and national rules in force at the time of the Championship. I understand I race at my own risk. I indemnify the host or organising club, and its officials or agents, against any loss, damage or injury arising from my participation in the Championship. I will not behave offensively or use offensive language. I acknowledge that there is a penalty system for breaches of the rules. I will marshal, or provide a substitute marshal for the subsequent race. I acknowledge that the host club may take and use images where I may be readily identified.

Signed: ..... Print Name..... Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

<Sponsored by>

Entry Fees - \$30.00 for 1 Class.  
\$50.00 for 2 Classes.  
\$60.00 for 3 Classes.

**Appendix C – Sample Technical Checklist – Touring Car**

Technical Checklist - Touring Car - Stock / Modified								Heat:	Final:
Car No	Weight (1425g)	Width	Wing	Tyres	Motor	Battery	Name:		
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									
								Heat:	Final:
Car No	Weight (1425g)	Width	Wing	Tyres	Motor	Battery	Name:		
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									
								Heat:	Final:
Car No	Weight (1425g)	Width	Wing	Tyres	Motor	Battery	Name:		
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									
<b>Comments:</b>									

**Appendix D – Sample Technical Checklist – 12<sup>th</sup> Scale Modified**

Technical Checklist - Touring Car - 12th Scale Modified								
							Heat:	Final:
Car No	Weight (750g)	Width	Wing	Tyres	Motor	Battery	Name:	
1								
2								
3								
4								
5								
6								
7								
8								
9								
0								
							Heat:	Final:
Car No	Weight (750g)	Width	Wing	Tyres	Motor	Battery	Name:	
1								
2								
3								
4								
5								
6								
7								
8								
9								
0								
							Heat:	Final:
Car No	Weight (750g)	Width	Wing	Tyres	Motor	Battery	Name:	
1								
2								
3								
4								
5								
6								
7								
8								
9								
0								
<b>Comments:</b>								

**Appendix E – Sample Technical Checklist – Tamiya Mini**

Technical Checklist - Touring Car - Tamiya Mini								Heat:	Final:
Car No	Weight (1330g)	Chassis Type	Body	Tyres	Motor	Battery	Name:		
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									
								Heat:	Final:
Car No	Weight (1330g)	Chassis Type	Body	Tyres	Motor	Battery	Name:		
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									
								Heat:	Final:
Car No	Weight (1330g)	Chassis Type	Body	Tyres	Motor	Battery	Name:		
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									
<b>Comments:</b>									

**NOTES:**