



## AARCMCC Electric On-Road Section

### October 2016 Rule Proposals

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**Proposal 017 – Class Descriptions**

Proposed by AARCMCC EP ONR Committee

**Amend 2.10.1 from**

2.10.1 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 (13.5 Brushless Motors, non-boosted ESC) 6 Minute duration
- Touring Cars Sportsman (21.5 Brushless Motors, non-boosted ESC) 6 Minute duration
- 12th Scale Modified (Modified Class Motors) 8 Minute duration

**To**

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

- ISTC Sportsman (~~21.5 Brushless Motors, non-boosted ESC~~) 6 Minute duration
- ISTC Stock (~~13.5 Brushless Motors, non-boosted ESC~~) 6 Minute duration
- ISTC Modified (~~Modified Class Motors~~) 5 Minute duration
- 1:12th Modified (~~Modified Class Motors~~) 8 Minute duration

**Amend 9.1 from**

9.1 ON ROAD ELECTRIC CLASSES

- 9.1.1 1/10th ISTC Sportsman – 2S 21.5t non-boosted Brushless
- 9.1.2 1/10th ISTC Stock – 2S 13.5t non-boosted Brushless
- 9.1.3 1/10th ISTC Modified – 2S Open Brushless
- 9.1.4 1/12th Scale – 1S Open Brushless

**To**

- 9.1 Electric On-Road sanctioned classes are as follows;
  - ISTC Sportsman
  - ISTC Stock
  - ISTC Modified
  - 1:12<sup>th</sup> Modified

**Amend 10 from**

10 Motor Specifications

- Modified Class – Only Brushless motors approved by IFMAR, ROAR, EFRA or BRCA may be used
- Stock Class – 13.5t Wye wound, sensed only.
- Sportsman Class – 21.5t Wye wound sensed only.

**To**

10 Motor Specifications

- ISTC and 1:12<sup>th</sup> Modified Classes – Only Brushless motors approved by IFMAR, ROAR, EFRA or the BRCA may be used
- ISTC Stock class – Refer to section 10.2
- ISTC Sportsman Class – Refer to Section 10.3

*Reasoning – Delete motor references from class descriptions, may be different winds in the future, so makes updating rule book easier. Also ensure same naming convention is used through the rule book.*



**Proposal 018 – ISTC Stock Class Control Motor** Proposed by AARCMCC EP ONR Committee

**Replace 10.2 and 10.2.1**

**10.2 Stock 13.5 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.

10.2.1 All brushless motors for the Stock class will be wind rating of 13.5 turns, clearly indicated by the manufacture on the external casing.

**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 13.5 turns of 2 strands of a maximum diameter 0.724 mm and two strands of a maximum diameter of 0.574 mm per slot.

**Replace with;**

**10.2 ISTC Stock Class**

These motor rules must be followed at State and National Championship events. Non-Championship Sanctioned events may follow these rules or specify their own motor rules for the event.

10.2.1 A single control motor will be used for this class at all State and National events. This motor will be decided by the EP ONR Committee and announced prior to the start of each year.

10.2.2 The motors will be the property of AARCMCC, and will be leased to racers for a \$20 fee for each event. This fee is to cover the initial cost of the motors, along with the administration and maintenance between each event. This fee is to be incorporated into the race entry fee by the organisers.

10.2.3 The control motors will be performance balanced by KV rating by AARCMCC prior to use at sanctioned events. The set KV rating and method used for the motors shall be published by AARCMCC to ensure transparency.

10.2.4 Motors will be allocated to racers at random on each morning of the event, and must be returned to race control at the end of each day. This rule also applies for practice days. If a motor is accidentally not returned, it will be removed from the pool of motors for the remainder of the event.

10.2.5 Motors must be able to be removed from the car with hand tools only. I.e. no soldering. Motors will be fitted with 3.5mm female Banana plugs to enable this. AARCMCC will ensure that supplies of suitable 3.5mm male plugs for ESC connections are available at each event.

10.2.7 A minimum gear ratio limit (FDR) will be specified by AARCMCC for use at all events. Gear ratio checks may be requested at any time by the technical inspector. See section 10.4 for specified FDR limit.

- 10.2.8 Absolutely no modification may be made to the motor in anyway. To aid this, motors will be marked prior to the event in such a way as that any opening of the motor can and/or adjustment of the timing ring will damage the markings.
- 10.2.9 Any racer found to be contravening rule 10.2.5, 10.2.6 or 10.2.7 will be immediately disqualified from the event. The new motor will be selected at random from the remaining pool of motors.
- 10.2.10 A racer may request to change their allocated motor once per day at each event. This change will entail an additional \$10 fee per change. The new motor will be selected at random from the remaining pool of motors.

**Add new section 10.4**

**10.4 Gear Ratio Limits**

<b>Class</b>	<b>Motor</b>	<b>Min. FDR</b>
ISTC Sportsman	Any 21.5t as per 10.3	Unrestricted
ISTC Stock	*TBC*	*TBC*
ISTC Modified	Unrestricted	Unrestricted
1:12 <sup>th</sup> Modified	Unrestricted	Unrestricted

**Proposal 019 – ISTC Sportsman Class Control Motor** Proposed by AARCMCC EP ONR Committee

**Replace 10.3 and 10.3.1**

**10.3 Sportsman 21.5 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 21.5 turns, clearly indicated by the manufacture on the external casing.

**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 21.5 turns of 2 strands of a maximum diameter 0.724 mm per slot.

**Replace with;**

**10.3 ISTC Sportsman Class**

These motor rules must be followed at State and National Championship events. Non-Championship Sanctioned events may follow these rules or specify their own motor rules for the event.

10.3.1 A single control motor will be used for this class at all State and National events. This motor will be decided by the EP ONR Committee and announced prior to the start of each year.

10.3.2 The motors will be the property of AARCMCC, and will be leased to racers for a \$20 fee for each event. This fee is to cover the initial cost of the motors, along with the administration and

maintenance between each event. This fee is to be incorporated into the race entry fee by the organisers.

- 10.3.3 The control motors will be performance balanced by KV rating by AARCMCC prior to use at sanctioned events. The set KV rating and method used for the motors shall be published by AARCMCC to ensure transparency.
- 10.3.4 Motors will be allocated to racers at random on each morning of the event, and must be returned to race control at the end of each day. This rule also applies for practice days. If a motor is accidentally not returned, it will be removed from the pool of motors for the remainder of the event.
- 10.3.5 Motors must be able to be removed from the car with hand tools only. I.e. no soldering. Motors will be fitted with female Banana plugs to enable this. AARCMCC will ensure that supplies of suitable male plugs for ESC connections are available at each event.
- 10.3.7 A minimum gear ratio limit (FDR) will be specified by AARCMCC for use at all events. Gear ratio checks may be requested at any time by the technical inspector. See section 10.4 for specified FDR limit.
- 10.3.8 Absolutely no modification may be made to the motor in anyway. To aid this, motors will be marked prior to the event in such a way as that any opening of the motor can and/or adjustment of the timing ring will damage the markings.
- 10.3.9 Any racer found to be contravening rule 10.2.5, 10.2.6 or 10.2.7 will be immediately disqualified from the event.
- 10.3.10 A racer may request to change their allocated motor once per day at each event. This change will entail an additional \$10 fee per change. The new motor will be selected at random from the remaining pool of motors.

**Add new section 10.4**

**10.4 Gear Ratio Limits**

<b>Class</b>	<b>Motor</b>	<b>Min. FDR</b>
ISTC Sportsman	*TBC*	*TBC*
ISTC Stock	Any 13.5t as per 10.2	Unrestricted
ISTC Modified	Unrestricted	Unrestricted
1:12 <sup>th</sup> Modified	Unrestricted	Unrestricted

*Reasoning – Racers in the Stock and Sportsman classes have indicated a strong desire to move towards control handout motors for AARCMCC sanctioned events. This is supported by the results from the AARCMCC EP ONR section survey conducted at the beginning of the year, where over 50% of the responses indicated a preference to have a control motor in the Stock class, and over 66% for Sportsman. Of these, 60% of responses indicated a handout motor was the best option if control motors were used, along with 67% agreeing locked timing is a requirement. There is also the perception currently that there*



*is a need to spend \$200+ regularly on motors to be competitive. This is unsustainable, and not attractive for racers viewing to take the step up to sanctioned events, or changing classes.*

*The proposals above have been formed to satisfy these requirements, following similar regulations used in the ETS series that has successfully used handout stock motors for the past number of years. They are put forward as two separate proposals, one for Stock, and one for Sportsman, rather than as a single combined one, to allow clubs to decide on each class separately.*

*The key requirements are to ensure that motor performance is equalized for the closest performance on track, whilst also being simple to administer at events. Motors chosen will be similar in performance to current motor speed.*

*Closeness in performance is achieved by the KV equalization, locked timing, and FDR limit. Motors will be marked prior to handing out at the events to make sure performance remains the same. The random motor draw for each day of the event also assists with this leveling of the playing field.*

*Being a handout motor helps to remove the need for racers to spend money on motors to compete at sanctioned events, but to, aid with the administration and ease the load on event organisers. motors will be effectively 'Plug & Play', with motor plugs being required to be used.*

*It is the intention that the suitable motors would be tested by representative racers prior to any selection, and that AARCMCC enter agreements with manufacturers for supply, not just for the handout motors, but also to ensure racers can purchase similar motors for their own purposes, such as testing prior to events.*

*The committee has had contact with six potential suppliers who are keen to assist with supplying motors for these proposals, and it would also be the committees intention to have commercial assistance with the motor supply, for example "AARCMCC Stock Class powered by **\*Manufacturer\***". It is also the intention to have different handout suppliers for the different classes. However this is very dependent on the motor performances and commercial arrangements that can be agreed.*

*Given the large change and workload that could be generated if both proposals pass the vote, the Committee reserves the right to stagger the introduction of the motors for each class over the following two years, with one class in 2017, and the second in 2018. Which class to be introduced when will be considered following feedback from racers, and communicated as soon as possible.*



**Proposal 020 – Junior Class** Proposed by the Victorian Clubs

**Amend 2.10.1, 9.1, and 10 to add class**

**ISTC Junior Sportsman**

**Add new rule 2.11, and renumber existing rules**

**2.11 ISTC Junior Sportsman class**

2.11.1 Junior Sportsman is a class for junior drivers to develop their skills and build confidence within a controlled environment at sanctioned events

2.11.2 The following drivers shall be prohibited from entering the Junior Sportsman class.

a. Any driver over the age of 14 as of the 1st of January that year

b. Any driver who has finished top 3 in any sanctioned class at a previous national championship

2.11.3 The AARCMCC executive and relevant State delegate shall have the final decision on allowing a racer to participate in the Juniors class.

**Amend Section 10 to add Junior Sportsman motor regulations**

- Modified Class – Only Brushless motors approved by IFMAR, ROAR, EFRA or BRCA may be used
- Stock Class – 13.5t Wye wound, sensored only.
- Sportsman Class – 21.5t Wye wound sensored only.
- Junior Sportsman Class – Motors as per section 10.4

**Add Section 10.4 to define regulations**

**10.4 Junior Sportsman Approved Motors**

10.4.1 Approved Brushless Motors for the Junior Sportsman class are to be approved by the AARCMCC EP ONR Committee in consultation with State Delegates. Motors may be removed from this list with a minimum 6 month notice period.

10.4.2 Approved Motors

1. Turnigy TrackStar 21.5T 1855KV sensored brushless motor. P/N:9192000034

a. Originally supplied 12.3x7.25mm rotor must be used

b. KV Rating; 1750KV ±5KV

2. \*TBC following approval by AARCMCC\*

10.4.2 No motor modifications are allowed.

10.4.3 Motor timing shall be adjusted at sanctioned events to set the KV to the specified KV rating using a Motor Analyser (either Gforce G0107, SkyRC SK-500020, or TrackStar 9052000084-0).

10.4.4 After setting the KV the motor shall be sealed in such a way that shall identify if any attempt to adjust the set timing or open the motor.

10.4.5 A gear ratio limit is to be run. This is to protect the motors from excess heat caused by over gearing and keep performance equal. Gear ratio checks may be requested at any time by the technical inspector. See Section 10.5 for specified limit.

#### Add Section 10.5

#### 10.5 Gear Ratio Limits

Class	Motor	Min. FDR
ISTC Junior Sportsman	1 Turnigy Trackstar 21.5T(P/N:9192000034)	4.5
	2 *TBC*	*TBC*
ISTC Sportsman	Any 21.5t as per 10.3	Unrestricted
ISTC Stock	Any 13.5t as per 10.2	Unrestricted
ISTC Modified	Unrestricted	Unrestricted
1:12 <sup>th</sup> Modified	Unrestricted	Unrestricted

#### Amend 9.4.4.15 to define Junior Sportsman tyre quantities.

9.4.4.15 Tyre set quantities are limited for the event;

- Modified – A maximum of 4 sets of 4 wheels and tyres
- Stock and Sportsman – A maximum of 3 sets of wheels and tyres
- Junior Sportsman – A maximum of 1 set of wheels and tyres

#### Proposal Background

*It is the intention of the Junior Sportsman Class is to increase Junior and family participation. The Junior Sportsman Class is an affordable entry level class for drivers under the age of 14. The Junior Sportsman class will encourage juniors to participate in EP on road racing whilst allowing juniors to have their own space; a place to build confidence and learn the skills of racing without being intimidated by older racers.*

*The Victorian clubs have introduced a Junior Sportsman Class for local racing which has featured as a support class at the 2016 VICs and the 2016 Nationals. Since the introduction of the class there has been a substantial increase in the attendance of juniors and their families.*

*The EP OFR Committee have successfully introduced a junior class in 2015 along similar lines. This has seen great growth, aiding in not just young drivers taking up the sport, but families aiding in also participation. At most state rounds, the junior class has spread into B finals, and seen graduation of juniors into the senior classes. It is this this success with this proposal we wish to replicate in EP ONR.*

#### EP ONR Committee comment:

*The EP ONR Committee **strongly** endorses this proposal, as junior drivers are the future of our hobby, and we need to be doing everything possible to the ensure that young drivers are given the best opportunity to develop their skills and enjoyment of racing. Separating them out from competing against adults, and reducing the intimidation factor, whilst also allowing to compete directly with friends, along with crowning dedicated junior state and national champions will go some way to aiding this, whilst also providing a path of progression into more senior classes.*





## **Proposal 021 – Control Additives**

Proposed by AARCMCC EP ONR Committee

### **Delete 9.2.4**

~~9.2.4 — The use of tyre treatments (cleaners or additives) is at the race organiser's discretion. Notification of non allowable tyre treatments must appear on the entry forms.~~

### **Add New Section 9.3, and re-number existing rules**

#### **9.3 TYRE TREATMENTS**

- 9.3.1 Tyre treatments (additives and/or cleaners) will be controlled for all National and State sanctioned events. It is the host clubs responsibility to supply sufficient additive for the duration of the event.
- 9.3.2 The type of additives and/or cleaners is to be decided by the AARCMCC Electric Executive together with the race organisers, taking into consideration the chosen control tyre(s).
- 9.3.3 For safety, additives that are non-flammable, non-toxic and of low odor should be considered for use as control additives.
- 9.3.4 Separate additives may be selected for ISTC and 1/12th vehicles, if it is felt there is a requirement to do so.
- 9.3.5 The selected type of additive is to be announced not less than 2 months prior to the event.
- 9.3.6 The use of the control additive by demonstration classes is at race organisers discretion. No other additives may be used by the demonstration classes
- 9.3.7 The use of a separate cleaner is at race organisers discretion and is to either be supplied by the club or the supplier name and part number nominated at the same time as control additive.
- 9.3.8 Clubs should endeavor to either supply as part of entry fees or provide for sale (at RRP or less) the nominated cleaner at the event.
- 9.3.9 Any additives or non-allowed cleaners discovered in the pits will be confiscated by race organisers and returned at the end of the event, this includes those within pit bags and boxes.
- 9.3.10 Racers suspected to have prohibited items within their pit area must present all bags and boxes for inspection by race organisers.
- 9.3.11 Any racer found to be using prohibited treatments will be disqualified from the event.
- 9.3.12 Control Additives are to be applied only at control station(s). The timing of application is at the race organisers discretion. In the case of high entry numbers, organisers retain the right to restrict access to the control station(s) to specific times for each heat.
- 9.3.13 Cleaners (if approved) can be freely used in the pit area.



*Reasoning – This proposal is to regulate the use of control additives & cleaners at state and national titles. Going to a control additive has been shown to help further reduce cost of participation, without the need for racers to travel with large numbers of different additives that may or may not work at the event. This is supported by the success of AOC, the 2016 QLD state championships, as well as the ETS championship. The 2016 nationals at TFTR will also be using control additives across all classes.*

*Additionally, there the safety aspect, where by reducing the exposure to particularly nasty chemicals present in some formulations of additives is reduced. This is particularly relevant with the potential introduction of a Junior Sportsman Class.*

*The regulation has been written to allow the use of different additives between ISTC and 12th if needed.*

*To avoid the problems with additives in the pits, they may ONLY be applied at control stations to reduce accusations of cheating etc. This is exactly the same scenario that was run at AOC and QLD.*



**Proposal 022 – Ranking system**

Proposed by AARCMCC EP ONR Committee

**Replace 1.3**

**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.

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

#### **Replace With**

#### **1.3 National Ranking**

- 1.3.1 Results from all AARCMCC EP On-Road sanctioned events are used to award points to competitors for providing a National ranking.
- 1.3.2 This ranking will help assist in the selection of drivers for IFMAR world Championship events.
- 1.3.3 Competitors shall be ranked per their six best results over the past 2 years.
- 1.3.4 Only events where a class has a minimum of 8 competitors shall results be able to be counted towards the ranking.
- 1.3.5 Ranking shall be updated by both individual class raced, and as a combined ranking per vehicle type (i.e. one for TC and one for 1:12<sup>th</sup>). The committee will endeavor to update the rankings list as soon as possible after each event.
- 1.3.6 If a driver competes in two or more different classes over a 2 year period, the six best results across all classes combined will be counted towards the combined ranking (see the example in 1.3.9)
- 1.3.7 Event points will be awarded by the following calculation;

$$\text{Drivers Event Points} = ((E + 1) - F) \times (M^C \times M^E)$$



The factors are defined as followed;

**E - Event Entrants:** This is the number of drivers who competed in that class as based off the official event results

**F - Finishing position:**

The drivers finishing position as determined by the official event results

**M<sup>C</sup> – Class Multiplier, M<sup>E</sup> – Event Multiplier:**

These multipliers are used to help distinguish between the level of prestige between classes and event types. See 1.3.8 for values

1.3.8 Event and Class Multipliers shall be applied as per the table below.

Event Multiplier		Class Multiplier	
Event Type	Value	Class	Value
Sanctioned Event	1	Sportsman	12
State Championship	2	Stock	15
National Championship	4	Open	28

1.3.9 Ranking Example – A driver has the following event results over two years;

Result	Event	C <sup>E</sup>	Entrants	Class	C <sup>M</sup>	Points
1 <sup>st</sup>	VIC States '15	2	25	Sportsman	12	$((25 + 1) - 1) \times (2 \times 12) = 600$
2 <sup>nd</sup>	NSW States '15	2	23	Sportsman	12	$((23 + 1) - 2) \times (2 \times 12) = 528$
6 <sup>th</sup>	Club Cup '15	1	28	Stock	15	$((28 + 1) - 6) \times (1 \times 15) = 345$
2 <sup>nd</sup>	Nationals '15	4	38	Stock	15	$((38 + 1) - 2) \times (4 \times 15) = 2220$
1 <sup>st</sup>	VIC State '16	2	29	Stock	15	$((29 + 1) - 1) \times (2 \times 15) = 870$
2 <sup>nd</sup>	QLD States '16	2	23	Stock	15	$((23 + 1) - 2) \times (2 \times 15) = 660$
8 <sup>th</sup>	Nationals '16	4	20	Open	28	$((20 + 1) - 8) \times (4 \times 28) = 1456$

This driver would get the following points (6 counting) across;

Sportsman Ranking points = 600 + 528 + 0 + 0 + 0 + 0 = **1128**

Stock Ranking Points = 345 + 2220 + 870 + 660 + 0 + 0 = **4095**

Open Ranking Points = 1456 + 0 + 0 + 0 + 0 + 0 = **1456**

The best six individual results are underlined. The combined ranking takes the six best results from across all classes competed in over the past two years.

Combined Ranking points = 2220 + 1456 + 870 + 660 + 600 + 528 = **6334**

*Reasoning: The above is written to provide a new ranking system that takes into account various factors, including class raced, event stature, and number of competitors beaten.*

*The proposal includes individual class rankings, plus a combined overall ranking. The Class ranking can help with seeding for sanctioned events.*



*Given the intention to compare different classes, and the reality of IFMAR Worlds applications, the sole dependence on rankings for Worlds qualification has been removed. Your ranking is now only part of the consideration. It also means that if you want to go to a Worlds, but have only competed in mod for a year, no problem. There is now a system in place to allow consideration of all classes raced across the two year period. However, it should be noted that preference will still be given to those who race Mod consistently.*

*The multipliers are used to help distinguish between the event types (i.e. succeeding at a nationals should give more points than a state title), and the classes. These values can be adjusted if required to tune the balance between events and classes. The class values also take into account generally lower levels of entrant in modified vs stock & Sportsman.*

*The counting events have been increased to 6 across a two year period, which when considering the option for potential AARCMCC sanctioned events (such as club cups etc, along with the other benefits that brings) as outlined in previous rule changes, means a racer only need to compete in 3 AARCMCC events per year to have a ranked position. E.g. Nationals, home state titles and home state sanctioned "event".*



**Proposal 023 – 1:12<sup>th</sup> Scale Technical Regulations**

Proposed by AARCMCC EP ONR Committee

**Amend 9.5.1 from**

9.5.1 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.

**To**

9.5.1 Only bodysells on the approved body lists provided by IFMAR, EFRA, ROAR or BRCA may be used. Australian suppliers or Manufacturers may apply to have bodies added to an AARCMCC approved body list. For such a body to be approved it must conform to the dimensions given in the IFMAR global body specifications for the 1/12 Class. Contact AARCMCC for further details.

*Reason - Existing regulations are out of date and not representative of what is currently available on the market. Following existing approved lists is more than satisfactory for our requirements, whilst still allowing local approvals, albeit dependent on meeting existing regulations.*

**Amend 9.5.2 from**

9.5.2 One rear wing only may be used with the body-shell.

9.5.2.1 The rear wing may be either moulded 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

9.5.2.2 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.

**To**

9.5.2 Only one rear wing, moulded into the bodysell, may be used.

*Reason – This ties into the currently available bodysells. No shell on the market can have a separate wing fitted to it, as all utilise moulded in wings.*

**Amend 9.5.3 from**

9.5.3 Additional side dams may not be fitted. Only side dams moulded into the original body-shell, or supplied with the original body-shell are allowed.

**To**

9.5.3 Additional side dams may not be fitted. Only side dams moulded into the original body-shell, ~~or supplied with the original bodysell~~ are allowed

*Reason – Ties in with amended 9.5.2*

**Amend 9.5.4 from**

9.5.4 Additional fences, tabs, trims, flaps, splitters or any other item fitted separately to the body-shell, may not exceed the height of the original moulded side dams.

**To**

9.5.4 An additional adjustable gurney flap may be fitted, provided it does not exceed the height of the originally moulded side dams as per 9.5.3

*Reason – Allows additional gurney flap as per IFMAR rules, and sets requirements.*

**Amend 9.5.6 from**

9.5.6 Wheel arches must be cut out if the original full-size car ran that way.

**To**

9.5.6 Wheel arches must be cut out.

*Reason - No current LMP style car uses covered arches, and current reg is to ambiguous. New wording is very clear to avoid questions.*

**Amend 9.5.9 from**

9.5.9 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.

**To**

9.5.9 No holes or slots are allowed on the body or wing, except for body post, aerial and transponder holes.

*Reason - Simplify and clarify the regulation.*

**Amend 9.5.11 from**

**BODY AND WING DIMENSIONS**

<b>Body-shell dimensions (mm)</b>	<b>Min</b>	<b>Max</b>
Overall width	155	176
Overall length	320	380
Clearance around openings		10
Clearance around wheel arches (except shaped wheel arches)		15
<b>Rear Wing (separate)</b>		
Width		172
Chord		52
Side dams		55 x 20

Bumpers are not required. If fitted, bumpers must be constructed so as to minimise injury that may result



To

**9.5.11 Body and wing dimensions**

<b>Body Shell Dimensions (mm)</b>	<b>Min</b>	<b>Max</b>
Overall Width	155	176
Rear Track Width	-	172
Overall Length	320	380
Wheel Diameter	29	38
Rear Tyre Width	-	40
Front Tyre Width	-	28
Ground Clearance	3*	

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

*Reason - Uses the same table format as TC regulations, and summarise dimensions in more concise format than currently in the rule book.*

**Amend 9.5.13**

9.5.13 Tyres must be black except sidewall detailing. Wheels and tyres must be of such a material they cannot damage the surface of the track. Tyre treatments will be at the discretion of the organizers, including health risk and track damage considerations.

To

9.5.13 Tyres must be black, except for sidewall detailing. Tyres shall be of closed-cell foam constructions, and shall not damage the track surface.

*Reason - Simplify regulation, and specify foam only, no caps. We don't race in the wet anyway..*

**Delete 9.5.14**

~~9.5.14 Tyres; Min width is 13mm. Max width is 40mm. The tyre width is measured at the widest part of the tread or sidewall. Any tyre diameter will be allowed. The diameter must be maintained over at least the minimum width of the tyre. Maximum track width is 172mm. To be measured with calipers, or a suitable solid jig.~~

*Reason - added to table in amended 9.5.11*

**Delete 9.5.15**

~~9.5.15 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.~~

*Reason - not required, and difficult to measure correctly*

**Delete 9.5.16**

~~9.5.16 Wheel rim diameter is 29mm Min. and 39mm Max.~~

*Reason - added to table in amended 9.5.11*



**Delete 9.5.17**

~~9.5.17 All cars must comply too the dimensional requirements.~~

*Reason – This is already stated in 9.2.1*

**Amend 9.5.19**

~~9.5.19 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.~~

**To**

**9.5.19 Minimum weight: 730 grams ready to race including transponder, at all times during the race.**

*Reason - updated weight in line with IFMAR*

**Delete 9.5.20**

~~9.5.20 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.~~

*Reason - added to table in amended 9.5.11*