



REMOTE CONTROL RACING AUSTRALIA

1/8th SCALE I.C. OFF-ROAD SECTION

Construction and Race Format Rules

The following rules are supplementary rules to the most current IFMAR rules which shall be used to form the basis of the Australian Off-Road Construction and Race Format rules. The only time RCRA shall deviate from IFMAR rules are listed below.

Preamble

The purpose of these rules is to provide a clear understanding of the requirements to host an RCRA Affiliated Event from 1 January 2019. Unless stated below all other requirements to host a round of the Australian Championship or State title will follow IFMAR rules.

1. 1/8th Scale Buggy

The RCRA 1/8th Buggy rules are based solely on the latest IFMAR 1/8th I.C. Off Road Racing Technical rules and regulations unless stipulated below. These can be found at: www.ifmar.org/rules

2. 1/8th Scale Truggy

Definition: A Truggy is a 1/8th Buggy based Truck

2.1 General Dimensions:

- 2.1.1 Overall length:** 730mm maximum.
- 2.1.2 Overall width:** 465mm maximum.
- 2.1.3 Wheelbase:** 345mm to 405mm.
- 2.1.4 Overall height:** measured from the ground including roll bar, at full suspension compression is 250mm maximum.
- 2.1.5** The minimum weight limit shall be 4000 grams with a full tank of fuel.
- 2.1.6** The car shall be measured for width by placing it on a flat base material equipped with two side rails of 150mm in height. These shall be spaced 465mm apart. The Truggy must fit inside this box, in the straight forward position.
- 2.1.7** It is the responsibility of the drivers to ensure that his\her car complies with the rules at all times.
- 2.1.8** Drive train is to consist of three buggy style differentials.
- 2.1.9** Single speed gearbox only. No multiple speed gearboxes allowed.
- 2.1.10** With tyres removed from the vehicle, chassis placed under full compression the lowest part of the engine is not to exceed 40mm in height.

2.2 Engines

- 2.2.1** Internal combustion engines of not more than 3.5 cubic centimetres 0.214 cubic inches. No tolerance allowed.
- 2.2.2** Fuel tank capacity: 150ccm including all piping, tubes and filters up to the carburettor. The tank will be measured using an Australian approved measuring cylinder.
- 2.2.3** Bump start engines accepted.
- 2.2.4** All cars will be fitted with brakes and clutch in such manner as that the car can be held stationary whilst the engine is running.

2.3 Silencer

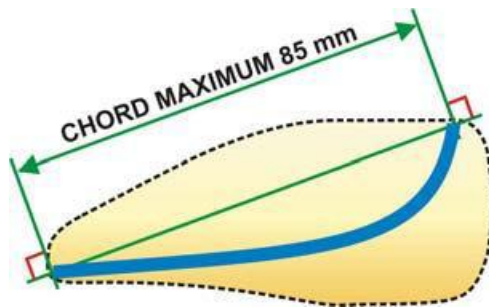
- 2.3.1** Only IFMAR homologated silencers are allowed.
- 2.3.2** The silencers used on the car have to bear their homologation number, as per homologation sheet issued by IFMAR.

2.4 Wheels/Tyres

- 2.4.1 Minimum wheel diameter is 80mm. (This does not include glue bead).
- 2.4.2 Minimum tyre diameter is 118mm.
- 2.4.3 1/8th Buggy wheels/tyres not accepted.
- 2.4.4 All tyres must be black with the exception of sidewall lettering.
- 2.4.5 No spikes, tubes or additional items intended to increase traction may be either glued to the outside of tyres or passed through tyres from the inside.

2.5 Wings

- 2.5.1 A wing of maximum overall size: 217mm in length and 85mm chord may be fitted.
- 2.5.2 **Appearance:**



- 2.5.3 Must be a good representation of a Stadium/Arena style truck body.
- 2.5.4 No buggy or sedan bodies will be accepted.
- 2.5.5 Body mould lines will not be altered other than for the purpose of an exit hole for the silencer.
- 2.5.6 No greater than 50% of front window is to be removed.
- 2.5.7 Left and right hand side windows can be removed 100%.
- 2.5.8 Windows to remain transparent. Bodies with windows painted out will not be accepted.
- 2.5.9 Openings may be cut in the shell for the antenna and the pipe ends and allow access to fuel filler, radio switch and engine adjustments and a maximum of a half the wind screen to assist in cooling the engine if not already opened by the fuel filler access. Clearance around such items shall be kept to a minimum.
- 2.5.10 Pre-painted ready-to-run bodies the only exception to this rule.
- 2.5.11 Aerial hole size not to be greater than 10mm in diameter.
- 2.5.12 Engine head-cooling hole to be no greater than 10mm of cooling head in diameter. Only exceptions will be holes for tuning purposes.
- 2.5.13 Front and rear bumpers not to exceed 10mm past the body unless O.E.M (Original Equipment Manufacture/or factory).

2.6 Fuel

- 2.6.1** The following additives are strictly prohibited; Hydrazine, Hydrogen Peroxide, Toluene, and Propylene Oxide.
- 2.6.2** Random fuel tests may be made at any time during the event. Samples and counter samples will be collected for analysis and any competitor found to be using any of the above additives will be disqualified and any race result obtained will be null and void.
- 2.6.3** For all RCRA events, irrespective of class, there will be no restriction on Nitro Methane percentage

2.7 Driver Aids

- 2.7.1** The use of traction control devices, active suspension devices and any steering control aided by gyroscopes/G-force sensors is strictly forbidden. Sensors are only allowed for the purpose of passive data recording and not for adjusting the performance of the car whilst in motion. It is the object of this rule to ensure that the event be a test of driver skill.

2.8 Tyre Additive

- 2.8.1** Irrespective of class, no traction additive will be permitted at any RCRA event. To start with this will be just monitored by the honour system until time RCRA can get the appropriate equipment to test with.

3. Organisation & Procedures

3.1 RCRA Requirements (National Round Only)

- 3.1.1** RCRA 1/8th Off-Road section will provide at the cost to the host club of \$20 per entry the following:
- Race Director
 - Time Keeper
 - All equipment required for scrutineering
- 3.1.2** A club must be affiliated with RCRA for a minimum of 2 consecutive years prior to the year holding the National round
- 3.1.3** All participants competing in an RCRA event (State or National Level) must be a member of an affiliated RCRA Club.
- 3.1.4** In order for a club to hold a state or national round the club must contact their state RCRA Delegate to discuss their nomination, the state RCRA delegate will then confirm the nomination to the RCRA section head in writing.
- 3.1.5** To ensure RCRA receives the money from the clubs
- RCRA will be responsible for booking flights and accommodation for the race referees 3 months prior to the event.
 - Host club will pay the \$20 per entry when entries close. (3 weeks prior to the event)
 - Any late entries taken will be paid upon completion of the event. The host club will deposit the remainder of the monies owing into the RCRA bank account.
 - The host club will supply a copy of the results to the section head to be archived.
 - A financial statement will be presented to the attending state delegates at the yearly AGM. This will also be available to any RCRA affiliated club upon request.

3.2 Trophies (National Round Only)

3.2.1 The club shall provide cup style trophies for 1st, 2nd and 3rd with a minimum size as stated below for the following classes. For 4-15 A main; Sportsman; 1st, 2nd and 3rd; Junior 1st, 2nd and 3rd and Over 40 1st, 2nd and 3rd acrylic plaques style trophies are acceptable*.

- **1/8th Scale Off-Road I.C. Buggy**
 - 1st to a minimum size of 400mm
 - 2nd to a minimum size of 350mm
 - 3rd to a minimum size of 300mm
- **1/8th Scale Off-Road I.C. Truggy**
 - 1st to a minimum size of 400mm
 - 2nd to a minimum size of 350mm
 - 3rd to a minimum size of 300mm

3.2.2 A podium style with steps must be provided with champagne bottles (3) for the top 3.

3.3 Entries (National Round Only)

3.3.1 Entries shall be accepted online only. An entry will not be accepted until monies are paid. There will be no cap limit for rounds of the Australian Championship. Official entries will close 3 weeks prior to the event start date. Any entrants after this date will be charged a \$30 late fee per entry.

3.3.2 Entry fee for the Australian Title will be \$125 for Buggies and \$85 for Truggies.

3.3.3 Entry fee for the other two supporting rounds in the Australian Series will be \$110 for Buggies and \$75 for Truggies.

3.3.4 At the completion of the event in the series, the host club will be responsible for ensuring that RCRA receives \$20 per entry. (This is to be evaluated each year to go with inflation and may be adjusted with the approval of the section head)

3.4 Costs Guide (National Round Only)

3.4.1 Below is a guide to the costs usually associated with running one of the rounds in the Australian National series. This is an approximation only and will vary from club to club depending on the facilities already available. Please ensure to take this into account when nominating to hold one of these rounds.

Cost to run a National Round	
Fresh Track	\$2,500
Lights	\$2,000
Toilets	\$1,000
Marque	\$3,500
Tables/Chairs	\$750
Trophies	\$1500
Total	\$11,250

3.5 State Delegates

3.5.1 RCRA sanctioned events shall use appointed State Delegates instead of an International Jury.

3.6 Timing Keeping System

3.6.1 Only a single timing system is required for RCRA sanctioned events.

3.7 Protests

3.7.1 Protests shall be lodged as per IFMAR rules, except:

- Protests are to be lodged directly with the race director or state delegate.
- One Hundred Australian dollars (\$100) must be paid to the Race Director, who will only then accept the protest.
- The time of receipt of the protest must be recorded.

3.8 World Championship Qualification

3.8.1 In order to qualify to represent Australia at the IFMAR World Championship (IFMAR W.C.). The representing driver must have competed in a minimum of four (4) out of the six (6) RCRA National Series events in the given World Championship qualifying period.

3.8.2 A driver's best four (4) RCRA National Series event points results shall count.

3.8.3 In the event of a tie the driver with the highest single round point score will be ahead. If still tied, then the second highest single round point score, continuing to fourth highest. If still tied then the first driver to have scored their highest score, if still tied then the driver with the better finals finishing position will be ahead.

3.8.4 The qualifying period for IFMAR W.C. representation shall be based on a two (2) calendar year period prior to the nominated IFMAR W.C. event, taking into consideration all National Series events from the 1st of January of the last IFMAR W.C. year, to the 31st of December of the year preceding that of the IFMAR W.C. in question. For Example: for IFMAR W.C. 2018 representation consideration the qualifying period would be from the 1st of January 2016 to the 31st December 2017.

4. Track Requirements

This section specifies the minimum facility requirements needed to be in place by the successful club, at their cost, prior to commencement of one of the rounds in the Australian National Series.

4.1 Track

4.1.1 The track shall be constructed in accordance with sections 4.1, 4.2, 4.3 and 4.4 of the IFMAR 1/8th I.C. Off Road Racing and Technical Rules sections. The track width shall be a minimum of FOUR (4) meters at any given point and should be predominantly constructed from a natural non-made surface.

4.1.2 If a club is holding an Australian Title, the club must present a new, fully rebuilt track for the event. If a club is holding one of the national series, the track must be changed by a minimum of 50% of the layout and 50% of the jumps. A photo is to be provided to RCRA section head prior to any changes being made and the new layout and jumps will need to be approved by the RCRA executive committee before the host club commences any changes. This is to ensure the changes are sufficient to meet the above requirements.

4.2 Track minimum requirements

- 4.2.1 Repairs or improvements may be made, at any time, with the concurrence of the Race Director
- 4.2.2 The Drivers stand must be capable of holding 15 drivers with a minimum total length of 12m.
(800mm per driver)
- 4.2.3 Pit lane capable of holding 15 cars with a minimum of 800mm per car. Minimum of 12m in total length.
- 4.2.4 Suitable Race Track and Pit Lighting if the event is to be held at night.
- 4.2.5 Undercover pit area with suitable and sufficient tables and chairs to accommodate all participants in one dedicated area.
- 4.2.6 Continuous compressed air and adequate water wash down stations.
- 4.2.7 Adequate and regularly serviced clean Male and Female toilets.
- 4.2.8 Generously distributed 240VAC, power boards and leads.
- 4.2.9 Clean running water.

4.3 Cut Throughs/Track Cutting

- 4.3.1 At any Australian Championship or state title event, a single cut through in a safe location may be permitted but is not essential.

5. Race Format (National Rounds Only)

5.1 National Championship Series

- 5.1.1 A rotational approach is to be used for the three (3) rounds of the National Championship.
- 5.1.2 A National round may only be run in areas that are within one airplane flight for the majority of entrants and within one hour from a major airport.
- 5.1.3 Shown below is the rotational roster for the national rounds up to and including the year 2022. The state depicted in **Blue** will be the state that holds each years Australian Title. The two states below each year will hold the two supporting rounds which completes the 3 round series.

ROTATION

2019	2020	2021	2022	2023
NSW/ACT	VIC	QLD	WA	SA
VIC	QLD	SA	NSW/ACT	WA
SA	WA	NSW/ACT	VIC	QLD

5.2 Points

5.2.1 Drivers shall score points for each round of the National Championship Series according to their qualifying and final finishing position, as per the following table:

Final Position		Qualifying Position	
Position	Points	Position	Points
1 st	200	1 st	10
2 nd	195	2 nd	9
3 rd	190	3 rd	8
4 th	185	4 th	7
5 th	180	5 th	6
6 th	175	6 th	5
7 th	170	7 th	4
8 th	165	8 th	3
9 th	160	9 th	2
10 th	155	10 th	1
11 th	150		
12 th	145		
13 th	140		
14 th	135		
15 th	130		
16 th	125		
17 th	124		
18 th	123		
19 th	122		
...	...		
120 th	21		
121 st +	20		

National Series Points

- 5.2.2** Points drop by down by 5 points from 1st to 16th. They then drop down 1 point from 17th to 120th position, which is awarded 21 points. Positions 121st and onwards are awarded 20 points.
- 5.2.3** All rounds in the calendar year will be counted.
- 5.2.4** In the event of a tie the driver with the highest single round point score will be ahead. If still tied, then the second highest single round point score, continuing to fourth highest. If still tied then the first driver to have scored their highest score, if still tied then the driver with the better finals finishing position will be ahead.

5.3 Event Duration and Timetable – Australian Title Only

5.3.1 The event shall be of four (4) days duration, from Thursday to Sunday.

5.3.2 The event will run to the following timetable:

- Thursday: 2 rounds of timed practice
The first and second round of qualifying
- Friday: Third through to the fifth Full rounds of qualifying
- Saturday: All Truggy finals, including Truggy Sportsman
Truggy Semi practice
Lower Buggy Finals
- Sunday: Buggy Semi practice
Remaining Buggy Finals

See 6.10 below for an example

5.4 Event Duration and Timetable – National Series

5.4.1 The event shall be of three (3) days duration, from Friday to Sunday.

5.4.2 All finals will be held in the ABC style format.

5.4.3 The event schedule may be changed during the event subject to a delegate vote.

5.5 Qualifying

5.5.1 All races are to be fifteen (15) car heats maximum. Depending on final entries the number of drivers per heat may reduce under 15, however, the Race Director shall ensure that the number of drivers per heat is a minimum of ten (10) at all times.

5.5.2 The host club can run up to 6 qualifiers if entrant numbers permit.

5.5.3 A non-rotational system is to be used for qualifying for all National Championship Rounds. The sequence shall start from heat 1 though to heat 15 in all rounds. Should there be less than 15 heats per round, the time keeper shall alter the schedule in line with number of heats per round.

5.6 Rounds to Count

5.6.1 Out of six (6) rounds, four (4) will be counted.

5.6.2 Out of five (5) rounds, three (3) will be counted.

5.6.3 Out of four (4) rounds, two (2) will be counted.

5.6.4 Out of three (3) rounds, two (2) will be counted.

5.6.5 Out of two (2) rounds, one (1) will be counted.

5.6.6 Out of one (1) round, one (1) will be counted.

5.7 Timing of Rounds

- 5.7.1 For National Titles, there shall be three (3) minutes in between every race in the round.
- 5.7.2 Each race shall be for a maximum of ten (10) minutes with a minimum of seven (7) minutes depending on entrants and as dictated by the Race Schedule.
- 5.7.3 A driver shall have sixty (60) seconds to finish their heat after their race time is up.
- 5.7.4 No breaks in between rounds are permitted unless repairs are required on the track or for safety reasons or under race referee provisions.

5.8 Finals

- 5.8.1 All main finals shall be fifteen (15) cars. The only exception to this rule will be the 2 lowest finals, where there may be fewer than fifteen (15) cars
- 5.8.2 In all finals (except the semi-finals) the top five (5) will bump to the next final.
- 5.8.3 For the Australian title Semi-Finals, the top seven (7) from each semi-final will progress to the main final. The last position (wildcard) will be filled by the winner of a last chance qualifier race. The LCQ will be made up of the non-bumping semi-finalists. (The New IFMAR Final rules).
- 5.8.4 For the other two national rounds, the finals will be in the ABC style format.

5.9 Delayed Start

- 5.9.1 A delayed start may only be called within the semi-finals and finals.
- 5.9.2 A delay cannot be called once the warmup is called to an end (either cars called back to the pits or to the starting grid).
- 5.9.3 Every participant of the semi-finals and the final may request a delay of ten (10) minutes for repairs on their car though a delay may only be called once per semi or main final.
- 5.9.4 The 10min delay may only be reduced if all (100%) drivers in that race agree.
- 5.9.5 The delay will be granted only once for each semi-final and the Main Final. The track shall be closed to all cars during the delay period.
- 5.9.6 The driver requesting the delay, for whatever reason, must start from the back of the grid, six (6) metres behind the last official grid position.
- 5.9.7 If this is not possible due to the 6m rule placing the car behind the timing loop, the car must then be released from allocated penalty box by the Race Director or nominated official.

6. Rules

IFMAR rules are to be used as the major guidelines for the Australian Championship. The following overrides any IFMAR rules and are designed specifically for Australian requirements.

6.1 Seeding

- 6.1.1** The Driver's seeding for each event will be as per the driver average taken from the RCRA driver seeding spreadsheet.
- 6.1.2** The driver's average is taken from the average of their best two results within the current world's year.
- 6.1.3** If it is the start of a new world's year, the average will be taken from the last two events of the previous year.
- 6.1.4** The State Delegates, along with the RCRA section head, may exercise common sense to ensure appropriate seeding if they deem a competitor is out of place or hasn't recorded a result in the previous year.

6.2 Promotional Classes)

- 6.2.1 Open Class** - The Open Class shall be open to any driver.
- 6.2.2 Sportsman Class** - The Sportsman Class final/s will be run separately for the duration of 15mins, the top 3 shall be determined from the finals positions.

The following drivers shall be prohibited from entering the sportsman class:

- Any driver who receives free equipment from a supplier.
- Any driver who has made a final of the Australian Championship previously in the past 6 years.
- Any driver who has made a final overseas at a major event.

The sportsman's class was designed to ensure the up and coming racers and social racers are recognised. If a situation arises in determining whether a driver is deemed able to enter the Sportsman class or not, the RCRA executive and the relevant State delegate shall have the final decision on class positioning if such issue arises.

- 6.2.3 Over 40 Class** - The driver will be required to prove they are over 40 prior to the start of the event. A driver's licence will be deemed suitable for such proof. The over 40's final/s will not be run separately unless time permits, the top 3 shall be determined from their finals position or if the finals are not completed then from qualifying.
- 6.2.4 Junior Class** – As RCRA would like to promote the youth within our hobby, there will be a 15mins junior final for all entrants 15 years and under. (Buggy only)

There will be trophies awarded to the top 3 of each class

6.3 Starting Position

- 6.3.1** For all finals, the cars will be placed inside a clearly marked painted box. If a driver leaves the box prior to the start of the race they will be awarded a stop and go penalty by the Race Director – **See Stop and Go Penalty below.**
- 6.3.2** All starting accessories may be taken out to the grid for the start of the race.

6.4 Causes for Penalties

- 6.4.1** As stated below, the following will not be tolerated at any Australian Championship event. If a driver is deemed to have broken any of these rules they will have their best qualifier taken from them and if a driver continues to act in this manner they can be disqualified from the event.
- 6.4.2** Bad or abusive language to:
- Race Director
 - Other drivers
 - Marshalls
 - Pit Crew
 - Official's
 - Spectators
- 6.4.3** Failing to attend to your marshalling duties.
- 6.4.4** Any type of physical violence or tampering of another person car, headset or radio will result in immediate disqualification from the event and be referred to the RCRA Executive for further action.

6.5 Stop and Go Penalty

- 6.5.1** When awarded a Stop and Go Penalty, the driver has three (3) laps to bring their car to a complete stop inside the designated penalty box. In such case as the driver does not stop, or does not comply, either a disqualification or a one (1) lap penalty will automatically be given. This will

6.6 Re-entering a race

- 6.6.1** All drivers re-entering the race from the following areas shall be required to give way to all other cars:
- Pit Lane
 - Re-entering after leaving the track
 - Re-entering after leaving the penalty box
 - After being marshalled
- 6.6.2** Any driver caught not giving way to the above shall be awarded a stop and go penalty by the Race Director. **See Stop and Go Penalty.**

6.7 Marshalling

- 6.7.1** Drivers must marshal for their designated race/s and be in their marshalling position by the two (2) minute call to race.
- 6.7.2** Failure to be at your designated marshalling position by the two (2) minute call will result in the loss of your best qualifier for the first infringement.
- 6.7.3** Should a second infringement occur the driver shall lose the next best qualifying time and a final warning from the race director.
- 6.7.4** Should a driver fail to arrive at their marshalling spot a third time, they will be disqualified from the event.
- 6.7.5** Any substitute marshal must be approved by the Race Director unless the substitute is a paid entrant. It is the original driver's responsibility to find a substitute and they are responsible for the actions of that substitute.
- 6.7.6** Turn marshals are not permitted to repair vehicles. Marshals will take disabled vehicles to the designated area at the end of the pit lane as soon as is reasonably possible.

6.8 State Title Requirements

6.8.1 In order to hold a State Title event the host club must supply:

- A freshly rolled track (not new)
- Power and a basic wash bay.
- Undercover pit area for interstate drivers only.
- Trophies /plaques for all A main finals

6.8.2 State titles 3 day format:

- Entry fee \$65 flat fee (\$5 of this entry fee will go to RCRA)
- Option to run electric classes if numbers are low.
- ABC finals format with a minimum of 4 qualifiers depending on circumstances.

6.9 State Title Schedule

6.9.1 The example of an outline for a state title schedule can be as below:

<i>Example Schedule</i>			
Friday	12.00pm-5.00pm	Open practice/timed practice (pending on entries)	5 hours
Saturday	8.00am-6.00pm	5 x 7min Qualifiers 100 entries 2 hours per round.	10 hours
Sunday	8.30am- 5.00pm	All ABC finals	8.5

6.10 Australian Title Example Format

Australian Title Example Format		
Format	120 Buggies	75 Truggies
Thursday		
2 x practices	8.30am – 2.30pm	
1 x qualifier (full round)	2.30pm – 6.00pm	
1 x Truggy round	6.00pm – 7.30pm	
Friday		
1 x buggy round	8.30am – 10.30am	
3 x qualifiers (full rounds)	10.30am – 8.30pm	

Saturday		
Truggy 1/16	A - 8.00am (20min)	B - 8.30am (20min)
Truggy 1/8th	A - 9.00am (20min)	B - 9.30am (20min)
Truggy semi practice	A - 10.00am (10mins)	B - 10.15am (10mins)
Buggy 1/32	A - 10.30am	B - 11.00pm
Truggy 1/4	A - 11.30am (30mins)	B - 12.15pm (30mins)
Buggy 1/64	A - 12.15pm (20mins)	B - 12.45pm (20mins)
Truggy 1/2	A - 1.00pm (30mins)	B - 1.45pm (30mins)
Truggy A main	A - 3.15pm (60mins)	
Sunday		
Buggy 1/32	A - 8.00am(20mins)	B - 8.30am(20mins)
Buggy 1/16th	A - 9.00am (20mins)	B - 9.30am (20mins)
Buggy 1/8 th	A - 10.00am (20mins)	B - 10.30am (20mins)
Buggy semi practice	A - 10.30am (10mins)	B - 10.45am (10mins)
Buggy 1/4	A - 11.00am (30mins)	B - 11.45am (30mins)
Buggy 1/2	A - 12.30pm (30mins)	B - 1.15pm (30mins)
Buggy Main	A - 3.15pm	(60mins)