

**1/5TH LARGE SCALE OFFROAD RACE RULES AND CAR SPECIFICATIONS
FOR CLUB, PROVINCIAL AND NATIONAL EVENTS**



1. RACE FORMAT

There will be two annual events in the Large Scale off road category, the first will be the individual Provincial events, and the second will be the National event to determine the South African Champion. These events will be held at an SARCMCC approved facility and run to SARCMCC standards and rules.

1.1 Classes and Permitted Vehicles per category

1.1.1 1/5th - 1/6th Scale Stock Entry Level 2wd

Hpi, KM, Rovani 5B,T,SC and similar makes.

Further specifications for this class are outlined in Section 12 below

1.1.2 1/5th - 1/6th Scale Stock Entry Level 4wd

The specification for this class shall be outlined in a future Section

1.1.5 1/5th - Scale Outlaw 2wd

Hpi, KM, Rovani and similar makes, and home built vehicles as long as they all comply with length, width, height and weight specifications, further specifications for this class are outlined in Section 15 below

1.1.6 1/5th - 4wd Outlaw

Losi 5ive, DBXL, Clone Losi style trucks and buggies, Redcat Rampage, Smartech Titan FG monster trucks MCD W5 Truck, MCD Rally X5, Losi Rally Mini.

Further specifications for this class are outlined in Section 16 below

1.2 Number of cars per class

There needs to be a minimum of 8 cars per class to sanction and run the class.

1.3 SARCMCC rankings

The results of the State and Nationals Titles will give SARCMCC a ranking list for the countries drivers, this list will be updated after each annual State and National event.

1.4 Maximum drivers for an event

The number of drivers in one Large Scale race meet is limited to 120.

1.5 Eligibility for participation

Participants must be paid up financial members of an SARCMCC affiliated club to be eligible participate in a State or National event. 8 Version 6.0 – Jan 2016

2. RACE PROCEDURES

2.1 Duration of races

2.1.1 Free practice

Maximum 5 minutes is permitted for free practice

2.1.2 Heats duration

10 minutes is the permitted duration on a rolling staggered start for all heats

2.1.3 Sub Finals duration (B, C and D finals)

B Final: 20 minutes

C Final: 15 minutes

D Final: 15 minutes

2.1.4 Finals duration (A Main finals)

A Main Finals are 30 minutes' duration

2.2 Finals & Sub Finals Systems

2.2.1 Finals system

The SARCMCC (A, B, C) Finals system will be used

2.2.2 A Final qualifier

The top 7 placed drivers qualify directly into the A final along with the next 3 fastest

2.2.3 B Finals qualifiers

B Finals will be the next 7 drivers along with the next 3 fastest

2.2.4 C Finals qualifiers

C Finals will be the next 7 drivers along with the next 3 fastest

2.2.5 Remaining drivers

All other drivers are allowed to race a sub final

2.3 Numbers of drivers

The racing format will be published in the event and invitation information.

The Race Director has the jurisdiction to add drivers to finals to make the event run on time.

2.3.1 Driver numbers for heats

10 drivers for heats, track permitting

2.3.2 Driver numbers for finals

A,B,C Finals will consist of a maximum 10 drivers 9 Version 6.0 – Jan 2016

3. STARTS / QUALIFYING SYSTEM

3.1 Qualification

Qualification will be run in accordance with the current SARCMCC ruling concerning combined points, specifically;

3.1.1 Qualification Points

In each round, drivers will score points based in the laps and times achieved. The maximum number of points awarded to the best driver will be equal to the total number of participants plus 5 (five). Fastest in each round will score: number of participants, +5 points. 2nd fastest will score: points of fastest driver, -2 points. 3rd fastest will score: points of 2nd fastest driver, -1 point.... down to last position one by one.

3.1.2 Qualification Points - Ties

In every round, in case of a tie, the points will be equally awarded to each driver, and the first driver not to tie, will receive one point less per tie.

(For example, with 120 drivers racing, maximum number of points is 125. 1st driver will score 125 points 2nd driver will score 123 points 3rd driver will score 122 points 4th driver will score 121 points 5th driver 7 laps, 10:01:00 will score 120 points TIE 6th driver 7 laps, 10:01:00 will score 120 points TIE 7th driver 7 laps, 10:01:00 will score 120 points TIE 8th driver 7 laps, 10:10:00 will score 117 points)

3.1.3 Qualification Points – Equal Points ruling

In a case of two or more drivers having the same point score, the next best point score determines position. If still unable to resolve with the next best rounds, then the driver with the fastest laps and times in his best score will determine position.

3.1.4 Qualification round points inclusions

A: The driver's best four (4) rounds shall be counted when (6) qualifying rounds have been run.

B: 5 Rounds of qualifying, 3 rounds will be counted, 4 Rounds of qualifying 3 rounds will be counted.

C: If weather affects the racing it is at the discretion of the race director to achieve a result.

3.1.5 Qualification rulings – No heat, no points

If a driver does not start a heat, he receives no points.

3.2 Grid starts

When using the Formula 1 grid start procedure, a one-lap trial start must be made to check transponders. Following the trial laps completion, the official start will be made within 15 seconds of the last car becoming stationary in its grid position. No mechanics are allowed on the track and any car missing from the grid must start from pit lane once the entire on track field has passed.

3.3 Early start

Early starts (eg: any part of a car touching the starting line) will be penalized 10 seconds up to 1 lap. This penalty will be issued by the Starting official or Timekeeper and must be announced immediately after the start. The penalty will be marked on the results sheet. 10 Version 6.0 – Jan 2016

3.4 Jump start

Under no circumstances will the race be stopped due to a jump-start or false start.

3.5 Starts - Other rulings

3.5.1 Race Director Discretion

The Race Director may only interrupt the start of the race and make a re start in the event that he considers the starting procedure or the start was not carried out correctly.

3.5.2 Delayed starts

All races will commence as scheduled with no exceptions. If a driver is late, he or she shall then start from pit lane when the race commences.

3.5.3 No refuelling

Once the race has started and in progress, the cars are NOT allowed to be refuelled.

3.5.4 Fuel for finals

Each class is allowed to have 2 fuel bottles with either 700ml, 800ml or 850ml depending on the class being run. 11 Version 6.0 – Jan 2016

3.6 Finals and related operating procedures

Each category as already stated in their specifications has a maximum fuel allowance for the finals, if you have qualified for a final in your category the following procedures are in place and need to be followed.

Present to the staging area with your car, transmitter and 2 x measured fuel bottles, making sure your fuel tank is empty. You are NOT required to drain your fuel lines or carburettor as has happened in the past, it has been deemed potentially dangerous for the motors to run them dry as it may lean seize them.

Once all race participants are gathered in the staging area a member of the race committee will inspect the vehicles for engine tags and safety inspection tags. (These items should already have been put in place on the first day of the event). The race committee member will also inspect your car to confirm your fuel tank is empty.

Once the race committee member is satisfied you will be instructed to fill your fuel tanks with the specified measure of fuel for your class.

3.7 Mechanical or Radio delay – Semi Final and Final only

The window of opportunity to call for a mechanical or radio delay commences once your car has been fuelled for the semi-final or final, up to 30 seconds prior to the starters buzzer.

The delay can only be called once per race, the duration of the delay is 10 minutes only and it will be timed and enforced by the race director.

If the delay is called for mechanical reasons the track will remain open, if it is called for radio and transmitter reasons the track will be closed.

Once the delay has been called all cars are under the instructions of the race director, he may instruct the cars to be parked in the pits and shut down or he may instruct the cars to shut down and be left on the grid, in either case once shut down the TX and RX's on the vehicles can be turned off.

If the delay is called for as a result of radio reasons the mechanics are only allowed turn off the engine and receiver, they are NOT allowed to make any mechanical adjustments or change tires.

The remaining competitors in the field are NOT permitted to carry out any repairs or adjustments to their vehicles, only the competitor who called for the delay may have his vehicle attended too.

There will be NO refuelling of the cars during a Mechanical or Radio delay.

The driver requesting the delay for whatever reason must start the race from pit lane. 12 Version 6.0 – Jan 2016

4. WET TRACK / INCLEMENT WEATHER SITUATIONS / RACE INTERRUPTIONS

4.1 Facilities

All off road race facilities must have water on site and have the ability to wet the track down to control dust and provide traction, there must not be water standing anywhere on the track and there will be no racing if rain is falling.

4.2 Wet track

The decision on whether the track is too damp will rest with the race committee on the day, if the weather has been severely inclement on the days preceding a scheduled event, a decision will be made to reschedule the event to a different date by the event organizer.

4.3 Event interrupted

In the case of a race that is interrupted for more than 60 minutes for reasons beyond the control of the race organizers, the track committee together with the event organizers can make the decision whether to cancel, postpone or continue the event.

4.4 Heat interrupted

In the case of an interruption of a heat, the entire heat will be re-run.

4.5 Procedure for interrupted race

In the case of an interruption of a heat or final the following procedure will be used;

4.5.1 Re-starts and Re-Fuelling

If less than 10 minutes of a final has been run the results will be cancelled and a new start will occur.

Vehicles may be repaired and refuelled before the new start in accordance with the specified fuel measure for their class under the control of the race committee.

If more than 10 minutes of a final have been run the results at the moment of interruption will be kept.

The new start will be given for the time which remains to complete the final.

The two results will be added to give the final and definitive placing, if the second start cannot be made for any reason the results from the first part will be used as the final and definitive placing.

4.5.2 No re-start

When the interruption takes place after 75% or more of the race is past the results at the time of interruption will become the final result.

4.5.3 Drivers procedure during interruption

At the moment of the interruption of the race the drivers will leave their radios at the start line under the control and supervision of the race director. The competitors are required to shut down their cars and turn their radios off. 13 Version 6.0 – Jan 2016

4.6 Rain procedure during qualifying

4.6.1 Decisions due to rain

The Race Director and the Referees are jointly responsible for the decision to stop a race in the event of rain.

When weather and time permits the Race Director may decide to offer an extra heat. 14 Version 6.0 – Jan 2016

5. TRACKS / FACILITIES

5.1 Track inspections

Tracks for the Large Scale off road racing will be inspected by the SARCMCC Officials with regard to safety provisions for drivers, mechanics, race officials, and spectators.

5.2 Track monitoring

A monitor must be placed in the pit area or under the rostrum during all State and National finals.

5.3 Pit segregation and layout

The pit area must be separated from the track area, there is to be an entry and exit lane where the vehicles can access to and from to prevent any pit staff being in direct harm's way whilst racing. The pit lane entrance and exit lanes must be at least 1 meter wide.

The pit lane can be elevated for ease of access for the mechanics, if it's not elevated it needs to have a change of direction so a car cannot charge straight in to the lane at full speed.

5.3.1 Pit access

The Pits are only accessible by the competitors and their support staff, NO members of the public are allowed to access the pit area for any reason.

5.4 Track aspects and design

The maximum distance from the drivers stand to the farthest point of the track can be no more than 60 meters.

5.4.1 Track Length

Track length can be a minimum of 200 meters, maximum 400 meters; lane width is a minimum of 4.0 meters, Tracks must be constructed with a reasonable variety of small and large corners going both left and right. The straights must have different lengths.

5.4.2 Track Lanes

The lanes must be clearly viewable by all competitors from all positions of the rostrum, track markers must be clearly marked and not constructed in a way that will damage a vehicle, they must be solid enough not to be moved by the cars.

5.4.3 Track detail

The Start/Finish line must be clearly visible for all

The timing loop must be placed in a way so as not to damage the cars

In the event of a loose track surface, the Start / Finish line can be highlighted with markers on either side of the track. 15 Version 6.0 – Jan 2016

5.5 Attendance, induction and rules availability

All competitors are required to sign the attendance book at the start of each day's competition, all competitors and support staff are to read understand and complete the safety induction sheet that will be kept at Race control and they must sign the attendance register for each day they are there.

No signature No start! A copy of the Rules and Induction sheet will be attached to the event applications sheet for new members and casual drivers will have to read and understand club's rules before they can compete. Everyone will have to read and understand all rules before season starts.

5.6 Facilities provisions

Adequate sanitation must be provided on site for both Male and Female competitors and participants.

There must be mains power available.

The pit area must be large enough to set up work tables and provide for weather protection for all.

5.7 Safety of public and provision for emergencies

The track committee and event organizers must at all times make sure that a car never comes in contact with the public.

The safety of the public, drivers, mechanics and track staff must be maintained at all times by a safe and functional track and facility.

There must be an adequately stocked first aid cabinet accessible within the pit area at all times.

The phone details for emergency services must be displayed and a phone available in the event of an incident. 16 Version 6.0 – Jan 2016

6. DRIVERS / MARSHALS

6.1 Marshalling obligations

6.1.1 Marshals directions

Drivers will act as marshals and they will be directed by race control. It is expected that all drivers are responsible to know when they are required to marshal. (Marshalling duties typically occur after the race you just completed)

6.1.2 Marshals replacements

In the event that a driver is unable to fulfil their marshalling duties it will be up to them to find a replacement for themselves. All marshals are to have completed the appropriate club safety induction form, they must show themselves to be competent and responsible.

6.1.3 Marshals age requirement

Marshals can be no younger than 16 years, if a junior driver is participating their parent, guardian or host at the track will marshal for them provided they have the correct experience to do so, if not a replacement must be found by the driver.

6.1.4 Cars being marshalled

When a vehicle is being marshalled, the driver must have the brakes on. The marshal will only then correct your car. When the car is in ready position, marshal will lift his or hers hand up to signal the driver that it is safe to drive. Marshal can, but is not responsible to restart the engine if stalled.

6.1.5 Marshals minimum protective equipment requirements

Marshals must wear:

- fluorescent safety vests
- eye protection
- enclosed footwear (ie not thongs)

Marshals are advised to wear:

These are a personnel option up to the individual:

- Protective gloves to prevent burns and other hazards
- Hearing protection due to loud noise risks

Any injuries must be investigated and reported in writing 17 Version 6.0 – Jan 2016

7. ACCIDENTS / CRASHES

7.1 Yellow Flag – hazard on track

A yellow flag situation will be announced if an accident occurs. This will be via the yellow flags being raised by the marshals and an audible signal (Buzzer) that can be operated by the race director.

During a yellow flag period overtaking of other cars is not allowed, cars are required to slow enough that they can stop immediately if required.

A driver disregarding this rule will be penalized by deducting one lap from the result of the driver concerned in the particular heat, sub-final or final. An official warning has to be issued! Racing will recommence at racing speed following the display of a green flag or the official announcement, " **track is clear**", Signals given by flags have to be visible for all drivers. Continual disregard to this rule will result in the member being called before the race committee to explain the situation.

The potential penalties start with a 3-month suspension of all SARCMCC membership privileges

7.2 Attending to breakdown

Mechanics are allowed to enter the track to retrieve the car of their driver, the mechanic may restart the engine (3x) behind the marshalling barrier, but they must not repair the car in the race.

Mechanics or spectators entering the track from outside the pit lane area to retrieve the car will produce a penalty for that particular car. Penalties can be given as a stop and go or a one lap deduction, the Race Director and referees will inform the Team Managers and Driver about the sort of penalty issued.

7.3 Penalties information

The duration of the stop and go penalties will be decided at the beginning of the event and cannot be changed during the event, all drivers are to be informed of the time before the start of the event.

Three stop and go penalties for one car during one race will lead to disqualification (Back Flag) 18

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8. ENGINES & FUEL – TECHNICAL REQUIREMENTS

Refer to Technical requirements detailed in each of the Classes.

9. EXHAUST / NOISE REDUCTION

Noise restrictions may not affect all SARCMCC clubs but where they do the following rules apply:

9.1 Noise levels

Maximum noise level is 95 dB (A) measured at 10 meters, 1 meter above the track.

If a car produces a noise levels much in excess of the other cars; it is the Race Director's decision on whether that car is allowed to race.

9.2 Exhausts

The total exhaust has to be well mounted and supported by the correct mounts for its type, with the Efra 2wd and SARCMCC 4wd cars the exhaust has to be inside the body with the exception of the tailpipe which may protrude 20mm.

In the situation of the HPI 1/5th style Buggies and Trucks for the Stock class the exhausts must be the factory style muffler/can. (In accordance with appropriate class)

In the situation of the Modified Class, and Outlaw class the pipes are unrestricted but may still come under the noise level limits as per point 9.1 depending on the club and local restrictions.

9.2.1 Exhaust outlets

Maximum inside diameter, tail end of exhausts is 13 mm 19 Version 6.0 – Jan 2016

10. CAR SPECIFICATION

10.1 Brakes

The car has to have a functioning brake, which has to be capable of keeping the car stationary whilst the engine is running.

10.2 Fail safe mechanisms (electronic and manually actuated)

Both mechanical / manual and remote / electronically actuated fail safes (eg. Pico style) must be fitted to the car in case of car malfunction.

The use of an electronic Pico style kill switch system is compulsory.

The manual engine stop button position must be marked with an E (size 20 mm) on the body shell.

To create more safety, you are allowed to have a second kill switch fixed near the rear window to allow easy access. This kill switch should be away from hot or moving parts.

10.3 Transmissions

Variable ratio transmission is not allowed.

10.4 Systems limitations

No other remote function than steering and throttle/brake/safety switch are allowed to be operated via radio control by the driver. No other electronic or hydraulic systems are allowed in the car, with the exception of electronic Pico kill switch to stop the car in case of radio failure and the hydraulic brake system.

10.5 Bodies

Car bodies, in general, must be to the manufacturers design, NO externally added air scoops or intakes are to be installed, and of course you are free to drill holes in the body shell/panels as you need to keep constant airflow.

10.6 Tyres

Tyres have to be black. The design of the tyre profile is free. Tyres must be specific for the class they are used in and compliance with the rules and dimensions of the specific class. Tyre additives or treatment compounds are completely forbidden. 20 Version 6.0 – Jan 2016

11. DRIVING ETIQUETTE

The idea of this section is to explain in layman's terms what is expected of a driver no matter what class they run in, where they happen to cut a corner as a result of a racing incident.

11.1 Intent of track barriers

The track has barriers of different types around it and in specific sections of the track they will act as a buffer and in most cases a funnel if you will to direct the wayward cars back on to the correct racing line.

11.2 Maintaining direction on track

The direction of the traffic on the track is to be maintained (ie you are not at any time to drive in the reverse of the nominated direction). There is no exception to this rule during a race day for practice, heats or finals. In the event that a driver crosses a lane divider they will be expected to continue to drive in the correct traffic direction, they must move their vehicle to the side of the track and slow sufficiently to let the cars they may have passed regain the correct racing position. It would be expected that the driver of the said vehicle has the courtesy and common sense not to place their car in a precarious position that would upset the driving line of any of the other cars in the race.

Once you have corrected you're on track position you are required to complete 1 full lap before attempting an over taking manoeuvre on the car in front.

11.3 Respect of marshals

It must be noted that the lane divider that will be in place will be of a decent size and a driver's car may get snagged if they hit it head on or a 45-degree angle, they will need to be marshalled and the drivers must show the correct amount of respect and patience whilst this is happening. In turn, the people that are marshalling are and will be drivers from other classes and they must make every effort to place the stranded vehicle back on the track in the correct lane. We realize that when under pressure mistakes can be made so the marshal should make an attempt to look at the drivers stand and seek direction if unsure, in turn the driver must show enough patience and appreciate that someone is attending their vehicle. It must also be requested that the marshals attend the cars as they would expect theirs to be attended and not take too long.

11.4 Kerb hopping, corner cutting

It needs to be stated that 2 wheels up on the curb is not a breach of the rules, 3 wheels on the curb or island may be deemed to be cutting the corner and could result in a caution and or penalty. In the event that a blatant and continued attempt is being made to short cut any section of the track by any driver in any class, Marshals of the relevant race and race director on the day will make the fact known to the offending driver and they will be warned only once. If it continues they will be penalized a lap for each blatant infringement. 21 Version 6.0 – Jan 2016

12. 1/5th - 1/6th SCALE STOCK (Entry Level) 2wd CLASS SPECIFICATIONS

This class is for typical 1/5th HPI style vehicles (ie 5B, 5T, 5SC).

The vehicles are to remain basically 100% as they were produced by the factory; there are very limited areas that can be altered and the topics are covered below purely for clarification.

12.1 Engine Limitations

Vehicles can only run with a standard engine with a maximum capacity of 26cc.

There will be NO porting of the engine, no lightened flywheels.

The standard issue carburetor is to be used, no race carbs allowed.

The exhaust must be the standard exhaust muffler, No tuned or pigtail pipes allowed.

No external ignition systems allowed, standard fixed coil only.

12.2 Air Filters

Air filters are unrestricted but you must run with one for obvious reasons.

12.3 Clutch

Standard issue clutch shoes (x2) only, alloy and enclosed clutch carriers are permitted, this is the only modification allowed to the vehicle.

12.4 Gearing

Gear ratios must be stock, pinion and spur gears ratio must be as stock issue.

12.5 Brakes

Brakes can be upgraded from stock brake pads to triple carbon pads.

12.6 Chassis

The standard chassis is the only one permitted, no lightened or lightening is allowed.

12.7 Suspension

The suspension must remain stock as the vehicle was purchased from new. You may alter the shock oil weights to suit own driving style.

12.8 Wheelbase and Track Width

The wheelbase on the vehicle cannot be lengthened or shortened in any way it must remain stock.

Axle extenders are NOT allowed. The standard factory dimensions are 820mm x 480mm

12.9 Wheels and Tires

Wheels must be of the stock or imitation stock style for the specific vehicle, there is a maximum width of 85mm and a height of 190mm, tires can be any make of style that fits the specified rim.

12.10 Electronics

Standard issue servo's can be replaced when they fail with aftermarket higher quality units.

The standard capacity hump pack may be replaced with a larger capacity unit for longer run times.

It must still be the same 5 cell hump pack style, no lipo or life packs allowed.

As per the Large Scale off road compulsory requirements all transmitters have to be 2.4 GHz and all vehicles have to have a Pico Style kill switch fitted. 22 Version 6.0 – Jan 2016

12.11 Bodies

All vehicles must run the stock body style the vehicle was purchased with.

12.12 Exhaust

The exhaust system may never produce more than 89 DB measured at 10 meters' distance and 1 meter above the ground surface.)

In case of the exhaust system producing more noise than the 89 DB the race director and /or the referee can order the car to come in for a noise check. If the car exceeds the allowed limits it needs to be repaired prior to re-entering the race.

12.13 Fuel tank and fuel

The maximum fuel measured allowed for the 2wd Stock class is 700 ml

The allowed fuel may only exist of Lead-free gasoline and 2 stroke oil.

Forbidden are all special fuels and extras such as Avgas, octane boosters and race fuel.

Cars with electric drive, propellers or rocket-fuel drive are not allowed Cars can only have 1 gearing: no multispeed transmissions allowed

12.14 Clutch and brake

The model cars must have a working clutch and brake system. Other than Active ABS systems there are no restrictions for brakes.

12.15 Bumpers

All models must have a front bumper; a rear bumper is allowed but not mandatory. Bumpers must be made from a flexible material.

The front bumpers are to be a minimum 80mm, a maximum size of 220 mm width; rear bumper can have a max size of 300 mm width.

In the case of the bumper falling off the car during a race, the car will be deemed unsafe & must pull into pit area immediately. If the car does not stop & proceeds to finish the race it will be penalized their best qualifying round.

12.16 Chassis, Body measurements

Only original large scale polycarbonate (lexan) body shells are allowed. The body must be fully painted except for the windows. Engine stop switch access must be easy.

The chassis must be flat underneath with no screws protruding, nor can the chassis extend beyond commercially available lengths.

Max length 820 mm

Max width 480 mm with full compressed suspension

Max height 360 mm with full compressed suspension

Wing - The wing must be made from a flexible material

Max size 300 mm x 140 mm

Overhang max 150 mm from the middle of the rear drive shafts 23 Version 6.0 – Jan 2016

13. 1/5TH – 1/6TH 2wd EFRA CLASS SPECIFICATIONS

13.1 Technical requirements

Technical classifications and weight requirements listed below.

All cars have to be large scale.

Weight limits are 10kg min to 14kg max

Weight limits are for a race ready car with transponder but NO fuel load.

Modified or self-built cars are allowed as long as they fulfil the technical rules mentioned below.

Only 2wd is allowed in 2wd class and only 4wd in 4wd class.

Cars with electric drive, propellers or rocket fuel drive are not allowed.

Cars can only have one gear, No multispeed transmissions are allowed.

13.2 Efra 2wd Class Motors specifications

13.2.1 Number of engines

Only one marked engine allowed. In case of rain situation, a second engine could be allowed during the time of wet track. The race director (or his substitute) may decide an engine replacement of the same type or repair in the case of failure. The replaced engine will be kept in race control until the end of the event. A driver changing engine will receive an automatic stop and go in their first final. Each driver is only allowed to use a maximum of 2 engines per event.

13.2.2 Engine type and capacity

The engine to be a single cylinder 2 or 4 stroke pull start, Minimum 23 cc to a maximum 26 cc.

13.2.3 Engine limitations

No Turbo charging, Fuel injection, Supercharging, Wankel or rotary valve/ distribution engines are allowed.

13.2.4 Ignition systems

All ignitions must be mechanically fixed, only manual static adjustment is allowed.

No battery operated ignition allowed. Only a passive ignition system using R.P.M. as the single input parameter is allowed.

As per the Large Scale off road compulsory requirements all transmitters have to be 2.4 GHz and all vehicles have to have a Pico Style kill switch fitted. 24 Version 6.0 – Jan 2016

13.2.5 Port Modifications

Only open deck admission ports are allowed, the removal of material is free as long as the modified shape of the transfer/admission ports walls are in the direction of the cylinder bore at all times.

This basically means that the ports can be modified, but the new shape must be in the direction of the cylinder bore at all times and not create an under cut or pocket. A picture is worth a thousand words; please see the attachment picture of a cylinder that has been sectioned. One side has been modified legally (Green ticks) and one side is illegal (Red Cross). This rule only applies to the transfer ports; the intake port can be modified changing the timing.

13.2.6 Engine blocks

The Cylinder block must be of a single casting, no independent liners or slipping liners are allowed. As per the image above!

13.2.7 Head and reed case configurations

The use of one the ADA and TS style head kits is legal as are Reed Case engines, as long as the porting is compliant as per points in this Section:

13.2.8 Admission ports

The maximum number of admission ports is limited to 4.

13.2.9 Domes and compression ratio

The Removable Dome that fits into the heads that fit the above noted engines can only be a 13:1 compression ratio; this is the only legal Dome that can be used. 25 Version 6.0 – Jan 2016

13.2.10 Two piece cylinders not permitted

The 2 Images Shown above are of a 2-piece cylinder, these are NOT LEGAL and CANNOT be used

13.2.11 Cooling

The Engine must be air cooled with the air being directly driven by the flywheel.

13.2.12 Crankshafts

The crankshaft must be of split shaft configuration, with enclosed big end. No half crankshafts allowed.
(In accordance with appropriate class)

13.2.13 Air Filters

An air filter must be fitted to the carburettor.

13.2.14 Carburettor

The maximum venturi diameter of the carburettor is limited to 13 mm.

13.2.15 Fuel and additives

The only fuel admitted will be petrol normally available at your local service station. Special fuels like AVGAS and added Nitro or Octane boosters are NOT allowed. The allowed fuel may only consist of lead free gasoline and 2 stroke oil.

The only additive allowed is 2 stroke oil, Random fuel tests may be made at any time during a race meet. If fuel is found to be illegal the driver will be disqualified from that particular race and he or she may lose their right to participate in an SARCMCC sanctioned event for up to 10 years.

13.2.16 Fuel volume and refuelling

The maximum measured fuel amount for the finals in this class are as follows;

The 2wd classes are allowed to run 700ml for a 30-minute final.

Under no circumstances can the vehicles be refuelled or topped up during a race.

Refuelling will result in disqualification!

13.3 Exhaust

The exhaust system may never produce more than 89 DB measured at 10 meters' distance away and 1 metre above the ground surface.

The exhaust pipe must be fitted rearward or to the ground and within the size of the car.

13.4 Clutch and Brake

The model cars must have a working clutch and brake system, other than active ABS systems there are no restrictions for brakes.

13.5 Bumper

All models must have a front bumper; a rear bumper is allowed but not mandatory. Bumpers must be made from a flexible material. The front bumper is to be a minimum of 80mm a maximum size of 220 mm width; rear bumper can have a max size of 300 mm width
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In the case of the bumper falling of the car during a race, the car will be deemed unsafe & must pull into pit area immediately. If the car does not stop & proceeds to finish the race it will be penalized their best qualifying round.

13.6 Wheels and Tires 2WD

Wheels can be a maximum diameter of 136mm and width of 85mm

Tires can be a maximum diameter of 190mm and width of 85mm.

Only wheels and tires designed and made for large scale off road use are allowed and they must be commercially available.

13.7 Chassis, Body Measurements

Only the original large scale polycarbonate (lexan) body shells are allowed.

They must be fully painted except for the windows.

The chassis must be flat underneath and no screws may extend

13.8 Car Size

Max length – 820mm

Max width – 480mm with full compressed suspension

Max height – 360mm with full compressed suspension

13.9 Wing

The wing must be made from a flexible material

Max size 300mm x 140mm Max overhang 150mm from the middle of the rear drive shafts 27 Version

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14. 1/5th – 1/6th SARCMCC 4wd CLASS SPECIFICATIONS

14.1 Technical requirements

This section describes the technical requirements for large scale off road racing 4wd SARCMCC Class Technical classifications and weight requirements listed below.

All cars have to be large scale.

Weight limits are 10kg min to 15kg max

Weight limits are for a race ready car with transponder but NO fuel load.

Modified or self-built cars are allowed as long as they fulfil the technical rules mentioned

Only 2wd is allowed in 2wd class and only 4wd in 4wd class.

Cars with electric drive, propellers or rocket fuel drive are not allowed.

Cars can only have one gear; no multispeed transmissions are allowed.

14.2 4wd SARCMCC Class Motors specifications

14.2.1 Number of engines

Only one marked engine allowed. In case of rain situation, a second engine could be allowed during the time of wet track. The race director (or his substitute) may decide an engine replacement of the same type or repair in the case of failure. The replaced engine will be kept in race control until the end of the event. A driver changing engine will receive an automatic stop and go in their first final. Each driver is only allowed to use a maximum of 2 engines per event.

14.2.2 Engine type and capacity

The engine to be a single cylinder 2 or 4 stroke pull start, minimum 23 cc to a maximum 26 cc.

14.2.3 Engine limitations

No Turbo charging, Fuel injection, Supercharging, Wankel or rotary valve/ distribution engines are allowed.

14.2.4 Ignition systems

All ignitions must be mechanically fixed; only manual static adjustment is allowed.

No Battery operated ignition allowed. Only a passive ignition system using R.P.M. as the single input parameter is allowed.

As per the Large Scale off road compulsory requirements all transmitters have to be 2.4 GHz and all vehicles have to have a Pico Style kill switch fitted. 28 Version 6.0 – Jan 2016

14.2.5 Port modifications

Only open deck admission ports are allowed, the removal of material is free as long as the modified shape of the transfer/admission ports walls are in the direction of the cylinder bore at all times.

This basically means that the ports can be modified, but the new shape must be in the direction of the cylinder bore at all times and not create an under cut or pocket. A picture is worth a thousand words; please see the attachment picture of a cylinder that has been sectioned. One side has been modified legally (Green ticks) and one side is illegal (Red Cross). This rule only applies to the transfer ports; the intake port can be modified changing the timing.

14.2.6 Engine blocks

The Cylinder block must be of a single casting, no independent liners or slipping liners are allowed. As per the image above!

14.2.7 Head and reed case configurations

The use of one the ADA and TS style head kits is legal as are Reed Case engines, as long as the porting is compliant as per points in this Section

14.2.8 Admission ports

The maximum number of admission ports is limited to 4.

14.2.9 Domes and compression ratio

The Removable Dome that fits into the heads that fit the above noted engines can only be a 13:1 compression ratio; this is the only legal Dome that can be used. (Refer image to the left) 29 Version 6.0 – Jan 2016

14.2.10 Two piece cylinders not permitted

The 2 Images Shown above are of a 2-piece cylinder, these are NOT LEGAL and CANNOT be used

14.2.11 Cooling

The Engine must be air cooled with the air being directly driven by the flywheel.

14.2.12 Crankshafts

The crankshaft must be of split shaft configuration, with enclosed big end. No half crankshafts allowed. (In accordance with appropriate class)

14.2.13 Air Filters

An air filter must be fitted to the carburettor.

14.2.14 Carburettor

The maximum venturi diameter of the carburettor is limited to 13 mm.

14.3 Fuel and additives

The only fuel admitted will be petrol normally available at your local service station. Special fuels like AVGAS and added Nitro or Octane boosters are NOT allowed. The allowed fuel may only consist of lead free gasoline and 2 stroke oil. The only additive allowed is 2 stroke oil. Random fuel tests may be made at any time during a race meet.

14.3.1 Fuel tank and fuel

The max vehicle fuel capacity for the SARCMCC 4wd class is 800 cc

If fuel is found to be illegal the driver will be disqualified from that particular race and he or she may lose their right to participate in an SARCMCC sanctioned event for up to 10 years.

14.3.2 Fuel volume and refuelling

The maximum measured fuel amount for the finals in this class are as follows;

The 4wd SARCMCC class is allowed to run 800ml for a 30-minute final.

Under no circumstances can the vehicles be refuelled or topped up during a race.

Refuelling will result in disqualification!

14.4 Exhaust

The exhaust system may never produce more than 89 DB measured at 10 meters' distance and 1 meter above the ground surface.

14.5 Clutch and Brake

The model cars must have a working clutch and brake system, other than active ABS systems there are no restrictions for brakes. 30 Version 6.0 – Jan 2016

14.6 Bumper

All models must have a front bumper; a rear bumper is allowed but not mandatory.

Bumpers must be made from a flexible material

The front bumper is to be a minimum 80mm, a maximum size of 220 mm width; rear bumper can have a max size of 300 mm width. In the case of the bumper falling off the car during a race, the car is now deemed unsafe & must pull into pit area immediately. If the car does not stop & proceeds to finish their race then you will be penalized your best qualifying round.

14.7 Wheels and Tires 4WD

Wheels can be a maximum diameter of 136mm and width of 85mm

Tires can be a maximum diameter of 190mm and width of 85mm.

Only wheels and tires designed and made for large scale off road use are allowed and they must be commercially available.

14.8 Chassis, Body Measurements

Only the original large scale polycarbonate (lexan) body shells are allowed.

They must be fully painted except for the windows.

The chassis must be flat underneath and no screws may extend

14.9 Car Size

Max length – 820mm

Max width – 490mm with full compressed suspension

Max height – 360mm with full compressed suspension

14.10 Wing

The wing must be made from a flexible material

Max size 315mm x 140mm Max overhang 150mm from the middle of the rear drive shafts

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15. 1/5th SCALE OUTLAW 2wd SPECIFICATION

15.1 Technical requirements

Technical requirements for large scale off road racing in this class are as follows

Weight limits are 10kg min and 16 kg max, weight is to be measured with the car being race ready with transponder fitted but no fuel load.

Modified or Self built cars are allowed as long as they meet the technical rules mentioned.

Motors are to a maximum capacity of 30.5 cm³

There are **No** engine restrictions in this class, piston ported, reed case and 2 part cylinders are all allowed.

Cars with electric drive, propellers or rocket fuel drive are not allowed Cars can only have 1 gearing: no multispeed transmissions allowed

15.2 Exhaust

The exhaust system may never produce more than 89 DB measured at 10 meters' distance and 1 meter from the ground (Only where local Noise restrictions apply)

The exhaust must be fitted under the body shell. The exhaust end pipe may be outside the shell. The pipe must be fitted so the rearward or to the ground and within the size of the car. In case of the exhaust system produces more noise than the 89 DB the race director and /or the referee can order the car to come in for a noise check. If the car exceeds the allowed limits it needs to be repaired to re-enter the race.

15.3 Fuel tank and fuel

The maximum fuel measure allowed for a final is 700 cc

The allowed fuel may only exist of Lead free gasoline and oils and additives.

Forbidden are all special fuels and extras such as avgas, octane boosters and race fuel.

15.4 Clutch and brake

The model cars must have a working clutch and brake system. Other than Active ABS systems there are no restrictions for brakes (ie active ABS not permitted).

15.5 Bumper

All models must have a front bumper; a rear bumper is allowed but not mandatory.

Bumpers must be made from a flexible material.

The front bumper can have minimum 80mm, a maximum size of 220 mm width; rear bumper can have a max size of 300 mm width, in the case of the bumper falling of the car during a race, the car is now deemed unsafe & must pull into pit area immediately. If the car does not stop & proceeds to finish their race then you will be penalized your best qualifying round.

15.6 Tires and wheels

Max. tyre diameter 190mm

Max tyre width 85 mm

Only tires made for off road use are allowed.

The wheels have to be made for Large scale. 32 Version 6.0 – Jan 2016

15.7 Chassis, body measurements

15.7.1 Body

Only original large scale polycarbonate (lexan) body shells are allowed the body must be fully painted except for the windows engine stop access must be easy.

15.7.2 Chassis

The chassis must be flat underneath and no screws may extend

15.7.3 Car size

Max length 920 mm

Max width 520 mm

Max height 380 mm with full compressed suspension

15.7.4 Wing

The wing must be made from a flexible material

Max size 300 mm x 140 mm

Overhang max 150 mm from the middle of the rear drive shafts. 33 Version 6.0 – Jan 2016

16. 1/5th SCALE OUTLAW 4wd

16.1 Technical requirements

Technical requirements for large scale off road racing 4wd Outlaw class are as follows

Weight limits are 10kg min and 19 kg max, weight are taken with the car being race ready with transponder fitted but, no fuel load.

Modified or Self built cars are allowed as long as they meet the technical rules mentioned.

Motors are to a maximum capacity of 30.5 cm³

There are **No** engine restrictions in this class, piston ported, reed case and 2 part cylinders are all allowed.

Cars with electric drive, propellers or rocket fuel drive are not allowed Cars can only have 1 gearing: no multispeed transmissions allowed

16.2 Exhaust

The exhaust system may never produce more than 89 DB measured at 10 meters' distance and 1 meter from the ground.

The exhaust must be fitted under the body shell. The exhaust end pipe may be outside the shell. This pipe must be fitted so the rearward, sideways or to the ground and within the size of the car. In case of the exhaust system produces more noise than the 89 DB the race director and /or the referee can order the car to come in for a noise check. If the car exceeds the allowed limits it needs to be repaired to enter the race (again)

16.3 Fuel tank and fuel

The maximum fuel measure allowed for a final is 850 cc

The allowed fuel may only exist of Lead free gasoline, oils and additives

Forbidden are all special fuels and extras such as Avgas, octane boosters and race fuel.

16.4 Clutch and brake

The model cars must have a working clutch and brake system. Other than Active ABS systems there are no restrictions for brakes.

16.5 Bumper

All models must have a front bumper; a rear bumper is allowed but not mandatory.

Bumpers must be made from a flexible material.

The front bumper can have minimum 80mm, a maximum size of 410 mm width.

Rear bumper can have a max size of 375 mm width

In the case of the bumper falling of the car during a race, the car is now deemed unsafe & must pull into pit area immediately. If the car does not stop & proceeds to finish their race, then you will be penalized your best qualifying round.

16.6 Tires and wheels

16.6.1 Wheels

Wheels diameter max 160 mm, width max 80 mm. The wheels have to be made for Large scale

16.6.1 Tires

Tyres max. diameter 190mm with max 80 mm. Only tires made for off road use are allowed. 34 Version 6.0 – Jan 2016

16.7 Chassis, Body measurements

The body must be fully painted / coloured except for the windows engine stop access must be easy to access. Bodies can be made from polycarbonate (Lexan), plastic and / or other flexible materials. They cannot be made from fibreglass or any materials that shatter or cause splinters.

Bodies must be robust and be able to take a hit, there must be a roof, bonnet and side panels so there is somewhere to adhere qualifying numbers etc.

The chassis must be flat underneath with no screws protruding.

16.8 Car size

Max length 980 mm

Max width 520 mm

Max height 380 mm with full compressed suspension

16.9 Wing

The wing is not compulsory, where fitted, a wing must be made from a flexible material

Max size 300 mm x 140 mm

Overhang max 150 mm from the middle of the rear drive shafts.