LARGE SCALE ON-ROAD RULES

AS OF MAY 2026

INDEX

TECHICAL SPECIFICATIONS 510 4WD

1) Technical Specifications

TECHNICAL SPECIFICATIONS FORMULA 1

1) Technical Specifications

1) Paintwork
1.1) Suspension
1.2) Side pods
1.3) Body cut outs
1.4) Dimensions and weight
1.5) Fuel tank
1.6) Tyres/treatment and rims
1.7) Front wing
1.8) Rear wing
1.9) F1 wings, general

2) Engines/Fuel/Ignitions

2) Engine allowance
2.1) Engine impound
2.2) Engine repair
2.3) Engine spec and capacity
2.4) Electric starters
2.5) Flywheel cover
2.6) Flywheel poles
2.7) Engine induction etc.
2.8) Ignition adjustment
2.9) Ignition type
2.10) Ports
2.11) Port numbers
2.12) Port modifications
2.13) Cylinder block
2.14) Engine cooling
2.15) Crankshaft
2.16) Air filter
2.17) Carburetor venturi
2.18) Fuel
2.19) Fuel additive
2.20) Fuel irregularities
2.21) Fuel supply
2.22) Fuel testing
2.23) Refueling
2.24) Protests

3) Exhaust/Noise Reduction

3) Maximum noise level
3.1) Exceeding noise level
3.2) Noise level referee
3.3) Exhausts
3.4) Exhaust mounting
3.5) Manifold
3.6) Exhaust options
3.7) Airbox

4) Car

4) Brake
4.1) Mechanical failsafe
4.2) Electronic failsafe
4.3) Transmission
4.4) Drive configuration
4.5) In car electronics
4.6) Kill switch

TECHNICAL SPECIFICATIONS SEDAN

1) Technical Specifications

1) Definition
1.1) Dimension and weight
1.2) Tyres/treatment and rims
1.3) Bodies
1.4) Bumper
1.5) Ground clearance
1.6) Wing mounting
1.7) Wing/spoiler
1.8) Only allowed for manufacturers

2) Engines/Fuel/Ignitions

2) Engine types
2.1) Engine allowance
2.2) Engine impound
2.3) Engine repair
2.4) Engine spec and capacity
2.5) Electric starters
2.6) Flywheel cover
2.7) Flywheel poles
2.8) Engine induction etc.
2.9) Ignition
2.10) Ignition types
2.11) Ports
2.12) Port number
2.13) Engine modifications
2.14) Cylinder block
2.15) Engine cooling
2.16) Crankshaft
2.17) Air filter
2.18) Carburetor venturi
2.19) Fuel
2.20) Fuel additives
2.21) Fuel irregularities
2.22) Fuel supply
2.23) Fuel testing
2.24) Refueling
2.25) Protests

3) Exhaust/Noise Reduction

3) Maximum noise level
3.1) Exceeding noise level
3.2) Noise level referee
3.3) Exhaust
3.4) Exhaust mounting
3.5) Manifold
3.6) Exhaust options
3.7) Airbox

4) Car

4) Brake
4.1) Mechanical failsafe
4.2) Electronic failsafe
4.3) Transmission
4.4) Drive configuration
4.5) In car electrics
4.6) Kill switch

1. LARGE SCALE GENERAL RULES

1) There will be one National Championship, known as the Australian Championship, to be held on the 2nd weekend of November, rotating between States annually.
2018- **South Australia**,
2019- **Queensland**,
2020 -**Victoria**,
2021 -**New South Wales** and rotating so on.

1.1) There will be one State Championship for each State annually.
South Australia- 4th weekend of February,
Victoria -2nd weekend of April,
Queensland- 3rd weekend of June),
New South Wales -2nd weekend of September
(Other States by arrangement with the Section Committee)

1.2) Australian Sanctioned classes are Sedans/GT (Open Class) and 510 4wd.
Demonstration or additional categories are welcome to be run (at the event organisers discretion) alongside the sanctioned categories being contested, but at all times priority must be given to completing any, and all, sanctioned categories being run at the event.
This may necessitate qualifying rounds or even finals not being run for these additional categories.
Whilst it isn't the intention not to recognize the effort that the non-sanctioned categories have made in supporting the event, it must be remembered that the events original purpose is for the competition of the RCRA sanctioned categories.

1.3) A standard technical checklist aligned to RCRA Technical specifications must be used for scrutineering at all sanctioned race events.
If there are no technical specifications listed by RCRA they are to be agreed to by a vote of Clubs.

1.4) Where possible a host club should prioritize a State Championship over two days (plus up to 2 days practice) and a National Championship over three days (plus 2 days practice).

1.5) Host clubs must advertise and open registrations at least 2 months before an event.
All entrants must be a financial member of an RCRA Large Scale affiliated club.

1.6) Entries, including payments, close 3 weeks before any event. This allows clubs to make the required plans to successfully host the event.

1.7) Host clubs must publish an event schedule and race structure no less than 2 weeks before the event commences.
The track preparation schedule of the event should be published at the same time the details of the meeting are released.

1.8) For National Championships the club must host a dinner for participants (and their guests) and the Section AGM. The Host Club must announce this in the Schedule.

1.9) Representatives from each participating state will be elected at events to form a State Jury. Working with the Race Director the State Jury, taking guidance from the RCRA rule set and other supporting documentation will be responsible for managing disputes and other decisions critical for the management of events. A decision arising from the Race Director and State Jury cannot be appealed.

1.10) Trophies:
For State events:
In each section being contested, only the top three places are awarded trophies. (1^{st} /2^{nd}/ 3^{rd})
TQ in each section being contested will also receive a trophy.
There will also be a concourse trophy awarded for each section being contested.
For National events:
All "A" main contestants in each section being run will receive a trophy.
(1^{st} through to 12^{th}, with 4^{th} to 12^{th} of a smaller value)
TQ in each section being contested will also receive a trophy.
There will also be a concourse trophy awarded for each section being contested.
The host club must present substantive trophies for position 1-3 at all above events.

1.11) Concourse winning bodies must have been run during at least one heat to be eligible to win concourse.

1.12) Participants must raise concerns or grievances with their State Jury representative.

1.13) Any engine adjustments and warming are strictly forbidden in pits and working areas.
They are allowed only on protected tables supplied by the organisers, and in the proximity of pit lane, and of the Rostrum.

2. SAFETY

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

2.1) Spectators, competitors and officials must be efficiently protected against the cars by adequate safety barriers.

2.2) Track barricades and markers must be shaped and placed in a way that prevents cars from being projected into public areas.

2.3) First Aid:
It is recommended that a qualified First-aid Officer is present throughout the Championship including practice.
A current and suitable first aid kit must be available, and its location clearly marked throughout the Championship, including practice.

2.4) Marshals:
Marshals must be adequately protected from being hit by cars whilst at their marshalling location.
Marshals must be provided with a fluorescent safety vest or similar item to aid being seen whilst in the track area.
Marshals must always put their safety first.

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

2.6) Access for emergency services must always be available to all areas.

2.7) Suitable fire extinguishers must always be available in areas around the track such as pit lane, the pits, technical inspection and other areas identified by the host club.

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

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

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

2.11) Under no circumstances are engines to be run in an enclosed space or building.

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

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

2.14) Smoking and/or vaping is not allowed within the enclosed track area, driver's stand, race control, pit lane, pit areas or any other areas identified by the host club.
Any designated smoking areas must comply with relevant state government legislation.

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

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

3. RACE STRUCTURE

3) No competitor is allowed to drive a model car in any other area, other than the track and the marked pit lane whilst present at the host facility.

3.1) Host clubs must announce the race structure when advertising the event and taking registrations.
The state jury, via a majority vote may elect before an event commences not to run in the rain.
A decision not to run in the rain cannot be made after an event has commenced after which the procedures and rules herein apply

3.2) Where events reach 15 entries for a sanctioned class, the event must be run as per RCRA rules.
If there are fewer than 15 entrants, the host Club may elect to run a traditional race format (e.g. rocket round) but this must be described in the advertising for the event.
(If not announced the RCRA rules apply)
Where event entries are fewer than 15 for a class and the race structure is being run under a traditional rocket round system, the first five positions from each semi-final will progress to the main final.

3.3) For Sanctioned classes the No 1 ranked driver after completion of the qualifying heats will move up directly into the main final and take the pole position on the starting grid.

3.4) For events with less than 20 entries, the driver ranked 2nd will also move up straight to the main final and takes second position on the grid.
For events with 20 or more entries, the drivers ranked 2nd to 4th will also move up straight to the main final and take positions 2 to 4 on the grid.
The other drivers will start in the sub-finals as per their qualifying position.

3.5) Warm up:
The warmup period will be maximum 5 minutes for any heats, and finals.

3.6) Heats:
If drivers are seeded into heats, then further re-seeding may take place if deemed necessary.
All heats will be 10 minutes duration, plus the last lap and time of the last lap.
A minimum 5-minute break must be given between Heats and 15 minutes between rounds.
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3.7) Sub-finals: (Sanctioned Classes)
All sub-finals will be 15 minutes duration, plus the last lap and time of the last lap.
The first 3 drivers from each sub-final will progress up to the next final.

3.8) Semi-Finals: (Sanctioned Classes)
All Semi-finals will be 20 minutes duration, plus the last lap and time of the last lap
The first 4 drivers from each semi-final will progress to the main final. The next 2 fastest drivers across both semi-finals will progress to the main final.
(When entries are fewer than 15, consult sub clause 3.3)

3.9) Main Final: (Sedan and 510 4WD):
30 minutes, plus the last lap and time of the last lap
Grid positions for places 3-12 (entrant number dependent) in the main final will be based on laps and times arising from the semi-finals (e.g. Fastest of the 10 progressing will take position 3 and so on through to position 12)

3.9.1) Main Final: (F1 Sanctioned Class)
25 minutes, plus the last lap and time of the last lap
Grid positions for places 3-12 in the main final will be based on laps and times arising from the semi-finals (e.g. Fastest of the 10 progressing will take position 3 and so on through to position 12)

3.10) Number of drivers:
Heats – Maximum 10 Drivers
Sub-finals – Maximum 10 Drivers
Main Final – Maximum 12 Drivers

3.11) Radio communication between driver and pit lane is allowed but only one pair of headsets to be used and they can only be used by the driver on the rostrum and the mechanic in the pit land.

4. TECHNICAL INSPECTION

4) All sanctioned class vehicles must pass technical inspection before commencing qualifying.

4.1) Vehicles will be randomly inspected throughout qualifying heats.

4.2) All sanctioned class vehicles will be impounded after each sub and semi-final and not released until after the corresponding final has been completed.

4.3) All sanctioned class vehicles will be impounded at the conclusion the main final.

4.4) A RCRA standard scrutineer checklist and procedure must be used.

5. TRANSPONDERS

5) A working transponder is the driver's responsibility.

5.1) If identified that a competitor's transponder has (during a race) failed, the Race Director or Timekeeper will notify the competitor by announcement.

5.2) If the Race Director or Timekeeper can clearly account or demonstrate the correct outcome for that competitor, he/she maintains the discretion to amend the race record if a protest is lodged.

5.3) The Race Director or Timekeeper is not obligated to manually count laps or time laps for a competitor whose transponder has failed.

5.4) There is no avenue of appeal against any race official for not manually recording laps or times.

6. STARTING PROCEDURE OF HEATS and FINALS

6) Qualifying heats starts:
There will be no stop between practice time (warming up) and start of the heat.
A rolling start will be used, just start the clock when practice time is over (Flying start).
There must be a 3-minute gap between the end of one heat and the start of the next heat.
During qualifying an audible warning will be given at 1 minute and again at 30 seconds prior to the official start, in English

6.1) Sub Finals and the Main Final:
A Formula 1 type grid will be used depending on the track layout, with the faster qualifier starting in front of the slower.

6.2) Finishing Heats & Finals:
When the time is over, an audible signal is given.
A car finishes when it passes the finish line after the finish-signal is given.
The car must immediately return to the pits and may not hinder other cars still racing.
In case of doubt (on the finish-line when time is over), a car may race one more lap.
Whether he finishes or not when time was completed, it is up to the Time- keepers and cannot be disputed.
After returning to the pits, all engines must be stopped immediately and the transmitters turned off.

6.3) Sub/Semi/Main Finals Starts:
For all sub-finals and main finals, a "Formula 1" type grid start will be used with each grid start position spaced a minimum of 2 meters apart.
For all finals, the track will be opened 5 minutes prior to the start of the final.
At 45 seconds to go the cars are called to the start line and the 10 second count-down will commence within 5 seconds of all cars being stationary and in their correct grid position.
If a car has not left the pit lane at the 45 seconds mark due to unforeseen problems, the car may start from the pit lane after the other cars have officially started and passed pit exit.
From 10 seconds until 3 seconds prior to the start a second-by-second countdown will be made in English.
From 3 seconds the countdown stops, and the start signal will be given by the starter between 0 and 5 seconds.
If the grid is not to the satisfaction of the race director, he may require a re-start, re-commencing the count down.
The official start signal will be audible by means of a hooter, operated by the Starter. This signal will also start the Timing Systems.
Early starts (i.e. any part of the car touching the front line of the starting box), will receive a stop and go penalty.
This penalty is issued by the Starting Official or the Time- keeping official and must be announced immediately after the start and must be served within four laps.
The penalty will also be marked on the result sheet.
Under no circumstances will the race be stopped due to a jump start.
The Race Director may only interrupt the race and make a re-start, if he considers the starting procedure, or the start was not carried out correctly.When the starter calls the main- final to the start line, the mechanics are not allowed to touch the cars coming to the grid.

6.4) Delayed start:
If the starter has not called the cars to the start line, any participant of a semi-final or the main final may request a delay of 10minutes to carry out repairs on their car.
Only the finalist who has called the delay can work on their car. However, any repairs must be carried out in the pit lane.
This delay can be granted only once for each semi-final and final. The track is closed, and the remaining mechanics/drivers are only allowed to turn off the engine and receiver of their cars.
All cars must remain in the pit lane, tyre warmers are allowed to be used however they are not allowed to make any repairs or change any tyres.
At the end of the 10-minute delay period (or if every participant is ready prior to the 10-minute time out), a completely new warmup and start procedure will commence.
Because of the delay, competitors in the main final are allowed to remove (from their tank) the remaining fuel from their first sample and fill their car with their second if they choose to. However, the car must again be checked to ensure it is completely empty before filling.
The driver asking for the delay for whatever reason (except an error in frequencies of the race control), must start from the pit lane and can only join the track once the last car starting from the grid has passed pit lane exit.

7. QUALIFACTION and FINALS

7) A Christmas tree final structure will be used

7.1) In each round drivers will score points based on laps and times achieved.

7.2) The fastest competitor (based on laps & time) in each Round will score zero (0) points, second place 2 points, third place 3 points, fourth place 4 points and so on.

7.3) If two (or more) competitors achieve an equal time in any round, they will be awarded equal points. The next competitor not included in the tie, will be awarded points corresponding to his position in that round.
(NOTE: drivers not recording a time or having a time disqualified in any round score points for last place in that Round).

7.4) Overall Qualifying positions are decided by each drivers "best" (lowest) points being added together, based on the number of rounds to count. In the event of a tied position the driver with the single highest finishing position in any of the best rounds that counted will be awarded the tie (e.g. 1+3+3 = 7 beats 3+2+2 = 7).In the event of a continuing tie then the laps and times from the best points round will be compared. The driver with the fastest laps and time will be awarded the tie.
In the case of a continuing tie, then the times from the next best scores will be compared.
Only counting rounds will be used to decide qualifying positions (or ties), all other qualifying rounds scores and times will be discarded.

7.5) Out of 6 (six) completed rounds, 4 (four) to count,
Out of 5 (five) completed rounds 3 (three) to count.
Out of 3 (three) and 4 (four) completed rounds 2(two) to count.
Out of 1 (one) and 2 (two) completed round 1 (one) to count.

7.6) In case of more than one driver recording identical best results of qualifications the next best result is taken.

7.7) In the case of more than one driver recording identical results in a final, the driver starting with the higher start number is classified as the faster, e.g. if number 5 and 2 have equal times, 2 is deemed to have higher final placing.

7.8) Starting order for the drivers who moved up to the final is based on number of laps and time.

7.9) Sedan drivers reaching the main final are obliged to supply two 700ml fuel samples to the scrutineers prior to being called into the pit lane for the start of the main final.
Once all finalists have assembled in pit lane, each car will be checked by the officials to make sure that they don't contain any fuel, and each will be attempted to be started.
Only once it has been confirmed that the car is void of fuel will one of their samples be released to the finalist.

8. RACE INTERUPTIONS

8) In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organisers, the jury will decide whether to cancel or continue the meeting.

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

8.2) In the case of an interruption of a sub final or final, the following procedure will be used.

A) If less than 10 minutes of a final has been run, the result will be cancelled and a new start given for the total time of the final.
Vehicles may be repaired before the new start.

B) If more than 10 minutes of the final have been run, the results at the moment of the interruption will be kept. The new start will be given for time which remains to be complete the final.
The two results will be added to give the final and definitive placings.

C) When the interruption takes place and 75% or more of the race is past, the results as at the time of interruption become the final result.
At the moment of the interruption of the race, the drivers will leave their vehicles in pit lane under the control of the race director. They may switch off the radio and stop the engine.
There will be no repairs carried out to the vehicle or changing of tyres.
Any driver who does not observe this rule will be immediately disqualified.

9. RAIN PROCEDURES DURING QUALIFING

9) The race director and the referees are jointly responsible for the decision to stop a race in the event of rain.

9.1) On the result sheet the race director (or appointed official) must mark a heat wet when the heat was raced under wet conditions. On the corresponding record sheet this must also be marked.

9.2) Heats are generally considered to be wet when average lap times are approximately 20% slower than before due to rain or moisture on the track.

9.3) When all drivers have had at least one dry heat, all results will be counted.

9.4) When weather and time permits, the race director may decide to offer an extra heat to those drivers who did not have a chance to drive a dry heat.

9.5) If all drivers have not had the chance to run a dry heat, only the wet results will be counted.

9.6) When continuation is judged to be senseless the race director together with the referees may decide to end a heat or cancel a complete heat.

10. RAIN PROCEDURES DURING FINALS

10) In the case of different weather condition during semi-finals, the final classification will be as follows.
The first five positions from each semi-final will progress to the main final

11. ACCIDENTS/CRASHES

11) In the event of an incident on track, the race director, or race referee, may make an announcement to advise the drivers to take caution through a section of the track.
All competitors are asked to show caution on track at this time.
This may be because there is an obstruction on track, or a marshal on track attempting to clear an obstacle. It could be a car requiring assistance, or even an item that may have been dislodged around the track, causing the obstacle.

11.1) Whilst every effort will be made to keep the drivers aware of any issues during the race and alert them of any problems that may arise, keeping an eye on the entire track across the running of an entire race can sometimes be difficult.

Because of this, it would at times at least appear sensible for a competitor who may have an issue whist driving on track, and they can see that by being unable to continue or move out of the position they have found themselves in, that it may cause a delay or an incident with another competitor.
It would seem sensible to announce to their fellow competitors a caution at that area of the track where they find themselves stopped.
This isn't to encourage yelling or shouting whilst competing, but if done sensibly to warn fellow competitors everyone would benefit.

11.2) If a car is required to be returned to the pits, the marshals will relay the car back via the outside of the track. It is not advisable to cross the track without cause.

11.3) Mechanics are not allowed to enter the track, they can receive the car from a marshal but must not leave the pit area.

11.4) A marshal may attempt to restart an engine three times beside the track but not repair the car. If the car does not restart the marshal shall return the car to the pits as mentioned above.

11.5) No person other than the Race Director is permitted to disturb the progress of other cars in the race.

11.6) Mechanics or Spectators entering the track from outside the pit lane to save a car will produce a penalty for that car.
Penalties can be given as stop and go or one lap penalty.
The referees will inform the Team Managers about the sort of penalty given.

11.7) If a driver is given a penalty, they have three laps to come in.
If the race ends before three laps have lapsed the driver will incur a 1 lap penalty.

11.8) If a driver receives three penalties during a race they will be disqualified.

11.9) Drivers, or a suitable substitute supplied by the driver, must marshal the following race. Failure to be in your marshalling position for the start of the warm-up for the next race will result in immediately losing your best round of qualifying at that time
(Organisers must allow drivers enough time between heats to fulfil their marshalling responsibilities)

12. TRACK and FACILITIES

12) No event will be run at a facility which does not have a permanent fence of at least 1 metre in height that eliminates the risk of any car leaving the racing precinct

12.1) Each competitor must be provided a pit area of no less than 1800mm X 600mm which must include power, lights, shade, a concrete floor.

12.2) Pitting areas must be directly adjacent to the track.

12.3) No event shall be run at a facility which does not have permanent and physical protection barriers for marshals in high-speed high-risk locations.

12.4) Tracks must have internal barricades which prevent (as far as reasonably practical) a car entering another lane or cutting corners

12.5) Pits must include car washing and compressed air facilities

12.6) Pits and pitting areas must have live monitors displaying race outcomes, and a PA system to effectively communicate with participants.

12.7) Facilities must provide toilets, hand washing, and first aid facilities.

12.8) Sanctioned events must be run at facilities which are the most compliant with the specifications as described by IFMAR rule 20150424 as endorsed by EFRA:

13. TRACK SURFACE and SURROUNDS

13) Track surface should be unsealed asphalt or coarse finished concrete with smooth joints, if any.

13.1) Length:
The minimum length is 250 metres/820 feet.
Advised is 300-350 metres/984 feet- 1148 feet.

13.2) Width:
The minimum width of the track is 4.5 metres/l5 feet between marking lines.
The maximum width is 6.5 metres/ 2l feet.
The marking lines must be 8-10 centimetres/3- 4 inches wide.

13.3) Podium:
Maximum distance from the middle of the drivers' podium to the furthest point of the track is 60 metres/l97 feet.
Minimum height of the drivers' podium is 2.5 metres/8 feet from track level and the podium is at least l0 metres/33 feet long. (10 Drivers)

13.4) Vision:
No obstacles may interrupt the vision from the drivers' podium to all parts of the track.

13.5) Markings:
A broken line may be painted in the middle of the straight to increase the vision.

13.6) Pits:
The refueling and pit area should be clearly distinct and separated from the main track and as close as possible to the drivers' podium.
A fire-extinguisher is mandatory.
Exit from, and entrance to the main track, is advised to be on a slow section of the track.
Drivers have to reduce speed while entering the pit area.

13.7) Design:
Track design must include both right and left turns and must have a straight of minimum 60 metres/l64 feet.

13.8) Outside barriers:
Outside barriers must provide positive means of stopping a car when missing a corner or out of driver's control. The consideration at selection of the outside barriers shall be the protection of the spectators and not the cars, although, if both can be obtained, it is ideal. The outside barriers must be at least 40 centimetres/l6 inches away from the marking lines of the track. A solid fence of one (1) metre/3.30 feet in height must be placed behind the outside barriers made from a material to stop an out-of-control car.

13.9) Inside Barriers:
Inside barriers must avoid short cutting of corners or cars getting on other parts of the track.
Inside barriers must be positioned and dimensioned to avoid cars flying over the outside barriers into the public.
Inside barriers must be smooth and must be 20 cm/8 inches away from the marking lines on the track.

13.10) Dots:
No dots will be used on high-speed sections.

13.11) Surroundings:
The inner and outer surroundings of the track must have grass or other suitable materials, such as concrete.
The object of these surroundings is to slow down the car that leaves the track.
The car must be able to leave the infield or outfield on its own to minimize marshal assistance.

13.12) Starting Line:
A starting line must be painted across the track, preferably in front of the time keeping.
The starting line must be located more than 10 metres/33 feet away from the first corner.

13.13) Formula-One start:
The grid will be painted on the track, preferably on the straight.

Two (2) rows of numbered boxes will be located on the track with approximately 2.5 metres-3 metres/ 8.20 feet-9.84 feet space between each row.

On one side, the boxes will be numbered 1, 3, 5 etc. and on the other side 2, 4, 6 etc.
No. 1 box is situated 3 metres/9.84 feet in front of No. 3.
No. 2 stands 3 metres/9.84 feet in front of No. 4 etc.
The boxes should have a width of 50 centimetres/19.68 inches.

14. PROTESTS

14.1) PROTESTS
In general, if a competitor wishes to make a protest during a meeting, they must make a written protest to RCRA with a deposit of $50AU.

If the protest is upheld, this deposit is refundable.
If the protest is dismissed, this deposit is forfeited.

TECHNICAL SPECIFICATION 2025

510 4WD

The purpose of these technical specifications is to enable drivers to compete in a controlled class, which offers both a low cost and a level playing field.
No modifications are permitted other than the modifications, options and aftermarket parts as listed in these technical specifications.
The intent of this class is that it be an out of the box class with minimal modifications allowed.
Each approved modification from stock will be listed in these rules, approved optional parts will be shown with **.
(If a modification is not listed, it is not allowed. I.e. Aftermarket alloy screws, coloured washers, home built parts etc.)

1. TECHNICAL SPECIFICATIONS

1) The large scale 510 4WD, apart from the listed optional parts, must be presented in stock condition.

1.1) The term 510 4WD --- Refers to the original (OEM) 510 4WD.

1.2) The term OEM --- Refers to original specified parts or specification from the manufacturer

1.3) The term Stock Condition --- As supplied from the original (OEM) 510 4WD

1.4) Minimum weight (without fuel) is 10kg

1.5) Wheelbase is 510mm only

1.6) An electrical failsafe kill switch can be fitted to the car.

The only function this switch can perform is shutting the engine off remotely via the transmitter or automatic engine shut off if radio contact is lost.
(This function must be demonstrated at Technical Inspection)

1.7) Any other electronic or hydraulic systems are not allowed in/on the car, with the exception of a transponder and electronic kill switch, to stop the car in case of radio failure.

1.8) The position of the ignition cut out switch must be marked on the body shell with a white circular decal, 30mm in diameter, outlined in red with a red E in the centre.

The switch must remain in the manufacturers original position, be functional and not modified.

1.9) Side intrusion bars if fitted must be made of nylon, plastic, carbon fibre or aluminum angle (Bunnings I/N: 1067823) 20x12x1.4mm thick only.

Any manufactured side intrusion bars MUST have all corners rounded and sharp edges removed.

1.9.1) The use of extra 4mm washers is allowed.

1.10) SERVO'S & RADIO:
Transmitter/receiver, servos and batteries are open.

Maximum two servos are allowed, a single steering, and one brake /throttle servo.
No other function/s other than steering, throttle/brake is permitted to be used on the radio controller by the driver.

1.11) BODY:
The large scale 510 4WD Mini /BMW M3/Porsche body has to be a genuine scale in appearance and be a true represented model of a 1:1 racing Mini Cooper/BMW M3/ Porsche.

The body must be securely fixed in position using body posts and clips, front and rear. Body side fixings can be using body clips or Velcro fasteners or similar.
At all times, the body must cover the outer edges of the wheels at the centre of the axle when viewed from the top.

1.12) BODY CUT OUTS:
It is compulsory to cut out the 2 front side door windows.

A) Option #1: To remove rear windscreen, or part thereof.
B) Option #2: Cut out one or both side rear windows – Rear windscreen must remain
NOTE: **Only one option can be selected not both, the front windscreen must remain at all times.
NOTE: ***Scrutineering may request any tuning holes in side window to be covered during the event- limited to one 10mm hole.

1.13) The body shell must be painted or wrapped with all windows to remain clear.
All parts of the car have to be covered by the body.
Only the radio antenna, body posts, body pins and body options i.e. mirrors wipers etc., may protrude outside of body.
NOTE – Bodies must be presented in a safe condition with no pinch points around the pickup areas e.g. window cut-outs and securely clipped to mounting posts.

1.14) You are not allowed to modify the body by cutting it over the marked trim lines or to widen it by heating it or parts of it.

1.15) The OEM 510 4WD Mini Cooper, BMW M3 and Porsche bodies are approved for use.
(Original Equipment Specified from the Manufacturer)

1.16) BODY SHELL LIST:
BMW M3 FG08059
Mini FG05180
Porsche FG 05170/5
SCS Porsche GT3 ST03 (part # EFRA 5077/25) "Please note the lightweight version is not allowed".

1.17) WING / SPOILER:
Only wings or spoilers supplied with the original 510 4WD Mini, BMW M3 and Porsche body shells are permitted.
Wings cannot be switched between body makes.
No angle changes or modifications are allowed to wing or mounting.

1.18) BUMPER:
Foam must be attached to front bumper securely and fitted to suit front of the 510 4WD body, with a minimum 15mm foam overhang forward of plastic bumper

1.19) CLUTCH:
The clutch must be a non-modified standard two shoe clutch as per OEM specified with the 510 4WD with no adjustment capability.

**An optional aftermarket clutch spring is allowed, it must not exceed 9500 RPM with a tolerance of + 5% on engagement.
Clutch engagement will be checked at Technical Inspection

1.20) BRAKES:
The 510 4WD has to have a functioning mechanical brake, which has to be capable of keeping the car stationary whilst the engine is running.

Front: Only cable activated brakes with pressed steel rotors are permitted.
(as per 5104WDOEMspecification).

Rear: Lay shaft brake only.
6041/05 hardened lay shaft may be used

1.21) SHOCKS and SPRINGS:
Original Shock absorbers must not be modified in any manner.
Only the following optional springs are allowed:

**Part Number: 07182 – Yellow
**Part Number: 07183 – Red
**Part Number: 07184 – Blue
**Part Number: 07185 - Violet
** Part Number: 07193 – Yellow Progressive 58mm
** Part Number: 07197-- Yellow Progressive 68mm
Shock oil is open.
Plastic shock adjusting 16mm rings can be used as an optional part: **Part Number: 07205/06.

1.22) SWAY BARS / ANTI ROLL BARS:
Only original sway bars as per OEM Sports line 510 4WD may be fitted front and rear.

1.23) FUELTANK, SEAL and LID:
FG OEM fuel tank must be used (capacity, 700ml)

Fuel tank lid can be modified or replaced to prevent fuel leaking.
Can also use Optional fuel tank cap set FG-08385

1.24) DRIVE LINE:
The 4-wheel drive system (drivetrain) and chassis for the 510 4wd are to be of the originally specified design, as supplied by the manufacturer and not be modified.
**Optional 5mm OEM Chassis with part #69200/06
in place of the original 4mm chassis part# 69200
** Optional CV (Constant Velocity) joints for the front-end drivetrain part number 68415 may be used in place of original front drive shafts.
*0607905 8mm rear axle shafts are allowed.
**5 bearings measuring 10x15x4 are allowed on the rear belt tensioner when the new style drive belt Part Number 66237 has been installed. Replacing 3 bearings measuring 10x19x7. No Ceramic bearings are allowed. No other modification is allowed to the driveline. Cars can be inspected by scrutineering if deemed to roll to freely on performing a roll test. Variable ratio transmission is not allowed.

1.25) WHEELS and TYRES:
Tyre cleaner or additives of any kind must not be used.
No tyre warmers of any type are permitted
Various wheel squares/blocks are allowed, as long as the vehicle meets the width requirements, and that the wheels stay inside the body.

Dry Weather Tires:
A maximum of two complete sets (4 pairs)
PMT SUPREME V2 MEDIUM
GRP XS5 (Also GRP S5 are Allowed with the above rule set).
PMT SUPREME V4-Q05 (New Compound for 2024)

Wet Weather Tires:
Choice of PMT or GRP Wet Tyres Allowed one set (two pairs).
These can be used only when the track is declared wet by race control.
All tyres must be presented prior to scrutineering for security marking.
Once tyres are presented, a compound change cannot be made during the event.
Only the tyres that are marked can be used.
No mixing of brands or compounds allowed, all four tyres must be the same brand, front and rear.
All presented tyres need to have original tyre compound code sticker.

1.26) DIFFERENTIAL:
Only original OEM specified 510 4WD differentials with plastic cover and housing are allowed.
For durability the following optional parts are approved for use as well.
A) **Part Number: 08484–ALLOY DIFFERENTIAL CONVERSION KIT
B) **Part Number: 68405/01 – 4WD ALLOY DIFFERENTIAL CONVERSION KIT

Alloy Housing open centre diffs are permitted.
Output gear on differential is to be as original OEM specified (48 Teeth).

No adjustable differentials or limited slip type differential or inserts are permitted.
Differentials must not be locked.

Also, no mechanical modifications: i.e. springs, washers are to be used in the differential.

No front one-way clutch differentials allowed.

1.27) GEAR RATIO:
OEM specified gear ratio to remain being --- 24/40 (LAY SHAFT), 15/48 (DIFFERENTIAL)

For durability the following optional parts are approved for use
**Part Number: 07439 --- ALLOY GEAR CARRIER 52mm --- SPECIAL
**Part Number: 07439/05--- ALLOY GEAR CARRIER 52mm
For durability the following optional aluminum gear plate assemblies (2 components) are approved for use 510 4WD.
**Part number--- FG07474 ALLOY GEAR PLATE and FG07040/01--- ALLOY BRAKE CALIPER

1.28) BEARINGS:
Only standard bearings as original OEM specified with the 510 4WD are to be used
High speed and ceramic bearings are not permitted.

1.29) FUEL:
Fuel must be petrol/gasoline (91 to 98 octanes) normally available at automobile service stations.
Special fuel like avgas, race fuel etc, is strictly forbidden. The only additive allowed is oil.

1.30) ENGINE:
The engine is to be a stock, Zenoah G270-4 bolt, G260 – 2 bolt, CYR260 – 4 bolt, non-modified single cylinder, 2 stroke, maximum 26cc as supplied by the OEM 510 4WD manufacturer must not be tampered with in any manner.

Should an engine require repair or replacement during the event then that engine is to be presented with replacement parts to scrutineering.

In the event of major engine issues, rules allow replacement of, barrel, piston, ring, gaskets, standard carburetor, or other issues at the discretion of appointed scrutineering group and under scrutineering supervision
All engines must be presented for sealing prior to the start of the event.
Engines may be stripped down and measured for legality at major events after the completion of the main final

Permitted carburetors include WT603, WT668 & WT997 (Must have operating choke lever)
Throttle shaft bearings are allowed for use on the above carburetors.
The maximum venturi diameter of the carburetor is limited to 13mm/0.51 inch.
An air filter must be fitted to the carburetor.
An air filter outer cover may be used.

All ignition timing must be mechanically fixed as originally supplied by OEM 510 4WD manufacturer.
No Battery-operated ignition allowed, only a passive ignition system using R.P.M. as the single input parameter is allowed.

The Cylinder block must be of a single casting, no independent liners or slipping liners are allowed.

The maximum number of admission/transfer ports is limited to four (4).

Engine must be air-cooled, the air being driven directly by the flywheel.
The flywheel is not to be modified in anyway.

The crankshaft must be of split shaft configuration, with enclosed big end.
No half crankshafts allowed.

All engines must be presented with an engine seal with serial number at scrutineering
**Optional alloy items allowed:
(A) Small engine mount. Part Number: 06485/01 in place of OEM supplied plastic mount.
(B) Lay shaft mount. Part Number: 66215 Aluminum Engine/Lay shaft Mount

1.31) NOISE REDUCTION SYSTEMS:
The application of this rule is at the discretion of the organising club through the Race Director and must be applied and advertised prior to issuing or accepting race entries.
All 510 4WD's must be equipped with OEM specified/supplied Foam Filter to reduce the intake noise of the carburetor.

1.32) EXHAUST:
Standard OEM specified 510 4WD alloy tuned side mounted 3-unit (chamber) pipe. (OEM Supplied)
If a car produces a noise level much more than the other cars, it is at the Race Director's discretion on whether this car is allowed to continue in the race.
No open exhausts or pipes are allowed.
The total exhaust must be inside the body.
A 7.5% + tolerance for pipe capacity allows for pipe repair work. I.e. 50mm
+7.5%= 53.75mm, over this tolerance would requires pipe to be repaired or replaced.

TECHNICAL SPECIFICATION 2025

LARGE SCALE FORMULA ONE

1. TECHNICAL SPECIFICATIONS

1) PAINTWORK
Paintwork and colour are free.

1.1) SUSPENSION
The visible suspension parts must have the same appearance as the full-scale FIA F1 cars.

1.2) SIDEPODS
For Formula 1 cars the side pods must be used for the starting number.
The width of the side-pods must be min10% less than the overall width and should not be higher than the tyres.

1.3) BODY CUT OUT:
Body cut outs are limited to openings that exist on full scale FIA F1 cars.
However specific cut outs for the engine and fuel tank are allowed.
These are allowed in the area of the fuel tank cap, starting device and adjusting screws for carburetor i.e. choke/idle etc.

1.4) DIMENSIONS and WEIGHT
Minimum weight dry: 10 kg
Width maximum: 450 mm (including tyres)
Height maximum: 250 mm
Wheelbase: 620 mm +/-15 mm

1.5) FUEL TANK:
Fuel tank capacity: 700 cm^3 (including pipes to & from the carburetor and any fittings)

1.6) TYRES/TREATMENT and RIMS:
Front tyre diameter: 142 mm +/- 5% = (134.9 -149.1mm)
Rear tyre diameter: 142 mm +/- 5% = 134.9 -149.1mm)
Tyre width front: min. 60mm (max=75mm)
Tyre width rear: max. 85mm, (rear wheels must be min 5mm wider than front wheels)
Rims outside diameter: 80mm +/-5mm
Tyres have to be black, the design of the tyre profile is free.
Tyres must be semi-pneumatic rubber, and they must be moulded in one piece.
It is prohibited to treat the tyres in a racing facility. This means it is clearly forbidden.
If someone treats their tyre off-site, it is recommended that the chemical components of these products must be harmless for people and environment.
Liability of the use of tyre additives lies with the user and manufacturer.

Oil of wintergreen, paragon and other strong-smelling products are prohibited
No tyre will be measured after the race.
In case of rain the use of rain tyre can be allowed by the race director.

1.7) FRONT WING:
Max width 450 mm max. Cord, 120 mm.
The front wing must be fixed at the chassis so that it can bend up or down in case of an accident.
The front part of the car should not overhang the centre of the front wheel by more than 230 mm.

1.8) REAR WING:
The rear wing must fit into a side profile box of 95x120 mm.

The number of added wings inside is free.

The rear wing must not be wider than the space between the rear tyres.

The rear wing and the diffuser should not overhang the car by more than 120 mm.

Movable upper formula1 wing (DRS) can be operated together with brake or throttle function.
A separate radio channel to operate DRS is not allowed.

1.9) F1 WINGS:
Front and rear wing are part of the body shell of a F1 car and must be repaired immediately if they get damaged or come off the car.

2. ENGINES/FUEL/IGNITIONS

1) ENGINE ALLOWANCE
Two engines may be entered into any event.
If a driver changes an engine, they must notify the race director and will be given a 5 second stop and go penalty. This must be taken within the first four laps of their next final.

1.1) ENGINE IMPOUND
The original engine must be impounded if a driver changes engines.

2.2) ENGINE REPAIR
An engine can be repaired in front of a technical scrutineer providing the engine seal has not been broken and it has been previously registered prior to qualifying.
If this occurs the driver will incur a 5 second stop and go penalty this must be taken within the first four laps of their next final.

2.3) ENGINE SPEC and CAPICITY
The engine is to be a single cylinder, 2 or 4 stroke, and maximum 26cc.

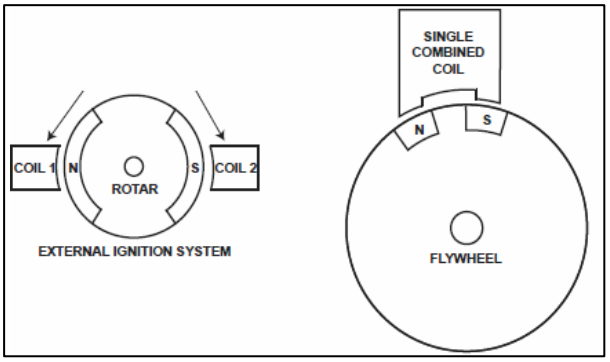
2.4) ELECTRIC STARTERS
Electric starters can only be used in the pit lane and under no circumstances to be used on the racetrack.

2.5) FLYWHEEL COVER
There must be a secure protection on the flywheel cover to prevent people touching the flywheel or moving parts.

2.6) FLYWHEEL POLES
The flywheel can only have one pair of magnetic poles (i.e. one north and one south).

2.7) ENGINE INDUCTION etc
No Turbo charging, fuel injection, supercharging.
Wankel or rotary valve/ distribution engines are allowed.

2.8) IGNITION ADJUSTMENT
All ignitions must be mechanically fixed, only manual static adjustment is allowed.

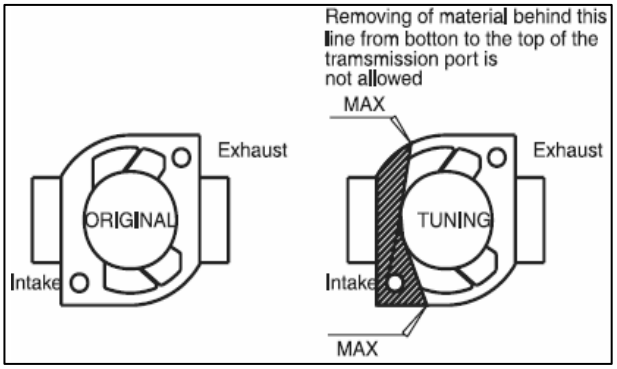


2.9) IGNITION TYPE
No Battery-operated ignitions allowed.
Only a passive ignition system using R.P.M. as the single input parameter is allowed.

2.10) PORTS
Only open deck admission ports are allowed.

2.11) PORT NUMBERS
The maximum numbers of admission/transfer ports is limited to four.
This does not include the intake port

2.12) PORT MODIFICATION
The removal of material is free if the modified shape of the transfer/admission port walls are in the direction of the cylinder bore at all times.



2.13) CYLINDER BLOCK
The Cylinder block must be of a single casting.
No independent liners or slipping liners are allowed.

2.14) ENGINE COOLING
Engine must be air cooled the air being driven directly by the flywheel.

2.15) CRANKSHAFT
The crankshaft must be of split shaft configuration, with enclosed big end.
No half crankshafts allowed.

2.16) AIRFILTER
An air filter must be fitted to the carburetor.

2.17) CARBURETTOR VENTURI
The maximum venturi diameter of the carburetor is limited to 13 mm.

2.18) FUEL
The only fuel admitted for use will be petrol normally available at street petrol stations.
Special fuel's like Avgas, race fuel etc. are strictly forbidden.

2.19) FUEL ADDITIVE
The only additive allowed is mass production, two stroke oil.
Technical inspection may ask for a sealed bottle of that oil, to check it.

2.20) FUEL IRREGULARITIES
If a fuel is found suspect, the driver will be asked to mix his fuel at technical inspection, so it can be verified.

2.21) FUEL SUPPLY
If an organiser can provide fuel at the track, all competitors must use this fuel. The price of this fuel must not exceed the normal street price by more than 5%.
Fuel tests may be made at random during the race. If a fuel is found illegal, the driver will be disqualified from the particular event, and they will not be allowed to enter an RCRA Large Scale event for the remainder of the current year and the full 12 months of the following year.

2.22) FUEL TESTING
The fuel tester must be available to the competitors during the event.

2.23) REFUELLING
No refueling allowed during racing for all cars.

3. EXHAUST/NOISE REDUCTION

1) MAXIMUN NOISE LEVEL
Maximum noise level is 81dB measured at ten metres and one metre above the track.

1.1) EXCEEDING NOISE LEVEL
If a cars average over 10 or more laps, exceeds the limit during the qualifying, then the driver will lose their best qualifying result. If this level is exceeded during a final, then the penalty is a 1 lap deduction at the end of that final. Under exceptional circumstances common sense will be used. (Average will be taken with an additional +4db for all classes)

3.2) NOISE LEVEL REFEREE
Both the Race Director and Referees can decide if any car producing excessive noise is allowed to race.

3.3) EXHAUSTS
Exhausts must be of minimum three chamber type.
No open exhausts or pipes are allowed.

3.4) EXHAUST MOUNTING
The total exhaust must be inside the body, except for the tail end of the pipe, which must exit within the body shell side pods and point down to the track.

3.5) MANIFOLD
No adjustable or moving parts are allowed in the manifold or muffler.

3.6) EXHAUST OPTIONS
The exhaust may have a second muffler (if a two-chamber exhaust is used) or be a three-chamber type muffler. All three chambers must be designed so that the exhaust fumes will pass through and have to change direction twice to get the maximum possible noise reduction. The design of that additional silencer is free, but with both systems together, the max. Noise level must not be over 81 db.

3.7) AIRBOX
All cars must be equipped with an air- box to reduce the intake noise of the carburetor.
The air box must change the direction of air entering the carburetor by 90 degrees (or more) and be made of a rigid material.

4. CAR

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

1.1) MECHANICAL FAILSAFE
A mechanical fail-safe must be fitted to the carburetor which returns the throttle to a closed position in case of the throttle linkage being broken.

4.2) ELECTRONIS FAILSAFE
The use of an electronic fail-safe system is highly recommended.

4.3) TRANSMISSION
Variable ratio transmission is not allowed.

4.4) DRIVE CONFIGURATION
Only 2WD (rear-wheel drive) drive cars are allowed.

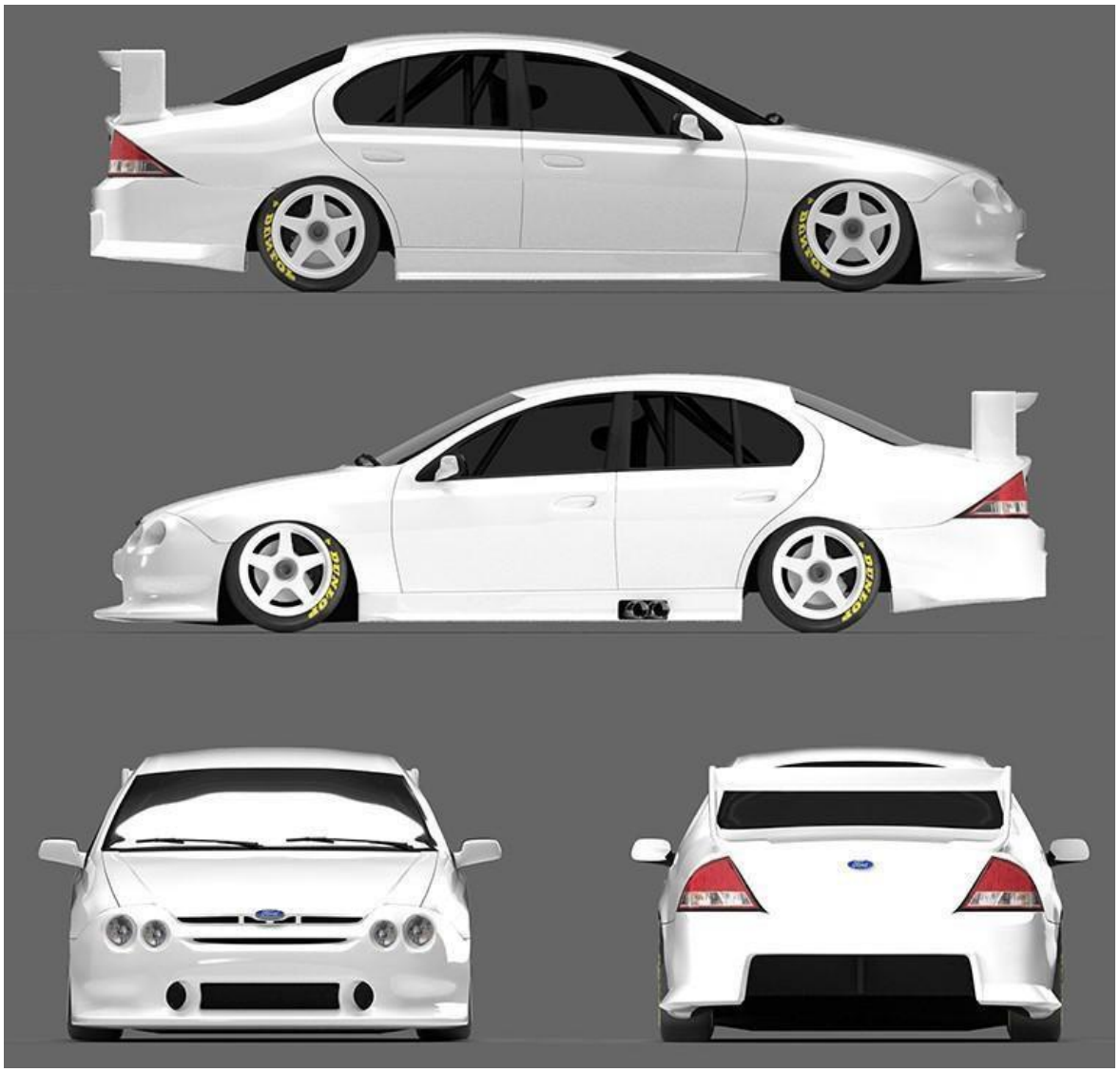
4.5) IN CAR ELECTRICS
No other function than steering and throttle/brake are allowed to operate with radio control by the driver. Any other electronic or hydraulic systems are not allowed in the car, except for electronic fail save to stop the car in case of radio failure and the hydraulic brake system.

4.6) KILL SWITCH
The ignition kill switch must be in its original place on the engine and the window on this side must be cut. The position must be market with an E (size 20mm) on the body shell.

TECHNICAL SPECIFICATION 2025

LARGE SCALE TOURING CARS

There is one series recognized in accordance to the 1:1 scale series namely the Touring Car Championship Series, following FIA class 2 Super Touring Car, FIA Group N and Touring Cars Super 2000.
Touring cars raced in national series like Australian V8 Supercars, CTCC, German Pro-car, Italian Super Stars will also be allowed with the only restriction that rear wing has to follow the specifications described herein.



1. TECHNICAL SPECIFICATION

1) DEFINITION
All 1:5 cars must be genuine to scale in all details and proportions and be a fully detailed model of an existing 1:1 touring race car.
Mixtures of car designs are not allowed

1.1) DIMENSIONS and WEIGHT
Minimum weight, without fuel: 10kg, Maximum weight, without fuel: 12kg
Width: max. 395 mm measured at the widest point of the body shell
Height: within scale +/- 5%
Length: min 798mm, +/- 5%

1.2) TYRES/TREATMENT and RIMS:
Rim Diameter max: 107mm
Rim and fitted tyre Diameter max: 136mm
Rim and fitted tyre width - front max: 75mm
Rim and fitted tyre width - rear max: 80mm

Only semi pneumatic rubber is allowed. Foam tyres are not allowed.

Tyres have to be black. The design of the tyre profile is free.

It is prohibited to treat the tyres in a racing facility. This means it is clearly forbidden.
If someone treats their tyre off-site, it is recommended that the chemical components of these products must be harmless for people and environment. Liability at the use of tyre additives lies at the user and manufacturer.
Oil of wintergreen, paragon and other strong-smelling products are prohibited

1.3) BODIES
All bodies that are produced world-wide must descend from an original touring car racing and are commercially available. Only body shells that are approved by EFRA or otherwise approved in Australia (See Australian Body List) will be allowed to race in RCRA sanctioned events.
The EFRA homologation number must be permanently engraved or moulded within the space normally used for a car registration number plate at the rear end of the model.

All openings in the body must also be in relation to the existing 1:1 race car.

You are not permitted to modify the car body by cutting it over the marked trim lines or to widen it by heating it or parts of it. This also applies to attempting to mould air channels into the side windows to guide air into the interior.

The body shells have to be painted or wrapped and all windows to remain clear.

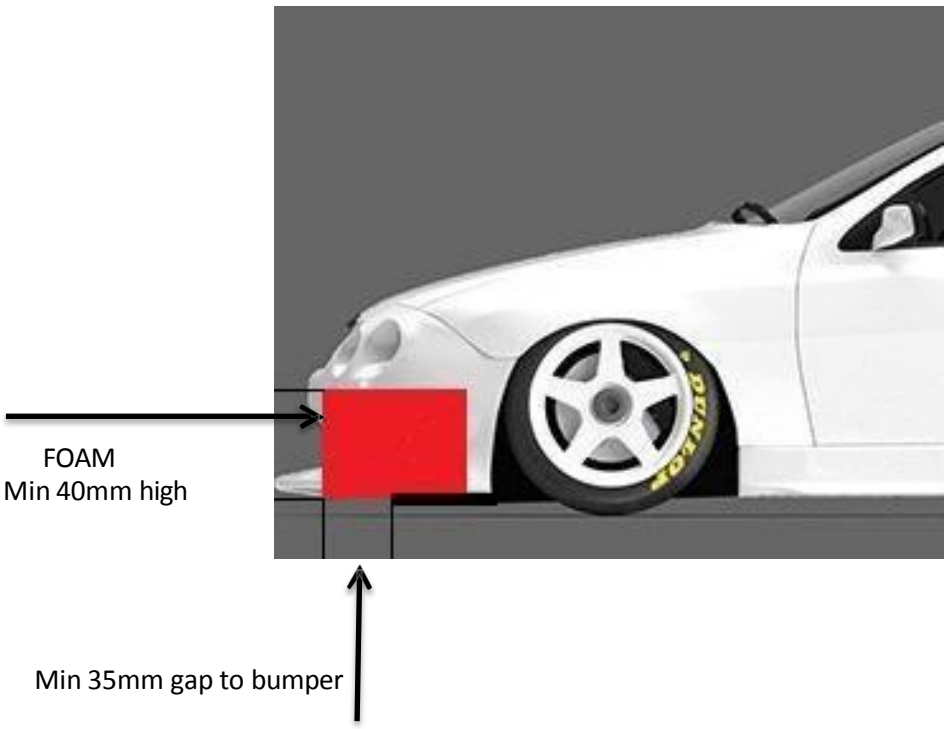
It is not permitted to cut the windscreen out, however, the side and rear windows may be cut out for cooling.

All parts of the car must be covered by the body. The radio antenna is allowed to come outside.

The minimum weight of the body is 500g
(Ready to race. Including wing but excluding any air ducting).
Weights are NOT allowed to be added to the body.

The body must be properly fixed to the chassis and must cover the outer edge of the wheels at the centre of the axle when viewed from the top.

1.4) BUMPER:
A bumper must be fitted to the chassis.
Bumpers must be designed in a way that they fill the front of a car body and be a minimum height of 40mm. The material used has to be flexible/elastic in order to absorb impact energy.
At no point may any part of inflexible material for body shell mounting, protrude from the body more than 10mm.
If an opening is created through the bumper for cooling air, the combined thickness of the bumper material (above and below the cooling hole/slot) must still be a minimum of 40mm in height.
In other words the thickness of material above the hole/slot, added to the thickness of the material below the hole/slot, must total a minimum of 40mm.



1.5) GROUND CLEARANCE:
The measurement of ground clearance is 6mm.
This is inclusive of the whole car, chassis and body when correctly mounted to the car.

1.6) WING MOUNTING
Additional elevation or spacing up of the wing is allowed to mount it to the body. However anything that is used would be considered part of the wing, so it would be taken into account when a dimensional measurement is taken of the wing.
(EG, if a 5mm spacer was used to elevate a wing upon mounting, the separate wing could only measure 55mm to still be considered a legal size to fit the 60x60 profile box).
For GT Shells, the mounts are to be as depicted on the 1:1 GT race car. The measurement process should be able to be achieved with the wing on a flat surface. No twisting or such is allowed to manipulate the wing passing through the template, but the template should be allowed to follow any curve that may exist in the design of the wing, if one does exist.

1.7) WING/SPOILER:
For GT Shells, the rear wing must be within % scale for the body. It can overhang the rear of the car as depicted on the 1:1 GT race car. The wing must be an un-modified commercially available wing and must be no wider than the body shell. All parts of the wing must remain under the roof line of the body.
For Touring Cars, the wing has to fit in a “side profile box” measuring 60 mm x 60mm and be no wider than the body shell.
If during tech inspection it is difficult to accurately measure the wing. A tech representative may ask for it to be removed from the body to assist in defining its legality.
The wing does not necessarily have to be perfectly straight it may in fact have an arc in its design, not unlike early model V8 Supercars. However, anything that has been attached to the wing is considered part of it. This includes side, or centre mount devices, and end plates.

All these items will form part of the wing and must pass through the 60mmx60mm template.
A single rear wing is permitted and must be mounted so as not to overhand the very rear most part of the body shell (in most cases, this is the rear bumper).
The wing does not necessarily have to be perfectly straight it may in fact have an arc in its design, not unlike early model V8 Supercars. However, anything that has been attached to the wing is considered part of it. This includes side, or centre mount devices, and end plates.

All these items will form part of the wing and must pass through the 60mmx60mm template.

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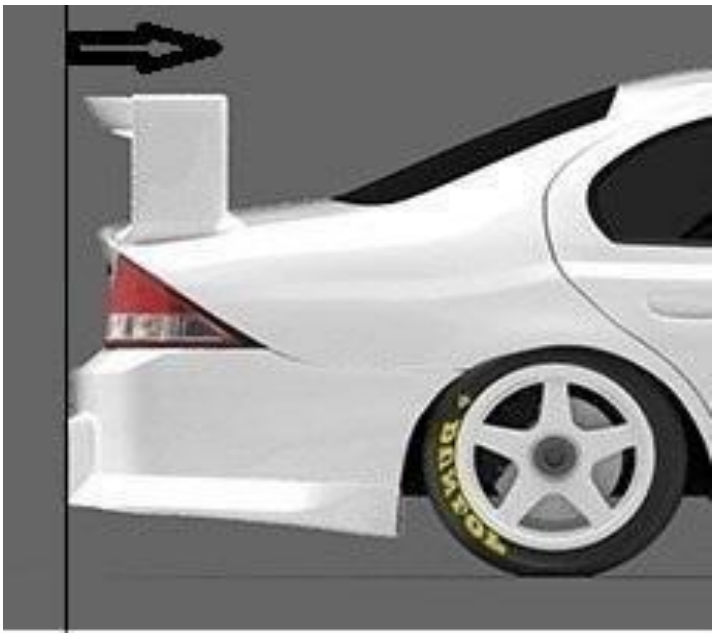
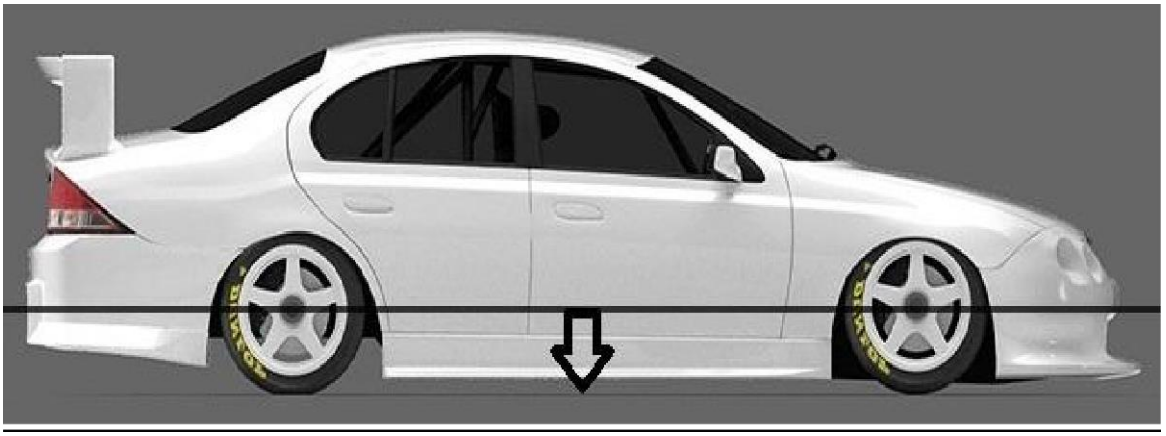


1.8) ONLY ALLOWED FOR MANUFACTURES:
Aerodynamic modifications at the front, the sides and the rear below the wheel hub centre are free subject to the requirements for ground clearance, overall length and overall width.
The modifications have to correspond to the original. The materials must be the same as that of the body shell.



2. ENGINE/FUEL/IGNITIONS

1) ENGINE TYPES
Reed valve engines are permitted for the sedan class.

1.1) ENGINE ALLOWANCE
Two engines may be entered into any event.
If a driver changes an engine, they must notify the race director and will be given a 5 second stop and go penalty. This must be taken within the first four laps of their next final.

2.2) ENGINE IMPOUND
The original engine must be impounded if a driver changes engines.

2.3) ENGINE REPAIR
An engine can be repaired in front of a technical scrutineer providing the engine seal has not been broken and it has been previously registered prior to qualifying.

If this occurs the driver will incur a 5 second stop and go penalty this must be taken within the first four laps of their next final.

2.4) ENGINE SPEC and CAPACITY
The engine is to be a single cylinder, 2 or 4 stroke, and maximum 23cc.

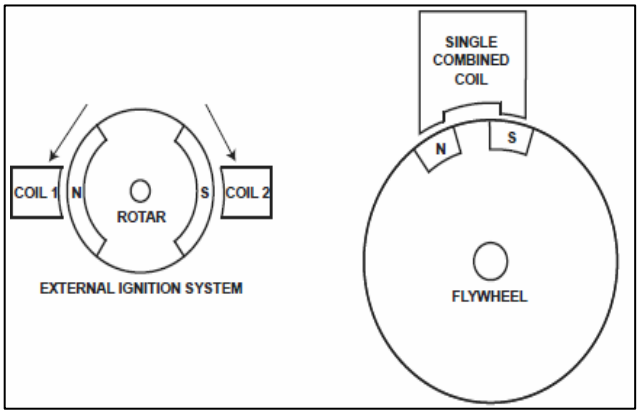
2.5) ELECTRIC STARTERS
Electric starters can only be used in the pit lane and under no circumstances to be used on the racetrack.

2.6) FLYWHEEL COVER
There must be a secure protection on the flywheel cover to prevent people touching the flywheel or moving parts.

2.7) FLYWHEEL POLES
The flywheel can only have one pair of magnetic poles (i.e. one north and one south).

2.8) ENGINE INDUCTION etc
No Turbo charging, fuel injection, supercharging
Wankel or rotary valve/ distribution engines are allowed.

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

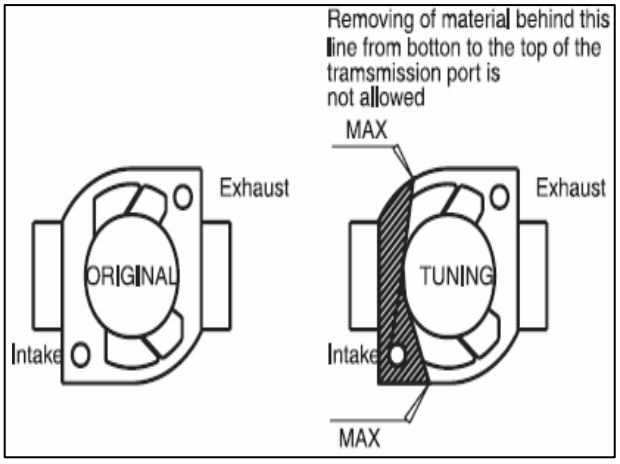


2.10) IGNITION TYPES
No Battery-operated ignitions allowed.
Only a passive ignition system using R.P.M. as the single input parameter is allowed.

2.11) PORTS
Only open deck admission ports are allowed.

2.12) PORT NUMBER
The maximum numbers of admission/transfer ports is limited to four.
This does not include the intake port

2.13) ENGINE MODIFICATIONS
The removal of material is free if the modified shape of the transfer/admission port walls are in the direction of the cylinder bore at all times.



2.14) CYLINDER BLOCK
The Cylinder block must be of a single casting.
No independent liners or slipping liners are allowed.

2.15) ENGINE COOLING
Engine must be air cooled the air being driven directly by the flywheel.

2.16) CRANKSHAFT
The crankshaft must be of split shaft configuration, with enclosed big end.
No half crankshafts allowed.

2.17) AIR FILTER
An air filter must be fitted to the carburetor.

2.18) CARBURETTOR VENTURI
The maximum venturi diameter of the carburetor is limited to 13 mm.

2.19) FUEL
The only fuel admitted for use will be petrol normally available at street petrol stations.
Special fuels like Avgas, race fuels etc. are strictly forbidden.

2.20) FUEL ADDITIVES
The only additive allowed is mass production, two stroke oil.
Technical inspection may ask for a sealed bottle of that oil, to check it.

2.21) FUEL IRREGULARITIES
If a fuel is found suspect, the driver will be asked to mix his fuel at technical inspection, so it can be verified.

2.22) FUEL SUPPLY
If an organiser can provide fuel at the track, all competitors have to use this fuel. The price of this fuel must not exceed the normal street price by more than 5%.
Fuel tests may be made at random during the race. If a fuel is found illegal, the driver will be disqualified from the particular event, and they will not be allowed to enter an RCRA Large Scale event for the remainder of the current year and the full 12 months of the following year.

2.23) FUEL TESTING
The fuel tester must be available to the competitors during the event.

2.24) REFUELLING
No refueling allowed during racing for all cars.

3. EXHAUST/NOISE REDUCTION

1) MAXIUM NOISE LEVEL
Maximum noise level is 81dB measured at ten metres and one metre above the track.

1.1) EXCEEDING NOISE LEVEL
If a cars average over 10 or more laps, exceeds the limit during the qualifying, then the driver will lose their best qualifying result.
If this level is exceeded during a final, then the penalty is a 1 lap deduction at the end of that final.
Under exceptional circumstances common sense will be used.
(Average will be taken with an additional +4db for all classes)

3.2) NOISE LEVEL REFEREE
Both the Race Director and Referees can decide if any car producing excessive noise is allowed to race.

3.3) EXHAUST
Exhausts have to be of minimum three chamber type.
No open exhausts or pipes are allowed.

3.4) EXHAUST MOUNTING
The total exhaust must be inside the body, except for the tail end of the pipe, which may protrude out the body by no more than 10 mm.
The body may be cut out at that point max. 20 mm more than the tail end diameter.
Max. Inside diameter tail end 13 mm.

3.5) MANIFOLD
No adjustable or moving parts are allowed in the manifold or muffler.

3.6) EXHAUST OPTIONS
The exhaust may have a second muffler (if a two-chamber exhaust is used) or be a three-chamber type muffler. All three chambers must be designed so that the exhaust fumes will pass through and must change direction twice to get the maximum possible noise reduction. The design of that additional silencer is free, but with both systems together, the max. Noise level must not be over 81 db.

3.7) AIRBOX
All cars to be equipped with an air - box to reduce the intake noise of the carburetor.
The air box must change the direction of air entering the carburetor by 90 degrees (or more) and be made of a rigid material.

4. CAR

1) BRAKE
The car must have a functioning brake, which must be capable of keeping the car stationary whilst the engine is running.

1.1) MECHANICAL FAILSAFE
A mechanical fail-safe must be fitted to the carburetor which returns the throttle to a closed position in case of the throttle linkage being broken.

4.2) ELECTRONIS FAILSAFE
The use of an electronic fail-safe system is highly recommended.

4.3) TRANSMISSION
Variable ratio transmission is not allowed.

4.4) DRIVE CONFIGURATION
Only 2WD (rear-wheel drive) drive cars are allowed.

4.5) IN CAR ELECTRICS
No other function than steering and throttle/brake are allowed to operate with radio control by the driver. Any other electronic or hydraulic systems are not allowed in the car, except for electronic fail save to stop the car in case of radio failure and the hydraulic brake system.

4.6) KILL SWITCH
The ignition kill switch must be in its original place on the engine and the window on this side must be cut. The position must be market with an E (size 20mm) on the body shell.