Specifications

DIVISION 5A

RSA Outlaw Sedans

Publication Date:

August 2024

RSA Titles Policy

- On a state title event date for a RSA division, no race car registered for that division may race or practice at another venue on the same date using a logbook for the division that is holding the title.

- If a state title event is CANCELLED or POSTPONED for any reason and re-scheduled for a later date, the above restriction does not apply to the re-scheduled date (i.e. if the title event moves to another date, race cars registered for that division may race or practice at another venue on the re-scheduled date using a logbook for the division that is holding the title).

- Dual-registered race cars may race or practice using a logbook for a division that is not holding a title on the same day.

- Roof numbers may be changed to avoid duplicate numbers, car numbers must be displayed on front sun visor and rear taillights/ boot lid - minimum height 75mm.

RSA DIV 5A OUTLAW SEDANS SPECIFICATIONS

Introduction

a) Racing Sedans Australia shall direct the enforcement of these specifications in every aspect. The RSA Executive Committee in consultation with the RSA Div. 5a Chief Technical Officer and Technical Advisor/s shall together be the authority for the interpretation of the specifications contained within and any further amendment, clarification, alteration or addition.

b) Any amendment, clarification, alteration or addition of, or to these specifications will be sent to all RSA clubs (electronic / post) who shall then pass on the relevant information to their competitors and membership as required.

c) This specification book supersedes all others, and no reference is to be taken from any previous books regardless of their contents. Any amendment or clarification will be sent to all clubs (electronic or post) who in turn will notify all their competitors/members.

d) DIVISION 5A – OUTLAW SEDANS - **NO CONTACT PERMITTED.** Directions of racing will be anti-clockwise only.

e) ***NOTE:*** *This book is to be read and referenced in its entirety. Whilst every effort has been made to have all relevant information pertaining to all issues contained in one area, paragraph or page of this book for quick reference and guidance, it may not have always been practical, possible or achievable for that to have had occurred.*

Table of Contents

1) INTERPRETATION

a) Specifications listed in this book are meant as a guide only to building race cars unless otherwise specified. **If "IT" is not mentioned in this book, enquire beforehand for clarification and / or possible approval.**

b) Before constructing any race vehicle, or adding any part, panel or component thereof of unusual, unconventional or unknown design, full details are to be submitted in writing to the RSA. These submissions are to be with supporting documentation of the issue/s and come via your club to the RSA secretary for processing. A written response will be provided, and if approved, the letter of approval is to be attached to the car's logbook. Prime consideration must be given where any doubt exists, to safety of Drivers, Crew, Officials and Spectators.

Note: It may not always be possible for RSA Committee persons and / or Tech Advisors / Officers to provide an immediate verbal or written response to queries relating to specifications.

c) Prime consideration must be given where any doubt exists, to safety of Drivers, Crew, Officials and Spectators.

d) It is recommended, whenever possible, that all race cars under construction be inspected by the licensed Club Scrutineer before painting.

e) All race cars are subject to engine and general measurement before and after any race at the discretion of the Chief Steward, Technical Officer, or Disputes Committee. Any question of legality of a race car, or eligibility of a race driver, must be settled before the commencement of a race meeting.

f) Notwithstanding anything contained in these specifications or any other Supplementary Regulations that have been approved by the Racing Sedans Australia Inc (RSA), the Scrutineer shall have the right to exclude any vehicle if it is not track worthy, fails to meet specifications in relation to safety or performance advantage, or could become a danger to other competitors or the public or is not constructed in an acceptable manner.

g) The Scrutineer will make a full report in the Car's Logbook and all defects noted must be rectified before the car is presented for scrutineering again or the vehicle may be excluded from the event.

h) All material sizes mentioned here within are a minimum unless a maximum is stated. Any Part, Panel or Component not specifically mentioned to be modified must remain standard as per production base model.

i) Ignorance of Speedway Australia Rules and Regulations and this RSA Div. 4 Specification book and notices shall be deemed as no defence in regard to breaches and/or appeals of same.

j) Race cars must maintain a neat and presentable appearance, so as not to bring disgrace to the Association. All body panels, bumpers, exhaust systems, etc., must be securely mounted. Any driver who continually loses components on the racetrack will be liable to a fine and/or suspension.

k) All cars are to be built and repaired to a high standard. All material used is to be of high quality. No bolts/rivets/screws or holes of any sort are to be put in any structural tubing in the roll cage cabin area.

l) Race cars, when presented for scrutineering, must be in full race condition (i.e. tyres to be used for racing, battery secured, helmet, full race clothing, bonnet and boot may be removed for ease of scrutineering).

m) Any driver who continually loses components on the racetrack will be liable to a fine and/or suspension.

n) It is the responsibility of all drivers to ensure their race cars have all sharp protrusions removed when presenting them for any race. The Scrutineer may at any time, direct a driver to remove sharp protrusions, and this must be carried out before entering the track.

o) Car registration (green sheeting) and payment and issue of an annual / seasonal RSA logbook are required before competition. **Registration of an RSA Vehicle cannot be made by a person under the age of 18 years.**

p) A Speedway Australia licence is required to race a division 5A Outlaw Sedan. This is a “class A” licence.

q) **PASSENGERS** Where state laws allow. Outlaw Sedans are allowed to carry a passenger for either promotional events or race events.

1) Cars must be daylighted by an authorised RSA Scrutineer through the approved process.
2) All safety requirements set out for driver safety must be mirrored to the passenger side. i.e. NASCAR Bars, Head Plate, Windscreen Mesh, Race Seat, Seat Belts, seat belt mounts etc.
3) Anyone travelling in the car as a passenger must hold a Speedway Australia Competitors license or Day License for the appropriate division.

r) It is the driver's responsibility to make sure that his/ her car and all internal and external engine components meet the specifications of this Division. Pre-race and post-race vehicle scrutineering inspections may be performed at any race meeting, including state and national titles. If any car fails the after-race specification inspection the driver will be fined / suspended and / or disqualified from the event under Speedway Australia' s Racing Rules & Regulations.

s) RSA head gasket refund policy: If the vehicle is found to comply with RSA specifications for the division after post-race scrutineering the RSA will either:

- Directly pay for OEM or standard after-market equivalent parts from an RSA nominated supplier, or
- Provide a refund that is equivalent to the RSA's cost for supplying replacement parts.

NO REFUNDS will be paid for any vehicle that is found to be in breach of RSA Specifications for the division.

t) Vehicles may have fuel checked at any time during the course of any race meeting including state and/or National titles.

u) Any driver found with any debris in cabin, boot or pockets, etc. (i.e.: broken glass, bolts, tools etc.) will be refused race clearance to enter the track until the offending items are removed.

v) Long hair must be fully contained within suit. No cigarettes / lighters or similar allowed on or used by driver whilst in the race car and / or to track pit requirements. No asthma puffers allowed on driver whilst in the race car. Jewellery that could cause injury (e.g. dangling earrings) is not to be worn.

w) Drink bottles (plastic) permitted – maximum size 2 litres. The drink bottle must be suitably and firmly mounted behind driver and to be to the Scrutineer's satisfaction.

x) RSA Inc. reserves the right to impound and inspect any race car at any time; this may include the removal of any engine for inspection and including the downloading of any information via relevant means if applicable. Cars can be selected at random and ordered to the impound area for dismantling. The Owner and/or Driver of the car must deliver them immediately upon request and supply the necessary manpower and hand tools to accomplish dismantling. Only 2 x persons actually involved in dismantling the car will be allowed in the immediate area of a vehicle being checked. Any persons not having cars in the impounded area, and gaining entry without authorisation, will be ejected.

2) SAFETY STANDARDS

Note: These are the minimum only safety standards for racing apparel of which may be subject to change at any time. Refer to your local club and/or www.speedwayaustralia.org for current up to date regulations and notification of any changes. At the time of publication, the following standards were applicable (copied from Part 16 of Speedway Australia Racing Rules & Regulations, v.24/25.1 version):

APPLICABLE LICENCE CATEGORIES

- **A** All Sedan Divisions
- **B** All Divisions
- **JD** Junior Competitors except Jr F500's

16.1) Race Suit

Minimum standard of a 1 piece complying with either SFI 3.2A/1, FIA 8856-2000, FIA 8856-2018 or a higher standard of apparel.

16.2) Boots

Comply with SFI 3.3, FIA 8856-2000 or FIA 8856-2018. Socks

must comply with SFI 3.3, FIA 8856-2000 or FIA 8856-2018.

16.3) Balaclavas

Comply with SFI 3.3, FIA 8856-2000 or FIA 8856-2018 and must be worn

16.4) Gloves

Comply with SFI 3.3, FIA 8856-2000 or FIA 8856-2018. It is recommended they are the Gauntlet style glove, and they must not be modified in any way.

16.5) Underwear

Must be worn and comply with SFI 3.3, FIA 8856-2000 or FIA 8856-2018, must be long sleeved, long legged and must have a neck collar. Drivers must only wear cotton under-garments (e.g., no synthetic boxer shorts), and no under wires on bras. No synthetic attire and no jewellery to be worn by a competitor whilst competing.

16.6) Helmets

Tozuda head impact indicators are optional.

Note: RSA recommendation only and is not part of the SA safety rules

Full faced and comply with one of the following:-

1) Snell SA2025 (to be introduced October 1st 2025)
2) Snell SA2020
3) Snell SA2015 (Note: Snell SA2015 Standard Helmets cannot be used after July 1st 2026)
4) FIA 8858-2010
5) FIA 8859-2015
6) FIA 8860-2010
7) FIA 8860-2018

For JD (Junior Divisions) only, the following helmets are also approved for use.

1) SFI 24.1
2) CMR2016
3) CMS2016

NOTE: All BS 6658-85 Type A/FR, AS/NZS 1698:2006 or UN ECE 22.05 standard Helmets cannot be used after 30 June 2024.

16.7) Horse Collar

Compulsory if Driver is not using a Head and Neck Restraint. Must comply with SFI 3.3.

16.8) Head and Neck Restraint

Recommended but not mandatory. If worn a Head and Neck Restraint must conform with FIA or SFI 38.1.

Please note that SFI Spec 38.1 Head & Neck restraints must have an in-date compliance sticker on them. The SFI 38.1 Spec requires them to be re-certified every five years. Competitors and officials please take time to check the dates on all Head and Neck Restraints to ensure compliance with these rules.

- HANS Device Recertification Revolution Racegear www.revolutionracegear.com.au

- Safety Solutions / Simpson Hybrid + variants & R3 Frontal Head Restraints Simpson Safety Equipment Australia www.simpsonraceproducts.com.au

16.9) Arm Restraints

Arm restraints must be worn in all classes where a window net is not fitted. Must comply with SFI 3.3 or FIA. Where a window net is used, it must comply with SFI 27.1 or FIA J253.11 and comply with expiry dates/replacement periods.

3) IDENTIFICATION NUMBERS

a) All race cars must carry the correct identification number as issued by their Club. The number must be displayed on either both front doors, rear doors or rear quarter panels with club prefix IE: Grafton = GRA. Numbers are to be minimum size of 40cm high x 7cm wide strokes on doors and minimum size of 30cm high x 7cm wide strokes on rear quarter panels. Must be in a contrasting colour and easily read by officials. Club prefix to be minimum height of 10cm high x 2 cm wide strokes. club prefix optional. IE: Grafton = GCSC.

b) Visiting drivers with conflicting car numbers will alter their roof numbers as notified when it is required for lap scoring purposes. Failure to comply will be dealt with by the Chief Steward.

c) Drivers' name is to be placed on roof above right-hand front door or on sun visor minimum height 7cm.

d) Current RSA registration / logbook decal must be affixed to the roll cage / cabin area within easy view for verification.

e) Car number must also be displayed on windscreen visor, Minimum height 75mm. In addition, a 150mm high number and prefix shall be placed on the tail of the car to help drivers line up when one-way communicators are used.

f) Headlight and taillight apertures may be highlighted by decal or silhouetted to help identify make and model. Decals indicating make and/or model may be fixed to the vehicle in prominent positions.

4) INSTALLATION OF DRIVER RESTRAINT SYSTEM

a) In order for the driver restraint system to be fully effective, considerable thought must be given to the location of mounting points and to proper installation in accordance with the product manufacturers' installation instructions. Many installations comply only with the letter of the rule with no understanding of the purpose, and although effective, to some degree, may cause needless injury to the driver.

Seats

b) Minimum of 50mm clearance between helmet and head plate when seated.

c) A purpose-built (for speedway use), one piece, steel or aluminium bucket type seat and headrest must be used. Seats may be padded and covered with a fire-resistant type material; the covering being securely attached - maximum thickness 50mm. No fiberglass, Magnesium alloy or plastic seats allowed.

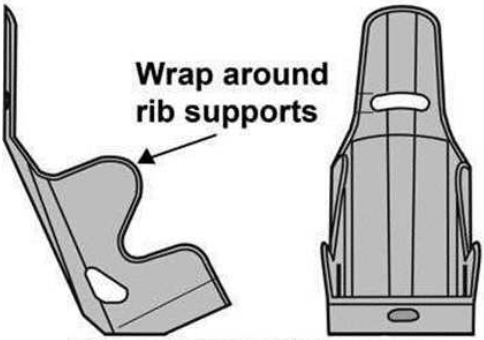
d) Aluminium and steel seats shall be constructed of a minimum 3mm material thickness. Fig. 3a Proprietary aluminium full containment seats shall be a minimum 2.5mm material thickness. Fig. 3b Approved proprietary carbon fibre competition seats must use manufacturers mounting kits. Approved seats include Kirkey, Butler, United Speedway Accessories, Bratpac and Racetech

e) Seat base and seat back must be mounted directly to the roll cage using roll cage type material and/or 50mm x 50mm x 3mm angle iron or stronger. All cut-outs for seat belts must be suitably grommeted. No sharp protrusions allowed. The seat must be suitably supported by a minimum of 50mm backing plate or washers (to prevent bolts pulling through seat). A minimum of 4 x 8mm bolts of cup-head design must be used (2 in base + 2 in back, approx. 75mm below shoulder height) with minimum 50mm washers.

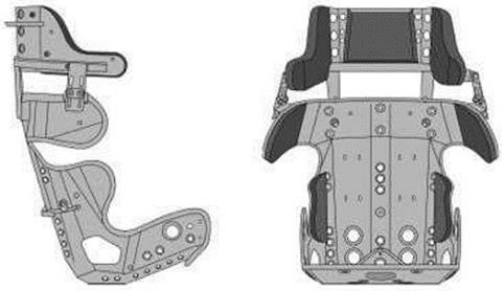
f) Head rest must be at least 100mm wide. (Cover with suitable material optional). Side supports to be a minimum of 50mm on all seats at thighs and torso areas. Seat is to be a correct fit for driver.

g) Side head/shoulder support restraints optional – manufacturer's recommendation on fitment.

h) The centre line of seat, steering column and pedals to remain as per O.E.M for make and model measured at waist line.



Typical aluminium seat



Typical Full Containment type seat

Seat Belts

i) All race cars must be fitted with a 5 or 6 mounting point racing harness of the lever latch style, which must be certified by an authoritative body (such as SFI) and must conform to all of their policies including fitment and care/maintenance. Any worn, frayed, rotten or weld spotted holed seat belts are not acceptable, and race cars will not be allowed to enter the track until the seat belts are replaced.

j) Seat belts must be no older than 2 years from the date of manufacture. Date of manufacture and/or expiry date must be clearly marked on a manufacturer-fitted identification tag.

k) Belts, including crotch strap must be a minimum width of 50mm (2 inch).

l) Shoulder belts must have separate mounting points and adjusters.

m) All seat belts must be mounted in such a manner to allow their removal between race meetings or when working on the car.

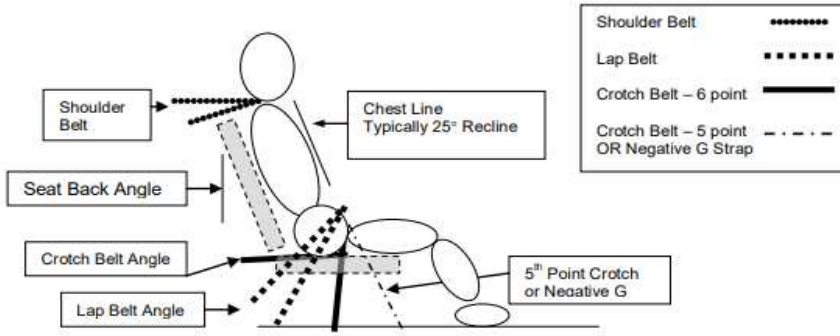
Seat Belt Mountings

n) Because of the difference (often vast) in competition race cars and size of drivers, a standard method of mounting is impractical. Good judgment and common sense are needed. The lap belt should be positioned so that it rides across the solid pelvic area and not the soft stomach area or down on the thighs. Seat belts must be mounted to roll cage. Mounting brackets must be welded to roll cage or roll cage cross braces only. Mountings to be equivalent or stronger than roll cage material or 50mm x 50mm x 3mm angle iron. Any race car found with bolts through seat belt webbing will be immediately given an order to replace seat belts. Rear anchorage must be mounted so as to prevent side movement by harness. Scrutineer may require the fitting of a rear harness loop.

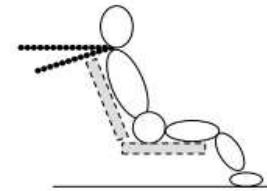
o) MINIMUM 10mm bolts to be used.

Seat Belt Installation Guide

p) The purpose of this guide is to provide race car drivers, owners and mechanics with additional information on seatbelt installation for upright seats (up to 25° recline seat back angle). This guide is for informational purposes only.



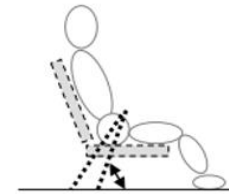
SHOULDER BELTS



Shoulder Belt Angle: 0 to -20° (-10° optimum) from horizontal

- Clear passage of webbing from top of shoulder (or head and neck restraint) back to the harness bar or mounting point without any interference of the seat openings
- Belts should be as short as possible back to the mounting points

LAP BELTS



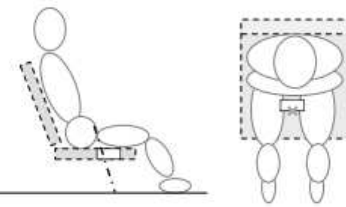
Lap Belt Angle: -45° to -80° from the horizontal

- Belt should ride within the curvature of the pelvic bone preferably just below the iliac crest
- There should be clear passage through the seat opening without webbing being corded or binding on edges of seat openings with a direct path to the mounting point
- The webbing should not ride against any hardware such as seat mounting brackets, bolts, or tabs
- Lap belt adjusters should be clear of the seat openings. Pull-up adjusters if outside the seat opening should be a minimum of 2" below the opening when the lap belt is tightened

CROTCH BELT – 5-POINT

Sports Car "Shell Type Seat" and aluminum seats with single crotch belt hole forward of the inside seat back from 11 to 13 inches:

- Crotch Belt Angle: Chest line to 20° through the hole
- Crotch Belt should never wrap around the front of the seat – there should be a pass through
- Crotch belt is used only to maintain position of the lap belt



- Belts to the mounting point should be as short as possible mounted beside the seat and never behind the seat
- Lap belt should be allowed to pivot freely at the mounting point
- Webbing should be allowed to pull on hardware in plane (straight)

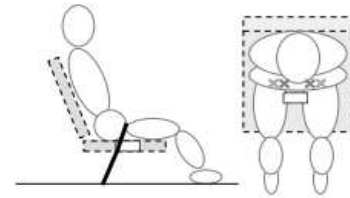
Position of the Cam Lock or Latch and Link

- Centered on the body 1 to 2 inches below the belly button when all belts are tightened

CROTCH BELT – 6-POINT

Sports Car "Shell Type Seat" and aluminum seats with single crotch belt hole forward of the inside seat back from 10 to 12 inches: *(NOTE: Seats with a single hole positioned more than 12 inches from the inside seat back are designed for 5 point belt installations and may not be as effective for 6-point installations)*:

- Crotch Belt Angle: -20° (2" rearward) through the hole
- Two separate anchors 4 to 6 inches apart (×)

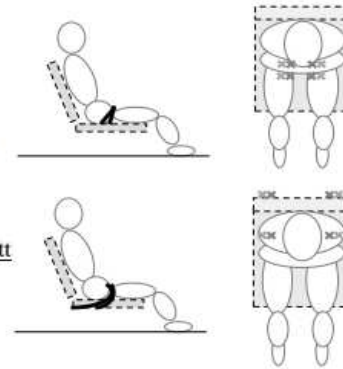


Containment Seats with Crotch belt mounting directly to seat bottom OR through holes provided at the back of the seat bottom: *(Driver is sitting on the Crotch belts)*

- Crotch Belt Angle -10° to -20° from the perpendicular just in front of the crotch with anchors 4 to 6 inches apart (×)

OR

- Crotch Belt Angle Horizontal rearward to under the butt or to the back of the seat (×)



Option (typically for single-seat wide cockpits):
Crotch Belt mounting to the front side of the outboard lap anchors. (Option not illustrated)

Considerations:

- Routing of crotch belts should have a clear and unobstructed path to the mounting point

5) WINDOW NET

Must be mirrored on passenger side bar work if passenger seat fitted.

The use of an SFI approved window net is mandatory. It must comply with SFI 27.1 or FIA J253.11 and comply with expiry dates/replacement periods (Speedway Australia rule).

a) All race cars must be fitted with an SFI approved window net, no string nets and no steel mesh). The window net should, as near as practicable, cover the drivers' side window opening. Triangular window nets are not permitted. Maximum size of holes to be 75mm x 75mm.

b) Mounting points to be to the Scrutineer's satisfaction. Window net must be mounted to the roll cage using brackets, using minimum of 3mm steel plates and a minimum of 6mm steel rods; and mounted so that it cannot be pushed outwards.

c) Ocky straps not permitted. Window net must be fastened to inside of car.

d) All window net mounting brackets must remain inside window and door frames. The purpose of a window net is to stop the head or arms coming outside of the car in an accident or roll-over. Window net must be easy to remove in case of an accident. Window net MUST be hinged from the bottom.

6) BATTERY

a) Battery must be securely fastened in a steel frame or box in the cabin area. After market weld on/bolt on battery bracket (e.g. Kenco weld on or bolt on steel battery box clamp) permitted. No plastic bridges.

b) All batteries (sealed batteries included) must have an effective rubber cover placed over the top to prevent acid spilling in the event of a roll-over. Rubber grommets must be fitted where battery cable passes

through metal firewalls.

A highlighted blue triangle is to be placed on outside of car body to show battery location. A white bordered blue triangle permitted for contrast on blue or similar coloured cars.

c) Must be fully charged and system operational at start of race meeting.

7) PADDING

Padding shall be used to protect driver from injury in the event of an accident. Cars shall be manufactured to minimise driver contact with sharp edges, projections or bar work in the cabin area.

8) ELECTRICAL / IGNITION

a) All switches to be grouped together within easy reach of driver with seat belts fastened and clearly marked on/off.

b) A 'kill switch' must be fitted outside the windscreen in the centre of the cowl panel or on the front of roll cage windscreen centre bar to control all electrical circuits and must be clearly **marked on/off** in a contrasting and distinctive colour. Dipper switches may be used, and it is highly recommended that a 'fairy light' be used to indicate when power is on/off. No other lighting to be fixed to any other body panels or external of vehicle. Electrical wiring must be grommeted where it passes through firewalls etc. and taped to prevent chaffing. Electrical switches shall NOT to be mounted through the floor.

c) Ignition systems must not contain or actuate any traction control function.

d) Magneto or Distributors are permitted, except LS1 engines.

e) Aftermarket ignition system optional but to be base model only example MSD base model only allowed (model 6AL) Excluding LS1.

f) Magneto to run a reverse relay to stop motor from the kill switch.

9) MIRRORS / CAMERAS / TRANCIEVERS / TRANSPONDERS

a) Mirrors or similar not permitted. Small electronic recording devices (cameras) are permitted on vehicles but need to be securely mounted within the cabin area. Various configurations and designs may need prior approval before fitment. **No** electronic device / screen or similar, capable of receiving live transmission from rear, side or front facing cameras **to driver** permitted in any shape or form whatsoever. Penalties will apply. One-way steward to driver communication devices (raceceivers) and lap scoring transponders are permitted. All other radio or similar telemetry to or from a car is not permitted.

b) Transponders must be mounted maximum 450mm forward of the front axle centreline on the front chassis rail. Left hand side only

10) STARTER MOTORS

a) At the commencement of the race meeting, car must be capable of starting by an installed starter motor.

11) BODIES, DIMENSIONS AND FITMENT

The **RSA Div. 5a Outlaw Sedans** is a purpose-built full chassis race car enclosed by a complete body. **Vehicles must comply with the following:**

a) engine in front of driver,

b) rear wheel drive only,

c) independent front suspension

d) Wheelbase 2400mm (98.6 inch) minimum, 2800mm (110 inch) maximum.

e) Moulded plastic or fibreglass or tinned nose and tail panels. No MD3 Gen 2 Late Model (or similar) nose cones permitted. (see image 1 and 2 below)

1. Preferred Option: Fibreglass or Plastic nose cones that resemble road cars. (see images 3A and 3B below)

2. Secondary Option: MD3 Gen 3 Evolution nose without fender side panels. (see images 4 and 5 below)Optional but not mandatory: Use of Nose Cone graphics kits to help represent road cars either Australian or International. (see image 6, 7 and 8 below)

Image one: MD3 Gen2 Nose Cone

image two: MD3 Gen2 Fender

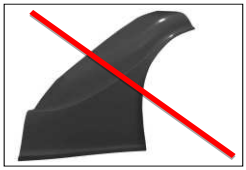
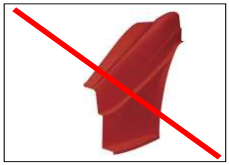


Image 3A:

Image 3B:

Image 4: MD3 Gen 3 Evolution nose

image 5: MD3 Gen 3 Evolution fenders



Nose Cone Graphics Kit

Image 6:

image 7:

image 8:

f) Chassis must have been constructed during or before 2012.

g) Quick change differential or differential fitted with full floating rear axles. Other type diffs to the discretion on the Tech Committee.

h) Body is to be a complete outer shell and comply with the Body Measurements detailed below.

i) It must be fitted so that the centreline of the body is within 50mm of the centreline of the chassis. The roof panel shall have a minimum 25mm fall in all directions from the middle point.

j) A straight edge placed across the roof panel from front to rear or left to right shall have a minimum of 25mm curvature on both sides. Body to be centred on the car within 20%.

k) Body must be car shape. Nose cone and rear of vehicle must resemble a road car. E.g. Ford Holden or road car from overseas e.g. Camaro or Mustang or Chrysler.

l) Decals indicating make and/or model may be fixed to the vehicle in prominent positions.

m) All Bodywork, including any subsequent repair of race day damage, shall be to a professional standard. The vehicle shall be presented for racing in as near to original condition as possible after any racing accident.

n) Panels shall be attached using rivets, bolts and nuts or proprietary race fixings. No cable ties or race tape unless race night repairs.

o) The body must be in the style and resemble a road car.

p) No additional panels shall be fitted to provide an aerodynamic advantage. The body shall be fitted in such a manner that it shall not be raked in any form and that the body runs parallel with the chassis.

q) Drivers floor panel shall be minimum 1.6mm steel or aluminium and shall be fitted on top of chassis rails. Deflection curve at top and bottom of each side panel relative to the waistline is to be 50mm minimum to 125mm maximum.

12) BONNET / BOOT PANELS / SPOILERS / WINGS

a) Bonnet is to be securely fastened by five bonnet pins. Pins to be 12mm minimum to 15mm maximum mild steel or aluminium. Where a metal bonnet is fitted only 4 bonnet pins are required. Bonnet lock pins shall

be 3mm minimum to 6mm maximum. Large reinforcing washers (30mm OD minimum) to be fitted to all bonnet pin holes.

b) Boot panel to be of profile and shape to resemble a road car. An access panel, of a suitable size shall be fitted to the rear deck panel and must allow access to fuel tank for scrutineering. If a removable boot panel is fitted, shall be securely mounted in four points. Hinged boot panel shall be secured in two points opposite the hinge joint.

c) Power bulges on the bonnet shall be limited to a maximum height as not to obstruct the driver's vision. Air cleaner may protrude through bonnet to a maximum height as not to block the driver clear vision.

d) Rear spoilers are an optional fitting on an Outlaw Sedan. They must be fitted as not to protrude outside the bodyline and have no sharp edges.

e) Supercar style rear wings are allowed on Falcon, Commodore and Monaro body types only and must be a maximum height of 400mm.

f) Any wing or spoiler fitted must be securely attached and be of suitable materials as to ensure it or parts of it do not become unattached during racing. Blade will not protrude past the bodyline of the race car and be a maximum of 400mm in height.

13) VEHICLE WEIGHT LIMITS

Minimum weight including driver:

V8	1100kg (2420lb)
6 Cylinder and Rotary	1000kg (2200lb)

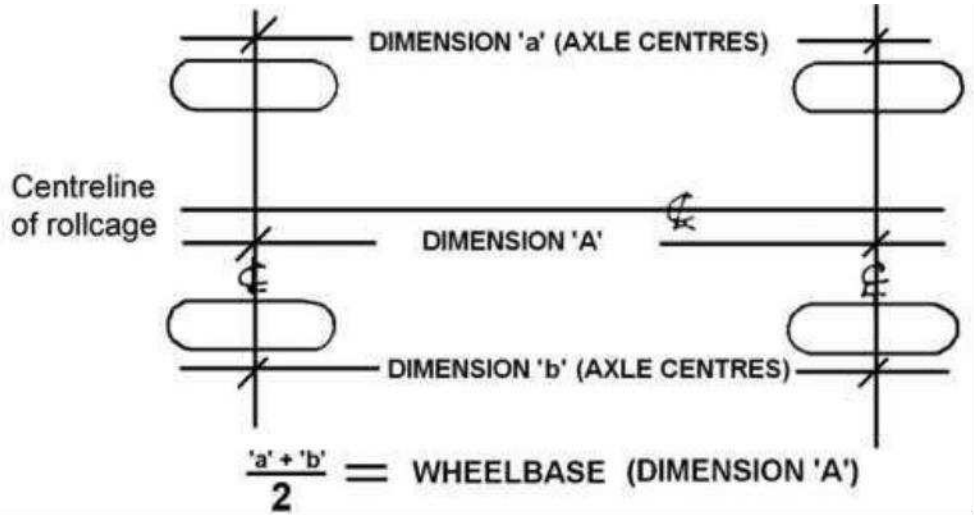
Vehicles may be weighed at any time.

14) MAXIMUM BODY WIDTH/WHEELBASE MEASURMENTS

a) All Division 5A Outlaw Sedans shall comply with the nominated total width and length measurements.

b) Maximum overall width of vehicle including wheels, nose cones and fenders is 2400mm to the widest point and a maximum length of 5080mm.

c) Wheelbase shall be a maximum of 2850mm.



DEFINITION of "WHEELBASE" Wheelbase is the average measurement between front and rear wheels measured from centre of rear axle to centre front axle.

FORMULA TO CALCULATE "WHEELBASE" With each front wheel pointing straight ahead, measure distance from front axle centre to rear axle centre on each side of vehicle. Add dimensions for left and right and divide by 2.

MEASURING of "WIDTH" Width is measured at the widest point side to side. Whichever is the widest point. Be it outside of body to outside of body or outside of tyre to outside of tyre or any combination of each.

Chassis Centre line

Defined as the mid-point between the outside of both outriggers in the cabin chassis area. This is calculated by dividing the measurement between the outside edges of the two outriggers by two.

15) BUMPERS

a. Must be original position, original bumpers or “C” section **NOT** permitted.

b. Cars shall be fitted with a single tube style bumper front and rear. Bumper bars shall be manufactured using 38.1x 3.2mm CHS maximum. Bumpers are to remain hollow Corners and ends of bumpers shall form a 500mm minimum radius bends. No sharp edges.

c. Front bumper return shall be 300mm maximum, minimum 100mm. Rear bumper returns may be as a skid rail along the inside of body between bumper and wheel arch and then extend inward to the chassis rails.

d. Bumper mountings to be a maximum 38x3mm CHS, 40x40x3mm RHS or 50x25x3mm, Gussets shall not be used.

e. Maximum of four bumper to chassis mounting points for each bumper bar.

f. The rear of the bumper bar facing the chassis shall have 100mm minimum offset from the chassis rail (Fig. 5)

g. Front and rear bumper must be inside of moulded panels. Front bumper bar overall width shall be 2030mm maximum.

h. Exception to be made for older style cars e.g. Torana/Monza whereas these cars did not have a moulded style bumper bar, this allowing the bumper bar to be outside of the body and must be a maximum of 38mm x 3mm CHS only. All corners must be rounded with no sharp edges and returning back to chassis rails.

i. Bumper mounts and supports shall be measured from the rear edge of bumper.

j. Front bumper returns must be extended into the stay bars using a maximum 25mmx 25mm RHS or 25x3mm CHS.

k. The bumper assembly shall be designed to provide a crush zone. No bar work shall be within 100mm of the rear face of either front or rear bumper bar.

Typical Right Rear Bumper Bar (Fig. 5a)

Typical Front Bumper Bar Assembly (Fig. 5b)

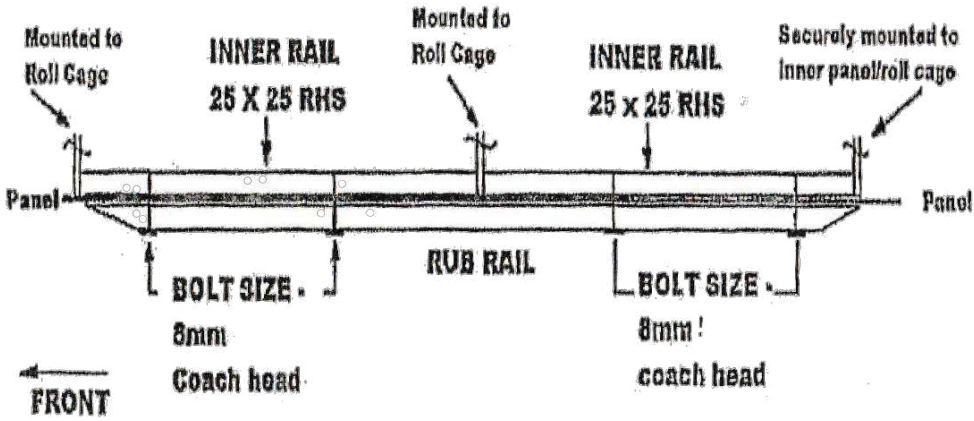
16) RUB RAILS

a. Rub rails are an **optional fit** and must be made of either a nylon (urethane, nolathane,) rubbing strip 50mmx12mm maximum or 25mm x 25mm x 3mm RHS. Where 25mm x 25mm x 3mm RHS is used, Rail ends are to be closed in and angled to 45 degrees

b. Rub rails must be securely mounted against body and through the door bar at a minimum of four points with equally spaced 8mm coach head (cup-head) bolts. Bolts at each end shall be no more than 50mm from the end of the rub rail. Rub rails are not permitted on the quarter panel behind rear wheel.

c. These rub rails shall not be included in the overall body width measurement or the 100mm that the wheel can be outside the bodyline.

Rub Rail Diagram



17) FIREWALL

a) Drivers must be isolated from mechanical, fuel, electrical and exhaust components. Interior deck sheeting shall enclose the complete cabin area and shall extend through to the rear panel.

b) All holes in firewalls must be filled with suitable material. Small holes (up to 3mm) and small gaps around wiring and radiator pipes may be filled with fire resistant sealant. Larger holes to be filled with minimum 0.9mm steel or aluminium.

18) RADIATORS

a) If a professionally fabricated aluminium racing radiator is used with the tanks TIG welded to the core, the tanks are not required to be covered, but radiator cap must be covered. Examples of this are racing radiators produced by KENCO and AFCO. All other cabin mounted radiators must have BOTH tanks and cap covered to protect the driver (and passenger if applicable) in the event of the rad cap blowing off or tank splitting.

b) Radiator cap must be **lever vent type** and must be shielded. This is to release pressure before removing cap – hose must vent to the ground – push button pressure caps are not permitted.

c) A metal and/or plastic cover shall be installed over the top of the fan blades. The cover shall protect an area the full width of the fan blades and from the back edge of the radiator to the back edge of the fan blades. Alternatively, the fan may be encased with a full shroud.

d) All radiator hoses to be of fabric reinforced material, plain moulded rubber hoses not permitted. Radiators may be mounted inside cabin area provided that they are mounted below the deck sheeting to provide isolation from the driver

e) All pipes in the cabin area must be of one piece – securely fastened on inside of roll cage, be lagged with suitable material – be steel, aluminium or copper.

f) All pipes in the cabin area must be covered / lagged and shielded to protect driver in the event of a hose or pipe leak. No household carpet, cloth or similar material permitted to be used to wrap water pipes.

19) EXHAUST SYSTEM

a) Exhaust must be within noise level requirements of each track. (Check before you attend). If exceeds the noise limit will be required to fit muffle/s to comply or will be unable to compete.

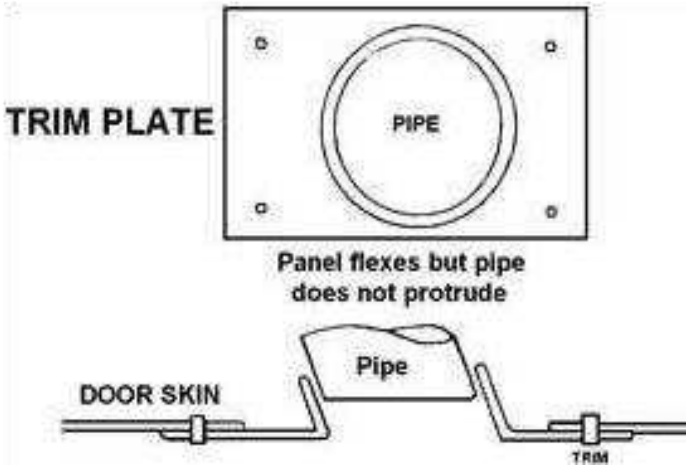
b) Any car that has a muffler or exhaust system dislodge during competition must immediately pull onto the infield and switch off its motor.

c) Outlet to be behind driver seat. All exhaust gases must be directed away from driver, tyres and fuel tank.

d) Internally ducted exhaust system may vent through the body, maximum 150mm above chassis. Exhaust system to have maximum of two outlet pipes, and not protrude beyond bodyline. Fig. 15 Trim plate material shall be maximum 1.6mm aluminium.

e) Exhaust pipes and mufflers must be securely attached to the vehicle.

f) Trim Plate optional.



20) FUEL TANK / LINE / TAPS / PUMP

a) Maximum fuel cell capacity shall be 72 litres for petrol or 140 litres for methanol. Use of cooling systems for fuel not permitted.

b) The area beneath cell must be open. Pressurised fuel cells NOT permitted. Fuel tap is to be marked indicating FUEL and the positions of ON/OFF.

c) Filler cap shall provide a positive seal and be inside body and behind a firewall. Levers of cam lock caps to be clipped closed. Proprietary aluminium and/or steel fuel cells are permitted but must include a bladder. Fuel cell is to be securely mounted entirely between the chassis rails behind rear axle centre line in a suitable steel cradle attached to the chassis or cage bracing, with a minimum clearance of 150mm forward of the rear bumper and 300mm minimum from the side of the vehicle.

d) The fuel cell shall be isolated from the driver by a metal firewall.

e) The lower half or load bearing section of the cradle shall be constructed from a minimum 40x3 FMS or 19x19x1.6mm RHS, SHS or CHS. The

straps over the top shall be 32x3mm FMS minimum. Fuel cell vents shall be fitted with an anti-spill device.

f) A flexible fuel line section must be fitted within 75mm of fuel cell and all fuel lines to be securely fixed in position. Barbed fittings of the correct size must be used in conjunction with screw type clamps when connecting flexible fuel line, exception being genuine SAE R6 lines and fittings. Neoprene, reinforced plastic or 'black fuel line' may be used.

g) The fuel line to the engine must be fitted with a quick action NON-LEAK fuel tap, in working order, securely mounted within easy reach of driver and crash crew, and clearly marked FUEL ON-OFF positions. Return lines to the tank are to be fitted with a 'one way' valve. No fuel taps or similar are permitted on fuel lines (pressure or return) if running an EFI (Electronic Fuel Injected) engine.

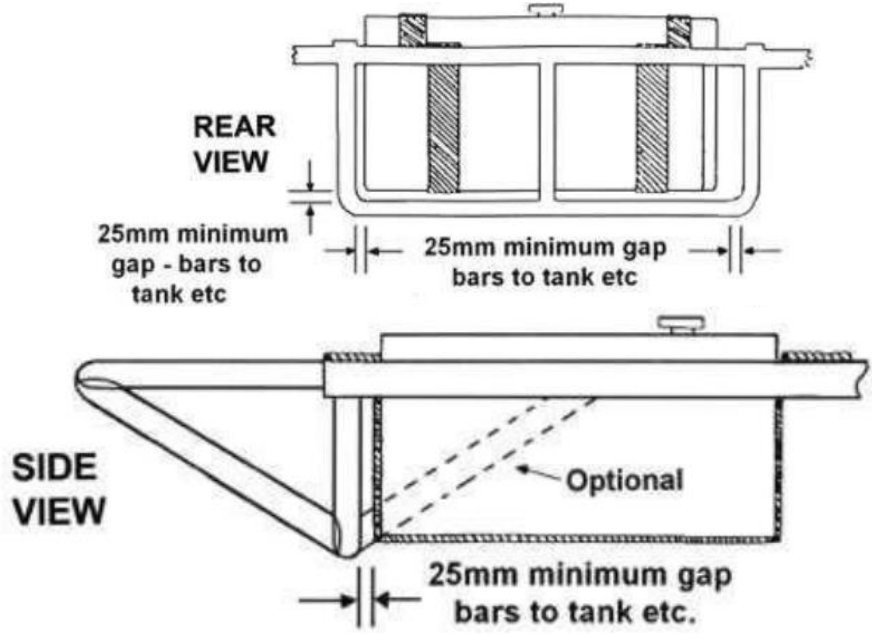
h) Electrical fuel pump must be isolated from the driver by a firewall, be fitted with an independent earth to case, and be switched off by the KILL switch and by an engine monitoring relay.

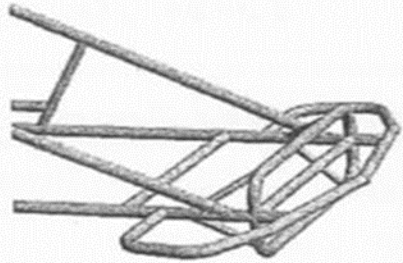
i) Commercially produced plastic racing fuel tanks permitted but must have an earth strap fitted from the plastic fuel cell filler neck to roll cage or chassis as an earth to prevent build-up of static electricity.

j) Fuel lines shall be isolated from electrical wiring.

k) Fuel tank protection Bar work must be constructed of minimum 38x3mm CHS or 40x40x3mm RHS and have 25mm clearance around tank and filter. Protection bar is to prevent entry to tank by nose of another vehicle. Fuel tank protection bars must have radius formed corners as per diagram. No straight side pipes for jacking to extend below bottom member. Protector must be 25mm lower than an underslung tank and mounted as per Fig 6.

l) Fuel tank protection diagram:





1. Under slung fuel tank is a fuel tank that has some portion below the bumper tube or chassis rails and therefore is to have a fuel tank protector bar fitted.
2. Protector bar must be 25mm lower than an under slung tank. (see diagram below)
3. Fuel tank protector bar must have radius formed corners.

NOTE: Brace bars to tank protector do not constitute bumper mounts

21) FUEL

a) Methanol or petrol may be used. (maximum specific gravity of 0.820).

b) The introduction into the combustion chamber/s of nitrous fuels and/or additives, either in solid, liquid or gaseous form, (e.g. nitrous oxide) by any means whatsoever, is expressly forbidden.

22) ROLL CAGE and CHASSIS CONSTRUCTION

General

a) The purpose of the roll cage is to prevent the collapse of the cabin area under impact. The cage must extend from behind the driver's seat forward to the windscreen area and incorporate protection for the driver's feet. The roll bars are to constitute a cage type framework, braced fore and aft. All roll cage bar-work is to be inside the body and within the cabin area. The roll cage is to enclose the driver and to be full width and full height of the cabin area.

b) Bolts shall not be used through structural tubing in the roll cage cabin area unless a welded sleeve is provided. No bolts/rivets/screws or holes of any sort are to be put in any roll cage structural tubing in the cabin area, except as described for floor bars where angle iron is used, and inner rub rail bars only.

c) All roll bar material must be of good quality mild steel, sizes for each bar as described in the following sections. Aluminium based materials not permitted Galvanized tubing or welding over threaded tubing not permitted in any structural bar work. Water pipe fittings or malleable fittings are not permitted.

d) All bends to be made using a pipe bender with the correct size former with no evidence of crimping, wall failure or significant weakening.

e) **NOTE:** Unless otherwise stated, all roll cage bars **including the Main Hoop bar must be made of one continuous length** of the appropriate material and built using fusion welding techniques only. Gussets may be required to welded joints.

f) Roll cage pipe padding is recommended around / near driver area to cushion the effects of any impact.

g) There are many variations in roll cage design mainly due to the different body shapes, especially in later models. These roll cage specifications describe the minimum elements that constitute an acceptable roll cage. Roll cages which exceed the requirements of the specifications through additional bars or the use of larger diameter tube are also acceptable provided all roll cage bar-work is to be inside the body and within the cabin area, and the roll cage is passed as safe. If in doubt, contact the RSA or State technical officer for the class to get a ruling as covered in this books 'Interpretation' section.

h) The specifications for the minimum elements of a roll cage follow. Unless otherwise specified, all bars are compulsory. Any additional roll cage bars must be of roll cage material, i.e., Minimum AS1163 Gr300 38mm OD x 3.0mm WT CHS.

i) All specified material used in the Roll cage and Chassis shall have a minimum tensile strength of 300MPa and a minimum wall thickness of 3mm (sonic test at not less than 2.7mm w.t. ABSOLUTE) after all fabrication and bending. This shall include but not be limited to manufacturing processes such as cutting, grinding, sandblasting, bending, stretching, welding, heating etc. Specified material includes any structural member specifically detailed in this document with a nominated minimum material size. All measurements for CHS relate to Tubing only (not pipe). Tube is defined as having an OD (outside diameter) and a w.t. (wall thickness)

j) Sonic testing to determine wall thickness shall be conducted on bare/unpainted steel members. Owner shall remove paint or powder coating as necessary to perform the test.

k) If unsure in any aspect of the design or assembly of cage or any other roll cage compliance as stated within, contact the RSA for clarification.

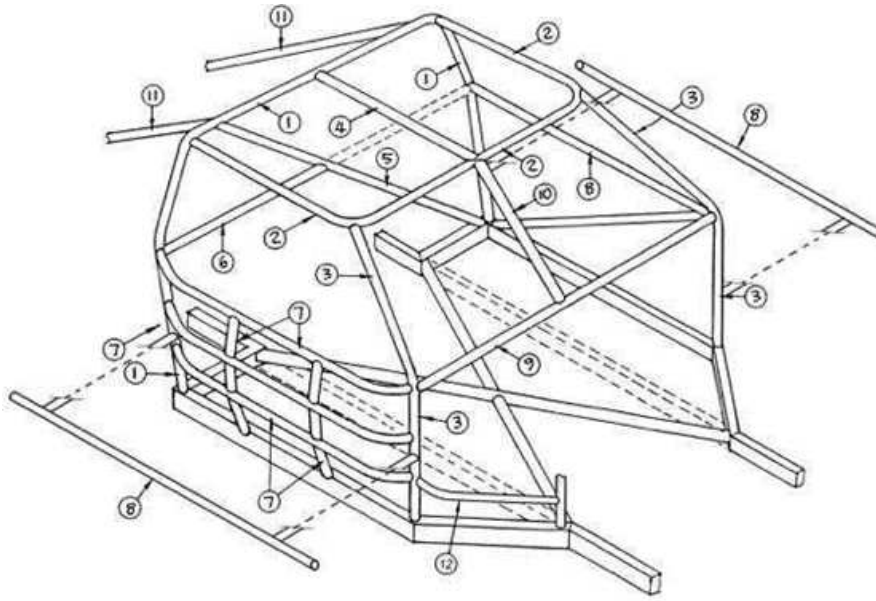
NOTE: This applies especially when using, modifying or retro-fitting an earlier built existing cage.

ROLL CAGE

a) The roll cage is required to provide a safe enclosed environment for the driver and is intended to prevent the collapse of the cabin area under impact. The roll cage is to fully enclose the driver. The roll bars are to constitute a cage type framework, braced fore and aft. The cage must extend from behind driver's seat forward to the windscreen area and incorporate protection for the driver's feet.

b) Roll cage is to be symmetrical about a common centreline through the front chassis rails and cabin chassis area and be full height of the cabin chassis area. Rear rail lateral location shall be placed at manufacturers discretion. The minimum distance between the rails shall be 700mm (28 inches) All roll bar material must be mild steel, minimum 38x3mm CHS.

c) All bends to be made using a bender with the correct size former. All bar work shall be inside the body. The following drawing details the minimum structural requirements. Each item number is referred to in the text below.

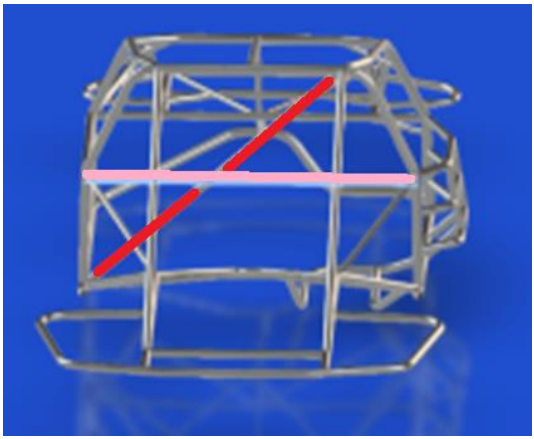


Note. Drawing for display purposes only

Roll Cage main roll hoop diagonal brace

(1) **Main hoop** - The rear main hoop shall be formed from one continuous length of 38x3mm minimum tubing with smooth continuous bends and no evidence of crimping, wall failure or significant weakening. Rear main hoop to be welded to the top of chassis outriggers. The rear main hoop may slope back away from vertical a maximum of 15 degrees.

The use of a two-piece main roll hoop diagonal brace is permitted only if a full length left to right one-piece seat back/shoulder belt mount bar between main roll hoop down legs is used as shown below. The diagonal brace must be fitted inside the main hoop behind the driver's head from top right to bottom left. The top right mounting point must be within 250mm inward of the top right-hand corner of the main hoop.



(2) **Roof hoop** – The roof hoop shall be formed from one continuous length of 38x3mm minimum tubing and be welded to the main hoop to form a halo around the driver's head. Alternatively, the roof hoop may be replaced by using one continuous piece of tube to form the front leg and A pillar which then continues back to the main hoop. The alternate roof hoop shall be completed by the installation of a spreader bar across the top of the windscreen.

(3) **Front legs** – Two front legs are to be formed each from a continuous length of 38x3mm minimum tubing and be welded to the chassis outriggers at the bottom and front corners of the roof hoop at the top. The 'door pillar' part of the front legs must not be flatter than 45 degrees. The minimum distance between the front leg and the rear main hoop where they connect to the chassis outrigger shall be 900mm. This is measured outside to outside of the front leg and the rear main hoop bars.

OPTION: Rather than using a main roof hoop and two front legs, one continuous roof hoop and one continuous shoulder hoop can be used. The shoulder hoop shall incorporate the top NASCAR bar, lower windscreen bar and passenger top NASCAR bar. This means that the A pillar bar to be formed in two pieces; one joining the chassis outrigger to the shoulder hoop and one joining the shoulder hoop to the roof hoop.

(4) **Centre roof bar** - Centre roof bar shall be minimum 32x3mm mild steel and shall be welded between the main hoop and the roof hoop.

(5) **Rear diagonal** - A one-piece diagonal brace, minimum 38x3mm CHS will be fitted in the main roll cage hoop behind the driver's head, within 250mm of the corner and down onto the left side chassis rail or roll cage leg. (Top right to Bottom left)

A second brace may be fitted in cruciform. If a cruciform type bracing is used a minimum of 32x3mm CHS may be used.

(6) **Seat back support/shoulder belt mounting bar**- The anchor point mounting bar, minimum 38x3mm CHS, for the shoulder belts shall be positioned so that belts are anchored a maximum of 300mm from the rear of the shoulder belt opening of the seat.

(7) **NASCAR bars**- NASCAR bars shall be fitted to the driver's side between the down leg of the main hoop and the front leg. The NASCAR bars shall consist of three horizontal side bars, curved out toward the door skin. One of the three bars may run straight through from the front wheel arch to the rear wheel arch and shall have two separate pieces 38x3mm turning at 90 degrees to connect onto the front leg and rear main hoop. There shall be a minimum of two bars evenly spaced between front leg and main hoop bar for each of the openings created by the horizontal NASCAR bars making a minimum of six bars to be fitted. E.g. Minimum 2 vertical bars between the top NASCAR bar and the NASCAR bar and the middle NASCAR bar, minimum 2 vertical bars between the middle NASCAR bar and the bottom NASCAR bar and a minimum of 2 vertical bars between the bottom NASCAR bar and the outrigger.

****LEFT HAND SIDE (PASSENGER SIDE) TO BE MIRRORED OF DRIVERS SIDE IF PASSENGER SEAT FITTED.** Including foot protection, anti-spear plate and head plate.

(8) **Door bars** – Passenger side shall have a minimum of two bars between front and rear roll cage legs. The top one must be horizontal and be the

same height as top driver's side NASCAR bar. The second one must be waist height. Diagonal bracing in the passenger door area is optional. The driver's side door bar must be waist height. Door bars shall be maximum 38x3mm CHS.

(9) **Lower windscreen and dash bar** - Lower windscreen and dash bar shall be a horizontal bar joining the front cage legs at top door bar and top NASCAR bar height. As an option, the lower windscreen bar can extend in one continuous length to incorporate the top NASCAR bar, lower windscreen bar and passenger top NASCAR bar.

(10) **Centre windscreen bar** - Centre windscreen bar, 25x3mm CHS mild steel.

(11) **Rearward brace bars** - Rearward brace bars minimum 38x1.6mm CHS to extend from the top rear of main hoop down onto rear chassis rails (Maximum 45 degrees down from vertical). They may form a crucifix and must be attached to the rearward side of the main hoop within 250mm of the centre of the bend.

(12) **Foot protection bar** – Foot protection bar minimum 38x3mm mild steel CHS to extend from driver's side front leg around to engine support bar or front chassis rail. The foot protection bar shall provide maximum protection to the driver's feet and legs in front of the foot well.

Must be mirrored on passenger side bar work if passenger seat fitted.

CHASSIS

a) Chassis Cabin Width
Material: mild steel 75x50x3mm RHS minimum.

b) Front Chassis Rails
Material: mild steel 75x50x3mm RHS minimum.

c) Rear Chassis Rails
Material: mild steel 75x50x3mm RHS minimum.

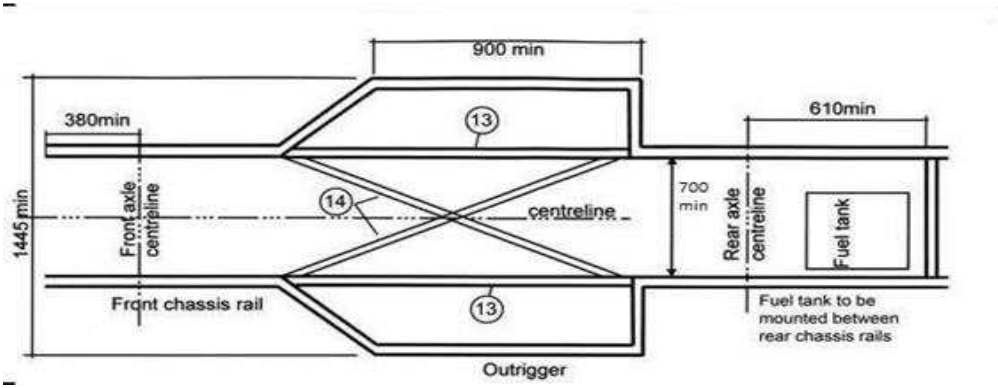
d) All material in fabricated chassis, chassis outriggers and/or sub-frames shall be minimum 75x50x3mm mild steel. Both chassis rails, fore and aft of cabin area, must be stepped a minimum of 75mm when viewed inside elevation to create a crush zone. Lightening of chassis material is not permitted.

e) The chassis is the 75mm x 50mm x3mm minimum (sonic test at not less than 2.7mm w.t. ABSOLUTE) RHS frame that supports the body, engine and suspension components of an automotive vehicle. Chassis must have been constructed during or before 2012.

CHASSIS DESIGN OPTIONS.

a) Chassis must have been constructed during or before 2012.

b) Chassis shall be manufactured to comply with either design as shown below. Custom designed Chassis can be approved at Racing Sedans Australia Technical Committee discretion.

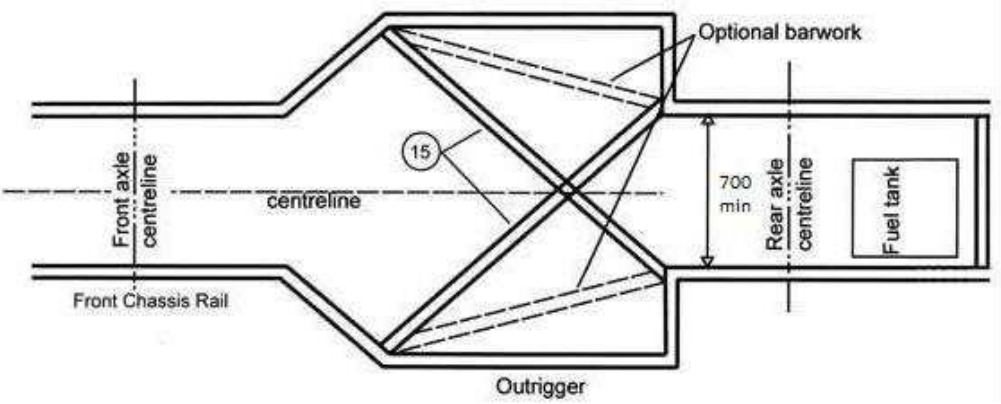


Note. Drawing for display purposes only. Refer to text for clarification on all drawings.

(13) **Through Rails** – The through rails shall be 38x3mm CHS minimum, 40x40x3mm RHS minimum or 50x50x1.6mm RHS minimum.

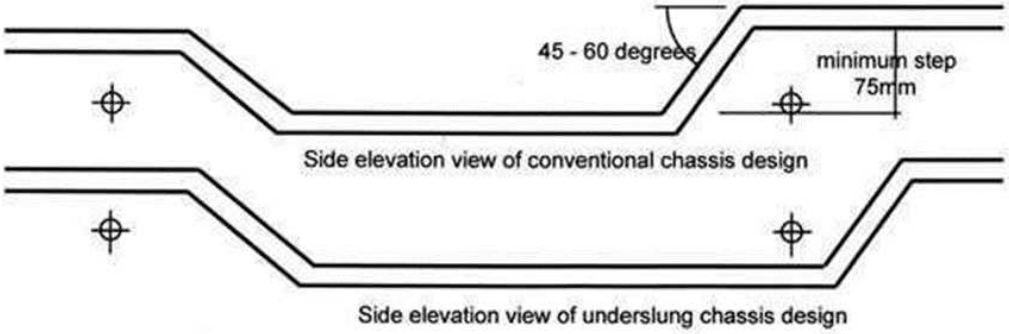
(14) **Crucifix -** The crucifix shall be 35x35x3mm CHS or 35x35x3mm RHS minimum**.** The crucifix shall terminate within 125mm of the outrigger.

Front chassis rails and outriggers shall be symmetrical to common centreline.



Crucifix- The crucifix members in the chassis design above shall be 50x50x3mm RHS minimum.

The chassis may be constructed as either the conventional design or the underslung design as shown below. Both styles must incorporate the minimum 75mm step in the chassis to create a crush zone.



23) ANCILLARY BARWORK, SPEAR/HEAD PLATES, BALLAST

a) Ballast must only be attached to either roll cage or chassis below deck height.

b) Ballast may be attached directly to the chassis by utilizing 12mm minimum high tensile bolts and Nyloc nuts either through a plate welded to the chassis or bolted through a sleeved insert in the chassis rail. If attached to roll cage tubing, proprietary mounting brackets shall be used. e.g. AFCO, Bicknell etc.

c) Each piece of ballast shall be painted white and be permanently marked with registered car number for identification.

d) Ballast up to 305mm in length shall have 1 bolt into approved ballast brackets.

e) Ballast up to 610mm in length shall have 2 bolts into approved ballast brackets.

f) Ballast shall be limited to a maximum of four pieces per car.

g) Total weight of all ballast used at any one time shall not exceed 40kg.

Quarter window bar

a) A quarter window bar, if required because of excessive rake or a long roll cage, be fitted to both sides and installed from the top NASCAR bar to top half of pillar bar using minimum 25x3mm CHS.

b) Alternately, a 38x3mm CHS bar may be fitted from top of ‘A’ pillar bar to top of NASCAR bar at 45° of the top bar on both sides.

Anti-spear plate

a) An "anti-spear" plate, of 3mm steel or 5mm alloy, shall be fitted on the

outside of driver's side NASCAR bars, from floor-line to the top NASCAR bar, forward of the first vertical door bar to the front leg of the roll cage. If not welded, a one-piece external door plate shall be bolted on using 8mm high tensile bolts through a minimum of 6 – 50x50x3mm MS tags welded to the NASCAR bars.

b) If individual pieces are used, each piece shall be bolted with 8mm high tensile bolts through 4 – 25x25x3mm MS tags welded to the NASCAR bars.

Must be mirrored on passenger side bar work if passenger seat fitted.

Head plate

a) The head plate shall fully extend from the main roll bar forward to the front roof hoop bar and from the side roof hoop bar across to the centre roof bar.

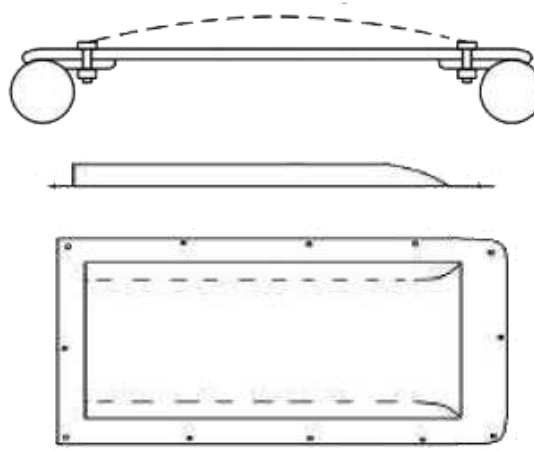
b) The head plate shall be 5mm ALUMINIUM ALLOY or 3mm STEEL and shall be securely bolted using a minimum of 10x8mm dia. high tensile bolts, 3 each side, 2 front, 2 rear, bolted through 50x50x3mm MS tags.

c) Plate shall be mounted from above. FIG 4a - Unless Head Plate was originally welded during construction.

d) A minimum 50mm clearance is required between the helmet and any part of the roll cage and head plate when driver is seated.

HEADPLATE Plate may be bowed for clearance. Alternatively, the head plate may be fabricated to provide head clearance as per Fig. 4(ii) below.

Must be mirrored on passenger side bar work if passenger seat fitted.



Front Screen Mesh

1. A 50x50x3mm steel mesh screen shall be securely fitted to roll cage in front of the driver.

2. The windscreen mesh must be welded or clamped with 4 metal clamps or bolts to the roll cage and cover the entire area between the “A” pillar and centre windscreen bar.

3. A sun visor / mud protector cover strip may be fitted to the top and bottom of the mesh screen.

4. No other window apertures shall be covered with any material except for the SFI approved window net on driver’s window.

Must be mirrored on passenger side bar work if passenger seat fitted.

24) SUSPENSION / STEERING

Front Suspension

a) Front suspension shall consist of a top A arm and a lower control arm as a minimum. Other types are at the discretion of the Technical Committee.

b) Lower control arms of front suspension shall not cross the centreline of the car.

Rear Suspension

a) Rear suspension to be single leaf or trailing arm design with coil over shock absorbers torsion bar suspension allowed. 4 bar type suspension of any type/design allowed, this includes 4 bar, Z Link etc.

b) Front mountings of forward-facing rear trailing arms and leaf springs are to be boxed in on the right- hand side to protect the driver and leaf springs are to be boxed in on the right-hand side to protect the driver.

c) Adequate side support shall be provided on 5th Arm assembly to alleviate sideways movement of the arm. A 40x5mm FMS or equivalent CHS tube shall be installed beside the seat to protect driver from 5th arm if diff is dislodged (Fig.13)

Arm and Coil unit are to be behind firewall.

Fig. 13

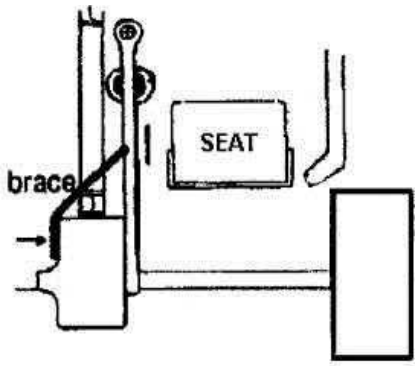
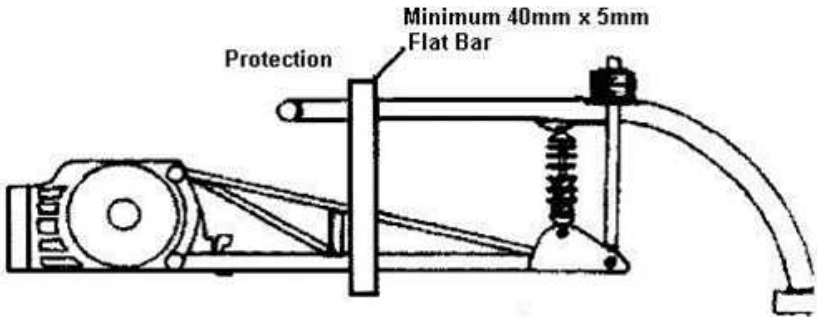


Fig. 14



Steering

a) Steering components must be in a sound condition. Steering joints to be split pinned or lock nutted as required. Steering column must be securely mounted to the roll cage dash bar. Hub of steering wheel must be padded with dense resilient foam and covered.

b) The use of professionally made after market steering column mounts as shown below is permitted. Mounts must be in original position and not to be used to offset steering position. Must be securely mounted to lower windscreen bar.

Spindles

Offset spindles are not permitted. The top ball joint taper and the bottom ball joint taper on any spindle shall share a common centreline. The spindle snout centreline shall intersect the ball joint taper centre line.

Shock Absorbers

a) Steel body or Aluminium body shocks are permitted.

b) Only oil filled shocks are permitted.

c) No external remote reservoir shocks permitted.

d) No high-pressure gas shocks permitted.

e) Single or Double adjustable oil filled shock absorbers permitted.

f) Single or Double adjustable shock absorbers can be changed or adjusted on race nights.

25) WHEELS / TYRES

a) Wheel studs shall be Grade 8 and 12.5mm diameter minimum.

Wheels

a) Alloy or steel wheels are permitted.

b) Maximum width of wheel is 12in (305mm) including bead lock attachment.

c) Wheels must be in good condition and free from cracks.

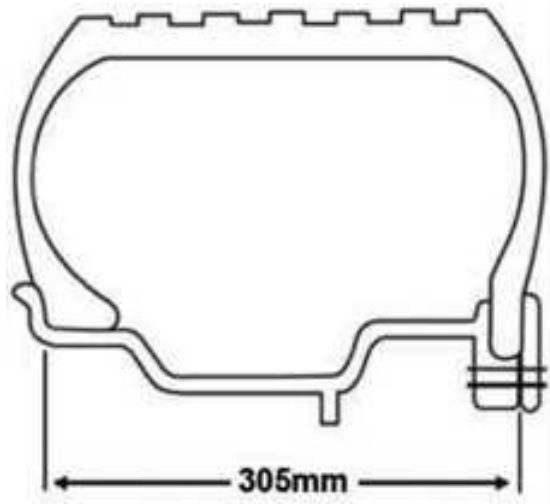
d) Dual bolt pattern drillings only permitted on Wide 5 style wheels.

e) Balance weights to be securely fastened or taped.

f) Removable wheel covers are allowed.

g) Wheels using centre-lock retainer nut must also use an approved locking device to prevent nut from being spun off.

h) Forward rotation of the wheel must tighten the nut.



Wheel Spacers

Wheel spacers are allowed providing the total wheel width from outside tyre to outside tyre does not exceed 2400mm.

Tyres

a) All cars to run a maximum of a 32-inch diameter right rear tyre.

b) American Racer “compound 44” or Hoosier “D21” or equivalent brand/compound.

26) BRAKES

a) Foot operated, hydraulic brakes are to be fitted and be effective at race

speeds. Bias adjustable brake systems are permitted although 'electronic' anti-lock brake systems (ABS) not permitted.

b) Brake bias and brake shut off valve operation is permitted from the driving compartment only.

c) Brakes are to be fitted to a minimum of three (3) wheels. A single brake assembly mounted on a ONEPIECE (live) rear axle is considered to be brakes fitted to two wheels.

d) Maximum of one brake calliper shall be fitted per wheel.

e) Carbon fibre/titanium brakes and components not allowed.

27) TRANSMISSION / TAILSHAFT

a) Electronic Traction Control systems of any type are not permitted.

b) Gearbox must have a minimum of two forward gears and a reverse gear.

c) Every race car shall be fitted with a functional clutch that allows the engine to be started in a stationary position.

d) Seeking neutral / inhibitor safety switches or brake pedal switch to be installed and working on all auto cars.

Scattershield

Cars not using a Bert or Brinn style gearbox must fit a scattershield to protect the driver's feet and legs.

Tail shaft

a) Front & Rear Tail shaft loops to be installed & shall be a minimum 40mm

x 5mm FMS or 6mm chain or 6mm wire rope.

b) Tail shaft loops shall be fitted within 150mm of universal joints at the front and the rear of the tail-shaft to prevent the tail shaft from dropping in an event of breakage.

c) Tail shaft and universal joints to be correctly phased and be suitable for the application. Carbon fibre tail shafts are not permitted.

d) Tail shaft shall be painted either white or a bright luminous colour.

28) ENGINE AND ENGINE SYSTEMS

Includes all components that enables the engine to operate including bolt on components such as rocker covers and carburettor but excludes exhaust manifolds and radiator.

Engine Capacity

Determined by measuring the bore and stroke of the engine, calculating the swept volume of one cylinder and multiplying that figure by the number of cylinders in that engine. Engine displacement = 0.7854 x bore x bore x stroke x no of cylinders.

Engine options

Outlaw Sedan shall use one of the following engine types:

a) V8

b) V6 or inline 6

c) Rotary

d) An inline 6-cylinder engine may be laid over to permit mounting of supercharger/ turbo under the approved 100mm power bulge. In all other cases, vertical remains vertical etc., spark plugs in Rotary engines remain horizontal and vee engines are to be balanced against a vertical centreline.

e) Multiple register, non-actuating/non-controlling recording equipment including instruments that supply onboard only engine rpm, rev limiter, oil pressure, fuel pressure, coolant temperature and lambda information is permitted. (e.g. electronic dash and RPM type displays)

f) Multiple register recording data logging devices that include programmable electronic control units (ECU) may be used. Wheel speed and/or rotational speed sensors are prohibited.

6-cylinder Engines with Forced Induction

a) OEM Block and Head only permitted.

b) OEM Inlet Manifold and OEM throttle body only permitted.

c) OEM Turbo charger size/frame or equivalent to be used.

Engine block

a) Maximum engine capacity after all modifications shall not exceed 367cu.in.

b) 6 Cylinder Maximum engine capacity after all modifications shall not exceed 280cu.in.

c) LS1 engines permitted with OEM ignition and injection.

d) Dry sumps permitted.

Cylinder heads

a) V8 engines shall have maximum of 2 valves and 1 spark plug per cylinder. Overhead camshaft not permitted in V8 engines.

b) V6 Engines, 6-cylinder engines shall have maximum of 4 valves and 1 spark plug per cylinder. 6-cylinder and V6 engines may have double overhead camshaft. (this would allow naturally aspirated V6 and 6-cylinder engines e.g. later model Ford falcon engines E series engine (SOHC) AU, Barra etc. (DOHC). And Holden engines (e.g. alloy Tec) to be used as affordable options.

c) Chev Engine: 23 degrees ONLY. Aluminium heads are permitted.

d) Ford/Dodge/Mopar Engine: OEM Cylinder Head & Block combination only permitted. Aluminium heads are permitted.

Crankshaft and Conrods

Crankshafts and conrods may be lightened and balanced. No titanium cranks or con rods allowed.

Carburettor and Induction systems

a) Only utilize a single 4-barrel Holley style carburettor as a sole means to deliver any form of fuel or air fuel mixture to the engine. It shall have all working parts in use, e.g. needle and seat, fuel bowl, float, jets and the fuel is to be delivered to the main jet by atmospheric pressure. This excludes the LS1 engine as the LS1 engine is fuel injected and must remain O.E.M injection only.

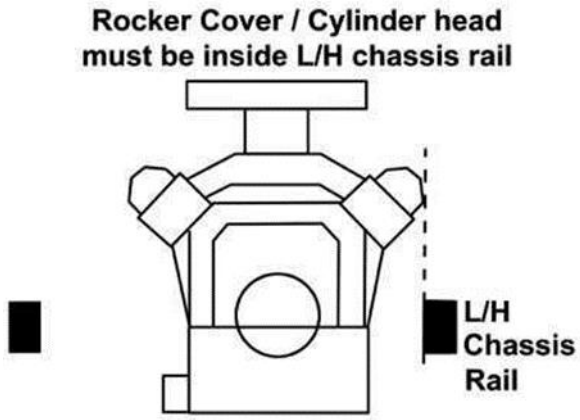
b) Rotary engines with MORE than two rotors are restricted to a single 4-barrel carburettor.

c) Twin rotor Rotary engines and 6 cylinders may use carburettor/s or fuel injection and forced induction. Return springs must be fitted to each butterfly shaft (inbuilt throttle springs acceptable), and one spring to accelerator pedal linkage

Engine position

Engine including cylinder heads and rocker covers shall be totally mounted inside the front chassis rails.

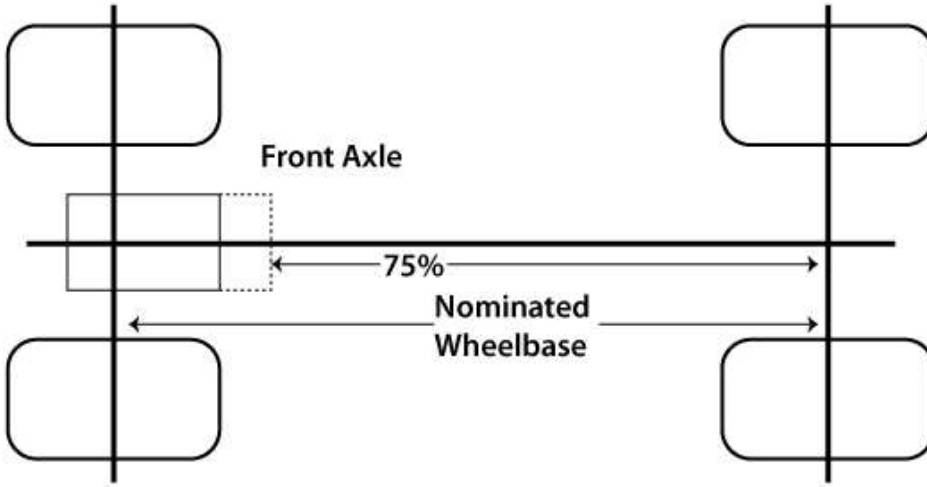
Fig. 16



Engine Setback

a) Measured from the centre of both top ball joints on the front end to the forward side of the engine plate as measured parallel to the centre line of the car. If there is no engine plate or the engine plate is not straight, measure to the rearmost mating face of the engine and the foremost mating face of the transmission. Either measurement shall not exceed the maximum allowed.

b) Engine setback for V8, V6 and Rotary engines is 660mm (26 inches) maximum. Engine setback for inline 6-cylinder engine is 813mm (32inches) maximum.



Engine Setback (minimum distance from Rear Axle CENTRELINE)

Nom.distance Wheelbase	75% Wheelbase		Nom.distance Wheelbase	75% Wheelbase
95”	71.25”		2413mm	1809.75mm
96”	72.00”		2438.4mm	1828.8mm
97”	72.75”		2463.8mm	1847.85mm
98”	73.50”		2489.2mm	1866.9mm
99”	74.25”		2514.6mm	1889.95mm
100”	75.00”		2540.0mm	1905.0mm
101”	75.75”		2565.0mm	1924.05mm
102”	76.50”		2590.8mm	1943.1mm
Nom.distance Wheelbase	75% Wheelbase		Nom.distance Wheelbase	75% Wheelbase
103”	77.25”		2616.2mm	1962.15mm
104”	78.00”		2641.6mm	1981.2mm
105”	78.75”		2667.0mm	2000.25mm
106”	79.50”		2695.4mm	2019.3mm
107”	80.25”		2717.8mm	2038.35mm
108”	81.00”		2743.2mm	2057.4mm
109”	81.75”		2768.6mm	2076.45mm
110”	82.50”		2794.0mm	2095.5mm
111”	83.25”		2819.4mm	2120.9mm
112”	84.00”		2844.8mm	2133.6mm

29) TOWING ATTACHMENTS

A wire rope or webbing strap or suitable tow loop shall be securely attached to the front and rear bumper bars. The towing attachment shall protrude through a hole in the plastic nose or tail to allow a disabled vehicle to be towed.

30) Appendix 1 – Limited Approvals 2022-23 season

The following optional specifications have been approved until the date of the 2023 AGM. Any permanent approval after that date is dependent on these specifications being passed at the 2023 AGM.

(None as of June 2023)