Specifications

DIVISION 5A

RSA Outlaw Sedans

Season 20-21

Publication Date:

October 2019

Approved updates are entered in Green

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TITLE / BLUE RIBBON EVENTS

The RSA wish to reconfirm that on a title event date for each division, no competitor can hand in a logbook for a class whose title is on at another venue on the same date in order to compete at any other venue.
Only logbooks for classes who do not have a title on the same date can be handed in for, including but not limited to racing, practice, exhibitions, competitions etc at other venues.
This has become necessary in order to keep the integrity and prestige of a title event for the competitors and for the successful club who tendered for the title, so that as many cars as possible for the title.

RSA DIV 5A OUTLAW SEDANS SPECIFICATIONS

1) Introduction

- ***Racing Sedans Australia*** shall direct the enforcement of these specifications in every aspect.

The RSA Executive Committee in consultation with the RSA Div. ***5a Outlaw Sedans*** 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.

- 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.
- These RSA Division ***5a Outlaw Sedans*** specifications will remain in force until superseded by an RSA approved new or revised edition with no alterations except for safety items, or as directed by the RSA.

This edition is RSA Division ***5a Outlaw Sedans*** Specifications Publication date **October 2019**.

- This book supersedes all others and no reference is to be taken from any previous books regardless of their contents.
- DIVISION ***5a Outlaw Sedans*** - NO CONTACT PERMITTED. Direction of racing will be anti-clockwise only.
- The contents of this book may not be copied or reproduced in any way without the written authority of ***Racing Sedans Australia Inc.***
- 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.

2) GENERAL

- 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.

- 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. C) 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 must be present).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.
- Car registration (green sheeting) and payment and issue of an annual / seasonal RSA logbook are required before competition.
- 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.
- 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.
- 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.

3) REGISTRATION

Car registration will be approved after a RSA club membership had been paid and the car has been cleared by having your car green sheeted by a technical officer in your division and once payments have been made your club will issue you- an annual / seasonal RSA logbook. Logbooks are required before competition. All drivers must be a member of an RSA affiliated club.

4) RACING LICENCE

A Speedway Australia licence is required to race a division 5a Outlaw Sedan. This is a "class A" licence.

5) MEASURING OF CARS

All cars are subject to engine checking and general measurement at any time by a duly accredited Scrutineer or steward. The RSA. reserves the right to inspect any race car at any time, including the downloading of any information via any means.

The owners of the cars must deliver them immediately upon request. Only persons actually involved will be allowed in the immediate area of a vehicle being checked. Any persons not having cars in the impound area, and gaining entry without authorization, will be ejected

SECTION 2 – Personal Safety Equipment

6) DRIVER SAFETY APPAREL

All protective clothing and safety equipment must be used and/or worn in the approved and accepted manner whilst competing or testing and/or practice as per the current Speedway Australia regulations.

All race wear/equipment shall be inspected at each practice/race meeting.

- **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.

- **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.

- **BALACLAVAS**

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

- **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.

- **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.

- **HELMETS**

  Full faced and comply with one of the following:-
  1) Snell SA-2020
  2) Snell SA-2015
  3) Snell SA-2010 (Please note all Snell SA2010 Standard Helmets cannot be used after 1 July 2021)
  4) BS 6658-85 Type A/FR, AS/NZS 1698:2006 or UN ECE 22.05 standard. (must be no older than 5 years from manufacturer date). 5) FIA 8858-2010
  6) FIA 8859-2015
  7) FIA 8860-2010 For JD (Junior Divisions) only, the following helmets are also approved for use.
  8) SFI 24.1 9) CMR2016 10) CMS2016

- **HORSE COLLAR**

  Is compulsory if Driver is not using a Head and Neck Restraint, except Vintage uncaged cars. Must comply with SFI 3.3.

- **HEAD AND NECK RESTRAINTS**

  Are recommended but not mandatory. If worn a Head and Neck Restraint must conform with FIA or SFI 38.1. An AS/NZS 1698:2006 or UN ECE 22.05 helmet must not be modified in any way. Only a Snell or FIA helmet can be modified to wear a Head and Neck restraint device.

7) SEAT BELTS

a) 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.

b) Seat belts must be no older than 2 years from the date of manufacture. Certification labels may indicate either the date of manufacture or the expiry of the 2-year period.

c) Belts must be a minimum width of 75mm. Crotch strap may be 50mm. Shoulder straps may be 50mm across the shoulder area (must be 75mm at each end) only if a Hans device (or similar) is used.

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

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

8) INSTALLATION OF DRIVER RESTRAINT SYSTEMS

The mounting points must be solid and should remain so even if the vehicle is deformed due to an accident. The mounting points should also not put undue strain or twist on the belt system hardware. The lap belt should be positioned so it rides across the solid pelvic area and not the soft stomach area or down on the thighs. The shock absorbing ability of the pelvic area and its ability to protect internal organs make it the preferred location for the lap belt. See Fig 2a & 2b.

The shoulder harness should be mounted to prevent driver's shoulders from moving forward (upward if semi-reclining), out of the seat, in the event of a rollover.

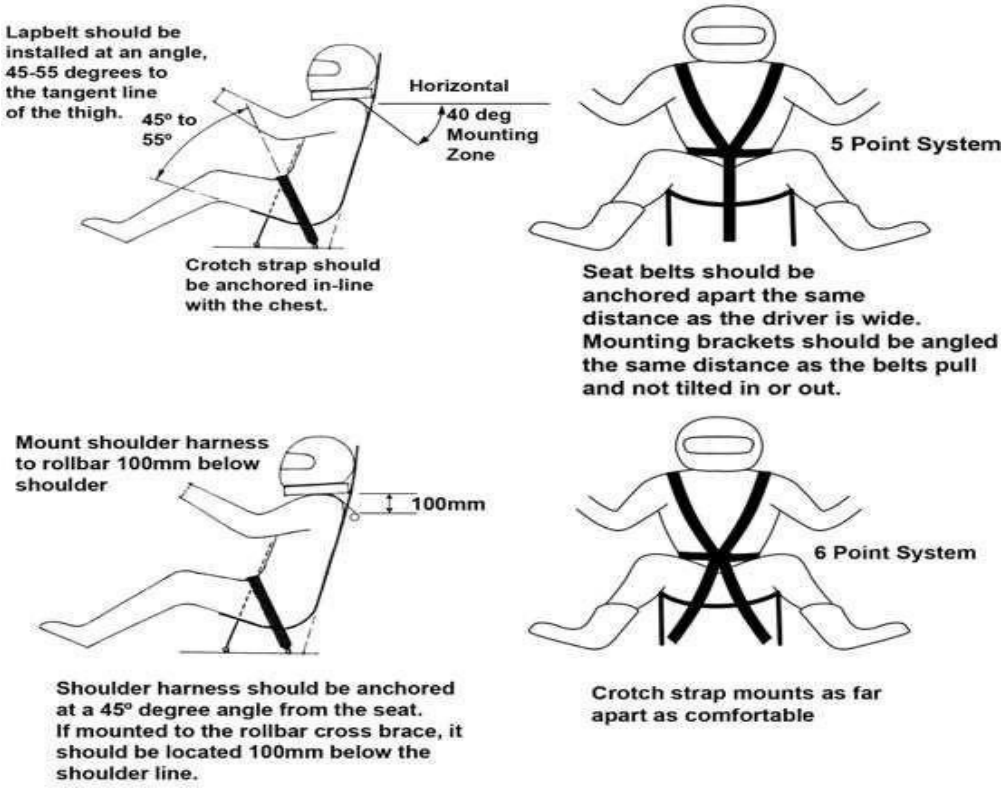
Anti-submarine straps serve two purposes;
1. To secure the lap strap down across the driver's hips, so in the event of an accident, it is not pulled up across the stomach by the shoulder straps.

2. To prevent the driver from sliding forward and out of the harness. When the driver is seated in an upright position, as in most sedans, a five-point system (a single anti-submarine or crotch strap) is considered adequate (Fig 2b). For extra assurance, a double strap anti-submarine belt can be used. (Fig 2d).

3. When the driver is seated in a semi-reclining position a six-point system (two anti-submarine or crotch straps) is preferable. Most drivers find the two anti-submarine strap system more comfortable.

In many instances, the anti-submarine straps are mounted much too far forward of the seat. This practice could cause unnecessary injury as the body can slide partially out of the seat before being restrained when the strap contacts the groin. It is much more practical to cut a slot in the seat bottom so the antisubmarine strap can be anchored in line with the chest. (Fig 2a)

Because of the differences (often vast) in competition vehicles, a 'standard' method of mounting is impractical. Good judgement and common sense in inspecting restraint system mounts is needed. Safety equipment is often neglected in favour of performance equipment, but its proper operation when the need arises is essential to survival.



9) ADJUSTMENT OF DRIVER RESTRAINTS

With the driver fully kitted out in 'underwear and driving suit', check that, with the driver seated, belt slots in the seat line up with natural line of the belt from anchor to buckle when just the lap belt is tensioned. Ensure that the lap adjusters do not foul the seat and that they are readily accessible. Some belts adjust by pressure downward others by pull up. Check that the driver can manipulate belt adjusters with gloves ON.

Also check that anchor hardware is aligned and that it is not possible to have a hitch in the anchor area without detection (sudden release of the belts to 50mm slack can put the driver off-line). Also check if the belt is holding the seat or the driver, it must be the latter.

Adjust the anti-submarine strap/s to ensure that the buckle is held flat and close to the body over the pelvis. When satisfied that the lap belt is OK, put on the helmet and check just how far the helmet (with visor) can reach, head plate clearance, helmet/window net etc. Slacken the seat belt, engage the shoulder belts into the buckle and tension the seat belts again, checking position of the buckle and adjusters. Tension each shoulder belt, checking that the adjustment range is suitable to the driver, that the belts and hardware don't foul the seat and that the natural line of the belts holds the driver as with the lap belts.

Note also any change in the buckle location and lay. If there is too much variation with the buckle it would appear that lap anchors are not in optimum position.

Before the driver releases the buckle, he should slacken both shoulder belts with the adjusters, in order to make re-entry to the car and refitting of the seatbelts as simple as possible.

10) WINDOW NET

The use of an SFI approved window net is mandatory.

a) All race cars must be fitted with an SFI approved window net
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.

c) **"**Ocky straps" not permitted. Window net must be fastened to inside of car. The window net must be mounted to the roll cage using brackets and mounted so that it cannot be pushed outwards.

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. It is a recommendation that the window net be hinged from the bottom.

11) 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.

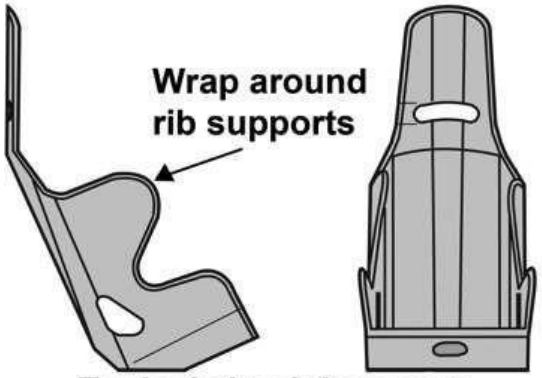
12) FIRE EXTINGUISHER

As per Speedway Australia specifications, a fire extinguisher shall be present in every pit as standard equipment and should be of the type specified.
An on-board fire extinguisher is permitted. It must be securely mounted and be suitable for the fuel being used.

13) SEAT

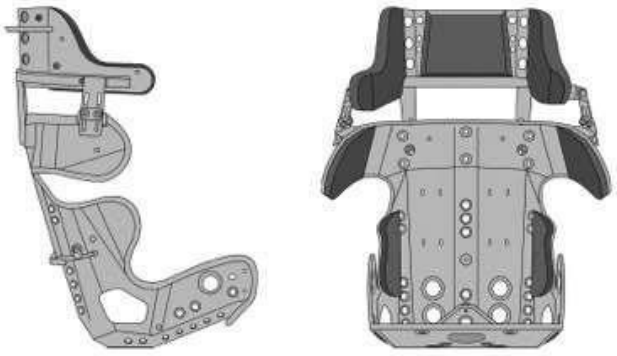
A proprietary steel, aluminium or carbon fibre bucket type seat incorporating a substantial headrest shall be used. Aluminium and steel seats shall be constructed of a minimum 3mm material thickness.
Fig. 3a Proprietary aluminium full containment seats shall be a minimum 2.5mm material thickness.
Fig. 3b Approved proprietary carbon fibre competition seats must use manufacturers mounting kits.
Approved seats include Kirkey, Butler, United Speedway Accessories, Bratpac and Racetech.
Magnesium alloy and fibre glass seats not permitted.
Seat design shall provide Lateral (sideways) support to hips and chest.
As a minimum, the seat shall support the drivers back to the top and full width of the shoulders.
The seat is to be mounted completely on the right-hand side of the vehicle centreline.
The seat base is to be mounted to roll cage chassis at a minimum of two points using 8mm bolts and minimum of 40mm diameter body washers.
Seat back is to be braced and attached to the roll cage approx. 75mm below shoulder height using a minimum of two 8mm bolts and 40mm body washers.
The driver shall have a minimum 50mm clearance between the helmet and the head plate/hoop bar when seated.

Fig. 3a



Typical aluminium seat

Fig. 3b



Typical Full Containment type seat

SECTION 3 – Outlaw Sedans specifications

14) DEFINITIONS Division 5a Outlaw Sedans

A Division 5a Outlaw Sedans is a purpose-built full chassis race car enclosed by a complete body.

A Division 5a Outlaw Sedan shall also 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)

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

II. Secondary Option: MD3 Gen 3 Evolution nose without fender side panels. (see images 4 and 5 below)

III. 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)

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.

Image one: MD3 Gen2 Nose Cone

image two: MD3 Gen2 Fender

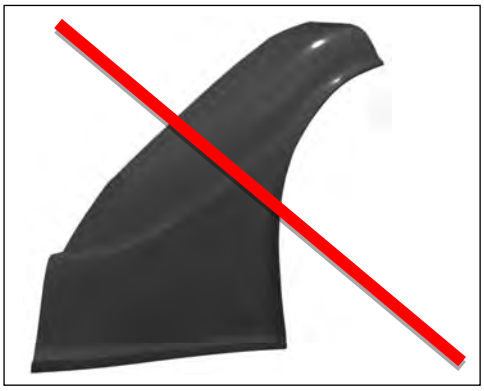


Image 3A:

Image 3B:

Image 4: MD3 Gen 3 Evolution nose

image 5: MD3 Gen 3 Evolution fenders

Nose Cone Graphics Kit

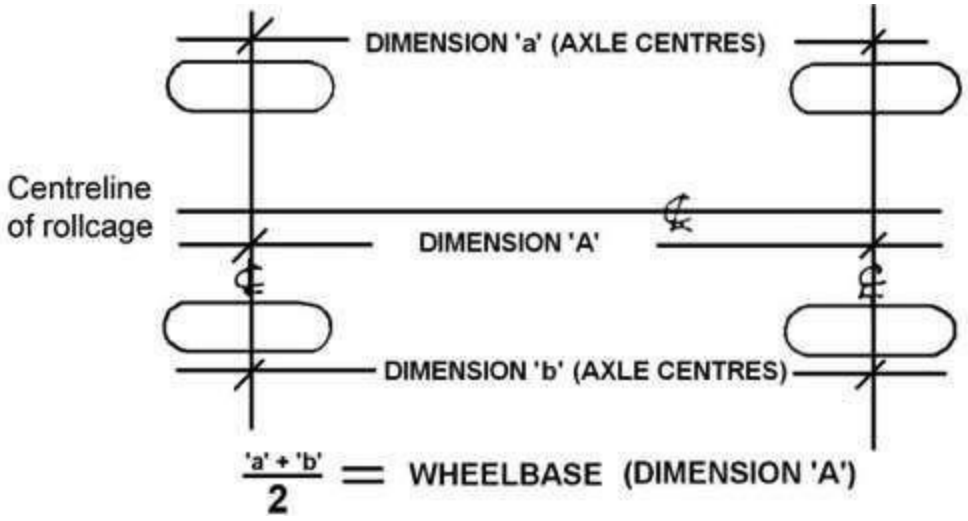
Image 6:

image 7:

image 8:

Wheelbase Measurement

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.



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.

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 Setback

Measured from the centre of both top ball joints to the rear mating face of the engine block. Either measurement shall not exceed the maximum allowed. (as stated in section 20)

Blade

Blade will not protrude past the bodyline of the race car and be a maximum of 400mm in height.

Chassis

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.

Engine

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.

Material:

CHS - Circular Hollow Section.
SHS - Square Hollow Section
FMS - Flat Mild Steel
RHS - Rectangular Hollow Section.
w.t. - Wall thickness.
O.D. - Outer Diameter

15) SPECIFICATIONS General

All workmanship shall be to a professional standard and all materials used shall meet the minimum standard specified.

All material sizes quoted are a minimum specification unless a maximum is stated.
No cabin adjustments allowed except for brake bias and brake shut off valve. Adjustable timing devices and adjustable rev limiters are not allowed inside the cabin area or where they can be adjusted by a driver.

No electric, electronic, hydraulic or wireless activated adjustments allowed except those specified for nonV8 ecu cars.
Rear Vision Mirrors or rear vision cameras with display are not permitted.

Chassis must have been constructed during or before 2012.

Weight limits Minimum weight including driver:

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

Vehicles may be weighed at any time.

Maximum Body Width

Maximum width of the body is 2200mm as measured at the widest point.

Maximum overall width of vehicle including wheels, nose cones and fenders is 2400mm

16) CHASSIS AND ROLL CAGE CONSTRUCTION - Material thickness and tensile strength.

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)

Sonic Test

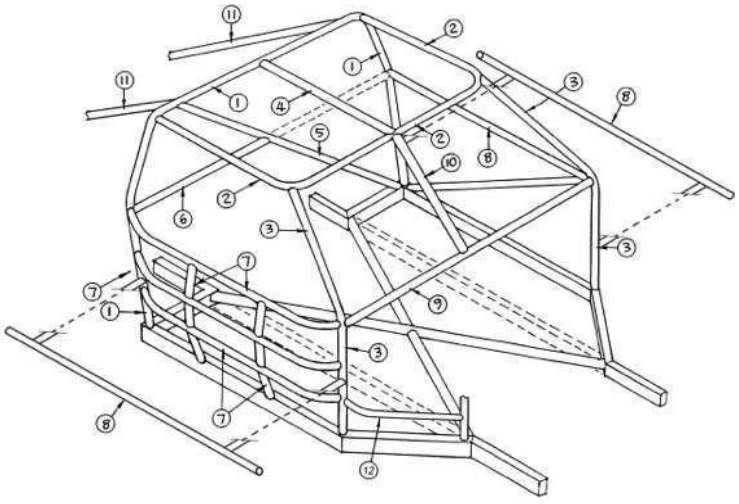
Sonic testing to determine wall thickness shall be conducted on bare/unpainted steel members. Owner shall remove paint or powder coating as necessary to perform the test.

Roll Cage

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.

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.
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

(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.

(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.

(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.

Bolts shall not be used through structural tubing in the roll cage cabin area unless a welded sleeve is provided. No pop rivets, tech screws or self-tapping screws shall be inserted into roll cage tubing.

Chassis Cabin Width

Material: mild steel 75x50x3mm RHS minimum

Front Chassis Rails

Material: mild steel 75x50x3mm RHS minimum.

Rear Chassis Rails

Material: mild steel 75x50x3mm RHS minimum

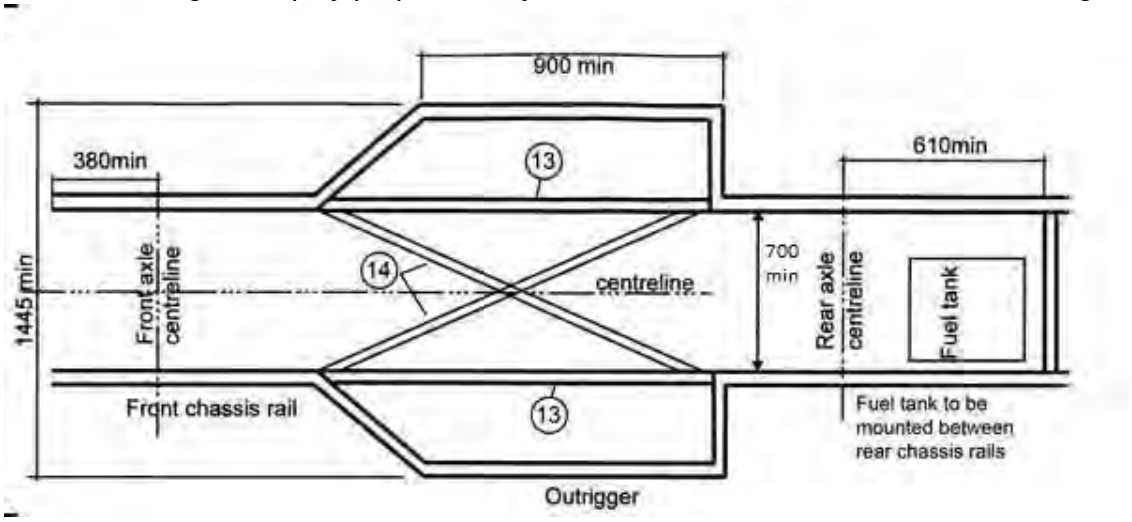
All material in fabricated chassis, chassis outriggers and/or sub-frames shall be minimum 75x50x3mm mild steel. Both chassis rails, fore and aft of cabin area, must be stepped a minimum of 75mm when viewed inside elevation to create a crush zone. Lightening of chassis material is not permitted.

Chassis design options.

Chassis must have been constructed during or before 2012.

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

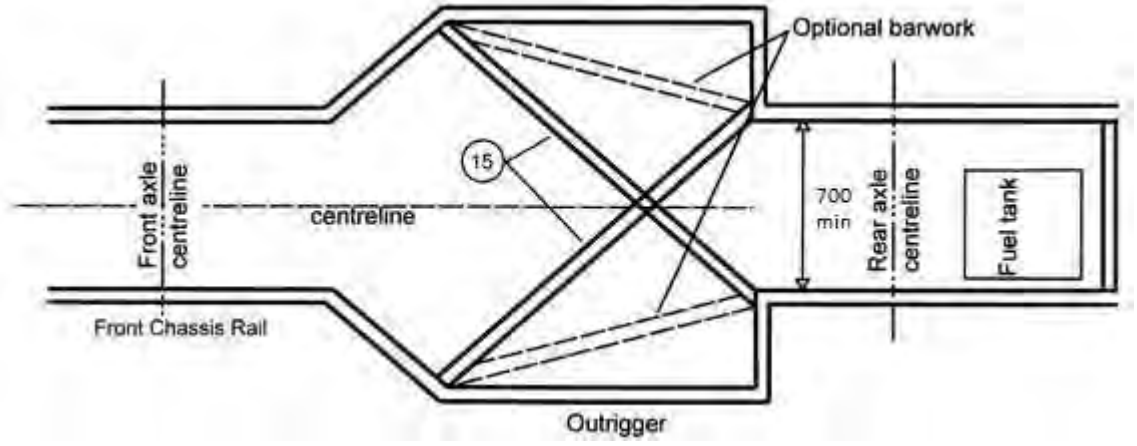
Note. Drawing for display purposes only. Refer to text for clarification on all drawings.



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

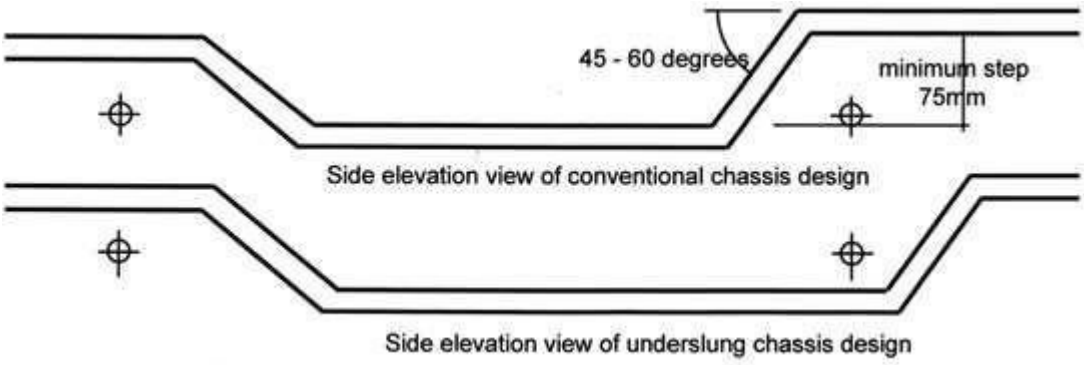
(14) **Crucifix -** The crucifix shall be 35x35x3mm CHS or 35x35x3mm RHS minimum**.** The crucifix shall terminate within 125mm of the outrigger.

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.



17) ANCILLARY BARWORK, PLATES AND BALLAST

Ballast must only be attached to either roll cage or chassis below deck height.
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. Each piece of ballast shall be painted white and be permanently marked with registered car number for identification.

Ballast up to 305mm in length shall have 1 bolt into approved ballast brackets.
Ballast up to 610mm in length shall have 2 bolts into approved ballast brackets.
Ballast shall be limited to a maximum of four pieces per car.
Total weight of all ballast used at any one time shall not exceed 40kg.

Quarter window bar

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. 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

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.
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.

Head plate

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.
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. Plate shall be mounted from above. Fig 4a
Unless Head Plate was originally welded during construction.

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

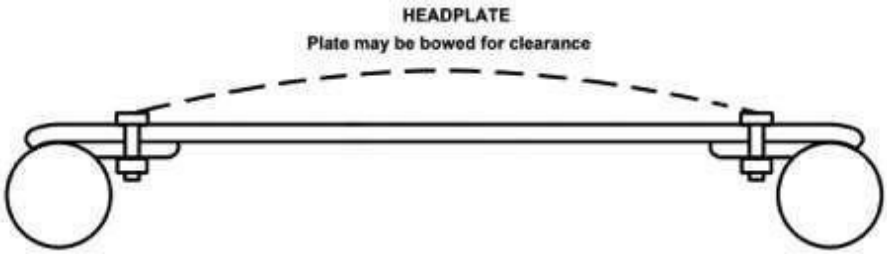
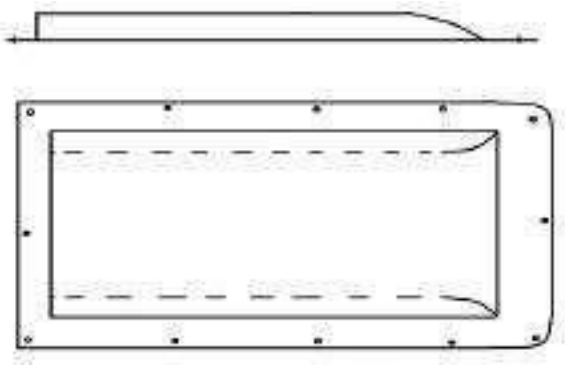


Fig. 4a

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



Bumper bars

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.

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.

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

Maximum of four bumper to chassis mounting points for each bumper bar.
The rear of the bumper bar facing the chassis shall have 100mm minimum offset from the chassis rail (Fig. 5)

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

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.

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

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

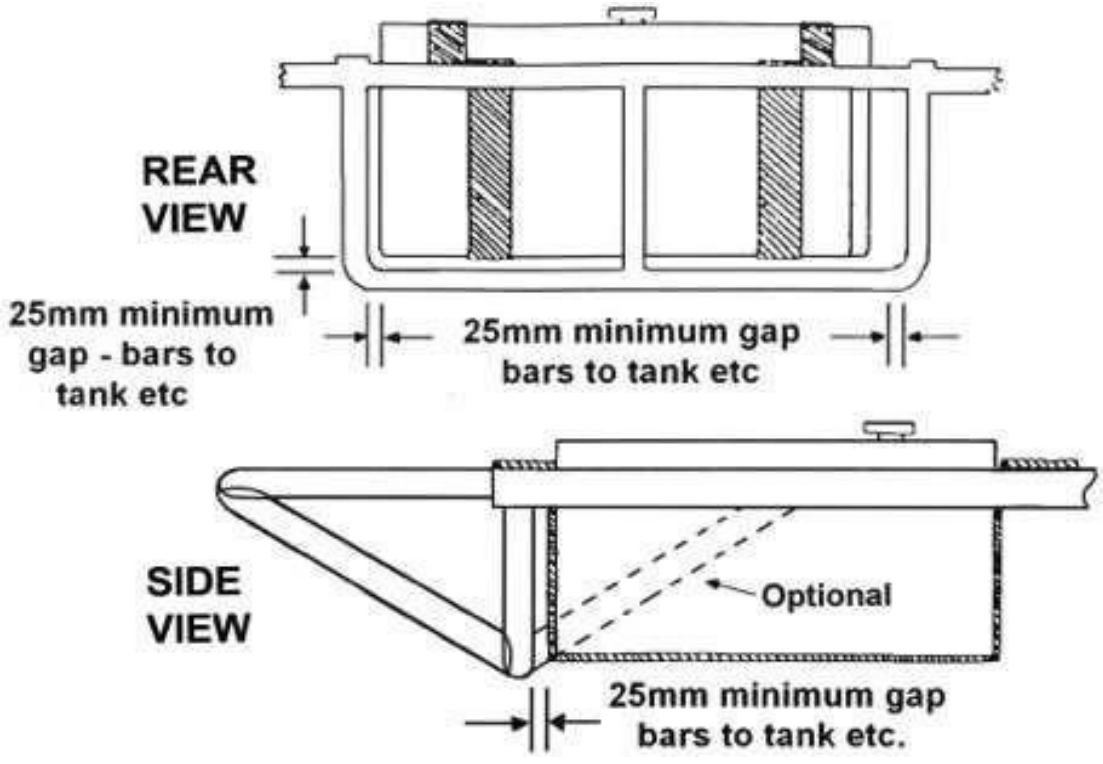
Typical Right Rear Bumper Bar (Fig. 5a)

Typical Front Bumper Bar Assembly (Fig. 5b)

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

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.

Brace bars to tank protector do not constitute bumper mounts.



18) BODY SHAPE, DIMENSIONS AND BODY FITMENT

General body fitment

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

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

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.

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

All division 5a Outlaw Sedans shall comply with the nominated total width and length measurements. The body shall be a maximum width of 2200mm and a maximum length of 5080mm. The body must be in the style and resemble a road car.

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.

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.

Interior decking and firewall

Driver must be protected and isolated from mechanical, fuel, electrical and exhaust components by metal
firewalls, minimum 0.9mm thick. Interior deck sheeting shall enclose the complete cabin area and shall extend through to the rear panel.

Bonnet and Boot lids

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.

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.

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.

Rear Spoilers/Wings

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.

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

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.

Rub Rails

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

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 100mm from the end of the rub rail. Rub rails are not permitted on the quarter panel behind rear wheel.

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

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.

Interiors and firewalls

Driver must be protected and isolated from mechanical, fuel, electrical and exhaust components by a metal firewall minimum 0.9mm thick.

Presentation and Signwriting

All paintwork, sign writing and numbers are to be neat, attractive and of a professional standard. All vehicles must carry the correct identification number as issued by their club and must be a minimum of 300mm high. This number shall be displayed on each side of car and on the roof. 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.

The name of the driver shall be displayed on the roof over RH door or on visor strip, in letters of a minimum of 60mm high.

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.

Front windscreen mesh

A 50x50x3mm steel mesh screen shall be securely fitted to roll cage in front of the driver.
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. A sun visor / mud protector cover strip may be fitted to the top and bottom of the mesh screen. No other window apertures shall be covered with any material except for the SFI approved window net on driver’s window.

19) SUSPENSION Wheelbase

Wheelbase shall be 2400mm minimum and a maximum of 2850mm.

Wheel track

The front and rear wheel track width shall be 2400mm maximum and shall be measured across the top of the wheels to the outmost point on the sidewall of the tyres in the 12 o'clock position.

Steering

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.

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.

Front Suspension

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.

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

Rear Suspension

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.

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.

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

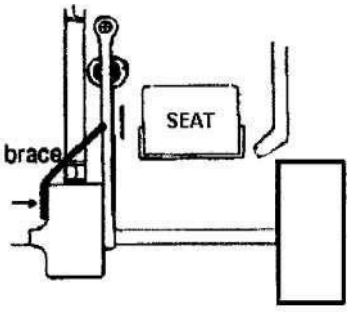
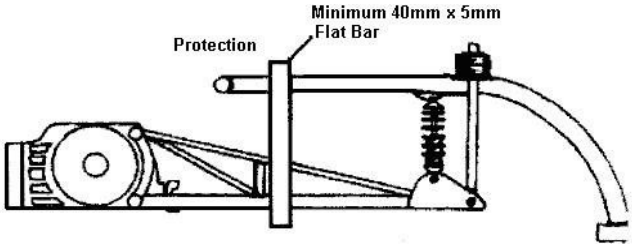


Fig. 14



Shock Absorbers

- Steel body or Aluminium body shocks are permitted.
- Only oil filled shocks are permitted.
- No external remote reservoir shocks permitted.
- No high-pressure gas shocks permitted.
- Single or Double adjustable oil filled shocks permitted, providing the rebound and compression adjustment is sealed prior to race day scrutineering to the satisfaction of the scrutineer.
- No shock race day rebound, or compression adjustment permitted.

Brakes

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. Brake bias and brake shut off valve operation is permitted from the driving compartment only. 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. Maximum of one brake calliper shall be fitted per wheel.

Carbon fibre/titanium brakes and components not allowed.

20) ENGINE AND ENGINE SYSTEMS

Engine options for Division 5a Outlaw Sedans

A Division 5a Outlaw Sedan shall use one of the following engine types:

V8
V6 or inline 6
Rotary

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.

- BA-BF Ford ‘Barra’ XR6 Turbo

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)

Multiple register recording data logging devices that include programmable electronic control units (ECU) are not allowed on V8 engines but may be used with 6 cylinder and Rotary engines. Wheel speed and/or rotational speed sensors are prohibited.

Ford “Barra” Turbo

- OEM Block and Head from a BA-BF XR6 Turbo, N/A and Gas engines permitted.

- OEM Inlet Manifold and OEM throttle body PART NUMBER 3R2U-AH with 70mm Butterfly. OEM Injectors Part Number 0280156123. INJECTOR SIZE 310cc.
- OEM ECM must be used. OEM ECU and wiring

- OEM Turbo charger FORD Part Number BA2-9G438-A or –B, Garrett Part Number GT3582RL. OEM Exhaust Manifold and Engine Pipe must be used. Can be modified for fitment

- OEM Intercooler must be used. Dimensions: 175mm High, 370mm Wide and 55mm Deep. OEM intercooler pipe (size of 60mm) must be used.

- Pump Fuel, maximum of 98 Octane.

Engine block

Aluminium V8 engine blocks are not permitted. V8 and V6 engine blocks shall have a maximum bore spacing of 4.46 inches and a maximum block deck height of 9.5 inches. The block height is measured from the crank centre line up through the bore to the mating face of the deck. All engines must have a number stamped on the block. (No two engines shall have the same number)

Maximum engine capacity after all modifications shall not exceed 367cu.in. Maximum capacity for cars with 6 cylinder forced induction engine shall be calculated by dividing the maximum V8 engine size by 1.5. e.g. 367 divided by 1.5 = 245 cubic inch. Carburettor and non-forced injected 6 cylinders shall = a maximum of 280cu. in.

LS1 engines permitted with OEM ignition and injection.

Dry sumps permitted.

Cylinder heads

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

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.

Engine's and replacement engine parts to be Genuine, O.E.M equal to genuine spec's, available off the shelf.

Chev Engine: 23 degrees ONLY. 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

Division 5a Outlaw Sedans shall 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.
Rotary engines with MORE than two rotors are restricted to a single 4-barrel carburettor.

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

Ignition

- Ignition systems must not contain or actuate any traction control function.
- Kill switch is compulsory and to be clearly marked for method of operation e.g. DOWN/OFF
- Magneto or Distributors are permitted, except LS1 engines.
- Aftermarket ignition system optional but to be base model only example MSD base model only allowed (model 6AL) Excluding LS1.
- Magneto to run a reverse relay to stop motor from the kill switch.

Fuel

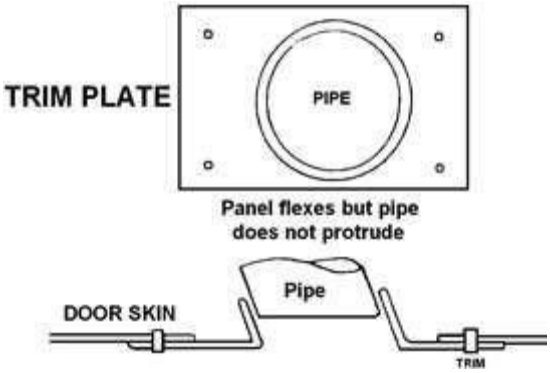
Methanol or petrol may be used. (maximum specific gravity of 0.820)
The introduction into the combustion chamber/s of nitrous fuels and/or additives, either in solid, liquid or gaseous form, (e.g. nitrous oxide) by any means whatsoever, is expressly forbidden.

Exhaust system

Exhausts must comply with local noise level requirements. Maximum 95 dBA.
All exhaust gases to be directed away from all drivers, fuel tanks and tyres.
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.

Trim Plate optional.

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



Cooling system

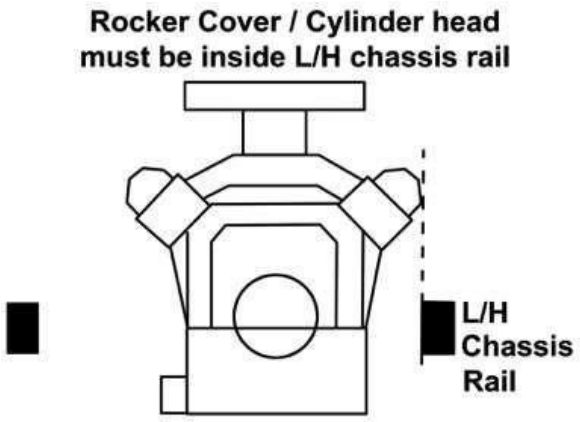
Cooling system to have a manual pressure relief tap or lever vent type cap fitted with a hose to direct steam to the ground.
All radiator hoses to be of fabric reinforced material, plain moulded rubber hoses not permitted.
Radiators may be mounted inside cabin area provided that they are mounted below the deck sheeting to provide isolation from the driver

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.

Engine position

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

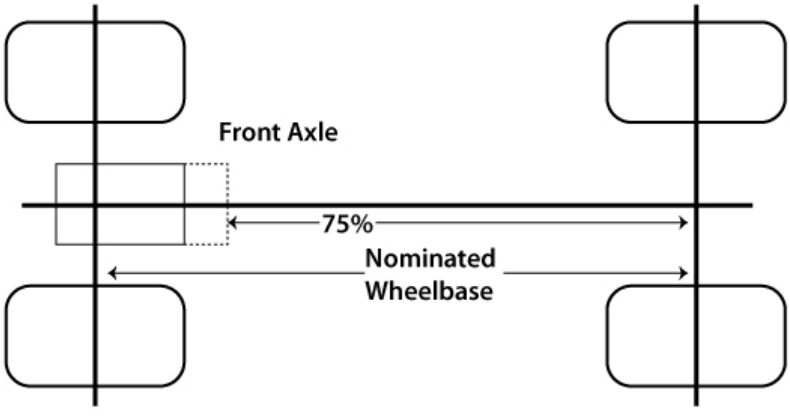
Fig. 16



Engine Setback

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.

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
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

21) TRANSMISSION, WHEELS AND TYRES

Electronic Traction Control systems of any type are not permitted.

Gearbox must have a minimum of two forward gears and a reverse gear.
Every race car shall be fitted with a functional clutch that allows the engine to be started in a stationary position.

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

Scatter Shield

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

Tail shaft

Front & Rear Tail shaft loops to be installed & shall be a minimum 40mm x 5mm FMS or 6mm chain or 6mm wire rope. 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. Tail shaft and universal joints to be correctly phased and be suitable for the application. Carbon fibre tail shafts are not permitted. Tail shaft shall be painted either white or a bright luminous colour.

Wheel studs

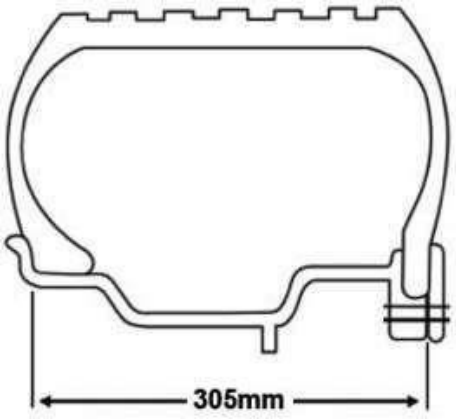
Shall be Grade 8 and 12.5mm diameter minimum.

Wheels

Alloy or steel wheels are permitted.
Maximum width of wheel is 12in (305mm) including bead lock attachment. Wheels must be in good condition and free from cracks.
Dual bolt pattern drillings only permitted on Wide 5 style wheels.
Balance weights to be securely fastened or taped.
Removable wheel covers are allowed.
Wheels using centre-lock retainer nut must also use an approved locking device to prevent nut from being spun off. Forward rotation of the wheel must tighten the nut.

TYRES

All cars to run a maximum of a 32-inch diameter right rear tyre.
American Racer “compound 44” or Hoosier “D21” or equivalent Brand/compound.



Wheel Spacers

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

22) BATTERY AND ELECTRICAL SYSTEM

Battery must be securely mounted in a box or steel frame secured to the roll cage or chassis. Terminals and electrical cables shall be suitably protected to reduce arcing in the event of an incident.

Suitable grommets must be fitted where battery cable passes through metal firewalls.
At the commencement of a meeting, car must be capable of starting with starter motor.
Switches: Ignition switch and electric fuel pump switch, if fitted, must be grouped together and be clearly marked. An engine 'KILL' switch, suitably marked, must be fitted in top deck panel, this switch must also isolate the battery and any other electrical item. Electrical switches shall NOT to be mounted through the floor.

Transponders

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

23) FUEL CELL AND FUEL SYSTEM

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

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

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

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.

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.

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.

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.

An earth strap must be fitted from the plastic fuel cell filler neck to roll cage or chassis as an earth to prevent build-up of static electricity.

Fuel lines shall be isolated from electrical wiring.

24) APPENDEX

- **UPDATES AS A RESULT OF AGM 2020**
  Entered – 20-10-2020 - *Updates are marked in "green"*