

# **Victorian Speedway Council Incorporated VSC Sports Sedan 2019 – 2024 Specifications**

These Regulations and Specifications apply to all Owners, Driver's, Pit crews, Officials and Clubs engaged in the promotion, conducting, competing and/or presentation of VSC Inc. classes.

This book must be read in conjunction with VSC Inc. approved Special Regulations and/or Notices issued by the VSC Inc. from time to time. Ignorance of these Regulations and Specifications and Notices shall be deemed as No Defence in regard to breaches and/or appeals of same.

Where there is a difference of opinion between the Scrutineer, Machine Examiners, Officials, Owner/Driver in regard to the interpretations of any specification or regulation within this book then that matter shall be resolved by the VSC Inc. Technical Committee at the earliest available opportunity.

If 'IT' is not in the book, inquire for prior clarification or approval before construction or implementing.

## **GENERAL SPECIFICATIONS:**

### **CONSTRUCTION**

To be of professional standard. All materials used must be of good quality.

Bolts are not to be used through structural tubing unless a welded sleeve is provided.

All material sizes quoted are minimum unless a maximum is stated.

Definition of material:

CHS – Circular Hollow Section

RHS – Rectangular Hollow Section

WT – Wall Thickness

OD – Outside Diameter

AS 1163 G200: Australia Standard 1163 for structural steel tubing grade 200. For clarity in printing Imperial sizes changed to Metric have been rounded off to the nearest full millimetre. These sizes will continue to be accepted (i.e.: 1.25" = 31.75mm rounded to 32mm)

### **DRIVER SAFETY**

All protective clothing and safety equipment must be used and/or worn in the approved and accepted manner. Flame protection (suit) plus thermal protections (underwear) equal driver protection.

### **PROTECTIVE CLOTHING**

#### **RACE SUIT:**

Driving suit must meet minimum standard of either SFI 3.2A /1 or FIA 8856-2000 Suit to be snug fit at ankles, collar and cuffs. Must be fastened at all times whilst in car. Suit to be in a clean and tidy condition and free of holes or wear.

**The only IMPACT RACING safety attire accepted is to have relevant SFI label with date of manufacture 2009 – 2010 or later on label.**

Two piece suits NOT PERMITTED.

No synthetic material to be worn against skin. (One way communicator earpiece and lead allowed).

No jewellery to be worn.

## **UNDERWEAR:**

Full length underwear meeting minimum standard of either SFI 3.3, or FIA 8856-2000, 'MUST' be worn by all drivers and passengers.

Approved underwear must be worn regardless of type of race suit.

## **SOCKS:**

Only socks meeting minimum standard of either SFI 3.3, FIA 8856-2000 must be worn

Socks must be higher than bottom cuff of under wear.

## **BOOTS, GLOVES, BALACLAVAS:**

Boots, gloves and balaclavas are compulsory in all divisions and must meet minimum standard of either SFI 3.3, or FIA 8856 – 2000.

Balaclava must cover the nose to prevent inhalation of flames and must be long enough to fit inside of or cover the collar of the race suit.

Gloves must reach driving suit cuff. Gloves cannot be modified in any way (eg. Removing thumb).

Boots must cover the ankles and be high enough to permit coverage by the driving suit cuff.

## **HELMET:**

Driver must wear approved and correctly fitting helmet. The helmet must meet minimum standard **AS 1698, Snell M, SA, SAH 2010, Snell M, SA, SAH 2015, SNELL EA2016, Snell M, SA, SAH 2020 or ECE 22-05 (If it doesn't have the chin-strap tag with the correct details it's not UN/ECE 22-05 compliant, despite any other labels.)**

and pass inspection by the Scrutineer or Technical Committee.

SFI suggested helmet life is four years. However if helmet has signs of misuse, neglect or damage Scrutineer will note helmet serial number in log book. If the helmet is found in use Chief Steward is to be notified under Rule 6.2 Chin cups are not permitted. Inspection and approval from Technical Committee to be obtained before painting.

## **NECK BRACE (HORSE COLLAR)/ HEAD & NECK RESTRAINT:**

Approved head and neck restraints (eg: 'Hans' type devices) can be used in lieu of a horse collar neck brace. A compulsory neck brace must meet minimum standard of either SFI 3.3, or FIA 8856 – 2000.

Correctly fitted to suit the driver and helmet used, leaving a nominal 15mm gap to prevent leverage injuries. A horse collar neck brace is to

be high of density foam covered with Nomex, wool or similar fire retardant material. Head and neck restraint devices must only be fitted to the helmet by authorised installer as directed by the manufacturer and must be SFI 38.1 or FIA 8858-2002 or FIA 8858-2010.

### **5 YEAR REPLACEMENT OR RECERTIFICATION FROM DATE OF MANUFACTURE ON SFI 38.1**

#### **EYE PROTECTION/GLASSES:**

Suitable eye protection must be worn IE: visor or goggles.

If a driver is required to wear optical glasses under any requirement for licence under Vic Roads licensing and/or Medical Practitioner stipulates that the optical glasses must be worn for reasons of VSC Inc. licensing, then that driver must wear those glasses whilst competing and any such glasses must be made of non-splintable type material.

#### **SEAT AND SEAT BELTS:**

A 'Purpose Built' professional standard one-piece, fibreglass, approved plastic, steel or aluminium bucket type seat incorporating a substantial headrest, must be used. The use of mass produced, competition based alloy seats with lightening holes are permitted. E.g. Kirkey/Butler. All holes are to be swaged as per manufacturers specifications. The use of one off type seats without holes is permitted subject to VSC Technical Committee approval via Zone Scrutineer or Technical Representative and endorsed in log book.

Minimum 50mm clearance Helmet to head plate/roll cage bars.

Concave seat to support back to minimum of TOP of shoulder height and width.

Top of headrest to be at least 50mm above helmet to seat contact area and to be within easy contact of helmet. Minimum width 150mm.

**It is mandatory for all VSC cars** to have a head rest brace of minimum strength equivalent to 20mm x 20mm x 1.6mm RHS within 25mm of the back of the head rest, to stop the head rest moving back beyond 25mm. If tubing is used end on, a plate of minimum 60mm x 60mm x 3mm is to be fitted to the end to stop it becoming a spear into back of the head rest.

Seat base to be mounted to roll cage sub frame at a minimum of two (2) points using 8mm bolts and minimum 38mm diameter body

washers. Or to manufactures specifications i.e.: some plastic seats have four (4) factory mounts in base.

Seat back to be braced to, and attached to roll cage approximately 75mm below shoulder height using a minimum of two 8mm bolts and minimum 38mm diameter body washers.

Lateral (sideways) support must be given to hips and above waist.  
Front of seat under legs to be raised and rolled.  
Seatbelts must be run through seat or links, not over top or sides.  
Cut outs for belts to be suitably grommetted.

Seats may be padded and covered, the covering being securely attached.

Maximum padding thickness 50mm.

Adjustable seats to be approved by VSC Inc. Technical Committee endorsed in logbook.

An approved type racing harness must be fitted. MUST be SFI or FIA approved. Five or six point 3 inch harness is mandatory and MUST be a lever latch type, 2 inch crotch strap is permitted. SFI or FIA approved head and neck restraint (eg: 'Hans' type devices) seatbelts permitted when restraint is used.

**Harness to be fitted to manufacturers specifications or for existing fitment the following guide lines.** Seat belt bolts to be minimum 10mm grade 8.8 with Nylok nuts **only**. (Standard manufacturer's bolts and nuts permitted ie: Simpson, G Force)  
**Maximum 300mm seat to seat belt mounting points.**

Seat belt mounting brackets must be on roll cage or subframe or cross frames, not on sheet metal. Additional seat belt mounting points may be needed for adjustable seats and or junior drivers.  
See 'Installation of Restraint System'. [Fig. 1 and 2].

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. Many installations comply only with the letter of the rules with no understanding of the needless injury to the driver.

The mounting points should be solid and should remain so even if this 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 to protect internal organs makes it the preferred location for the belt. (See diagrams)

The shoulder harness should be mounted to prevent the driver from moving upward, out of the seat, in the event of a rollover. The required minimum distance from the top of the driver's helmet to the top of the roll bar does not leave much leeway for the shoulder harness to prevent the helmet from striking the roof in the event of a rollover. The shoulder harness is the major means of preventing injury in such an accident.

Anti-Submarine straps serve two purposes.

To secure the lap strap down across the drivers hips, so in the event of an accident, it is not pulled up across the stomach by the shoulder straps.

To prevent the driver from sliding forward and out of the harness [see Fig.2.1 and Fig. 2.2]

For extra assurance a double strap anti submarine belt can be used [see Fig.2.3 and Fig.2.4]

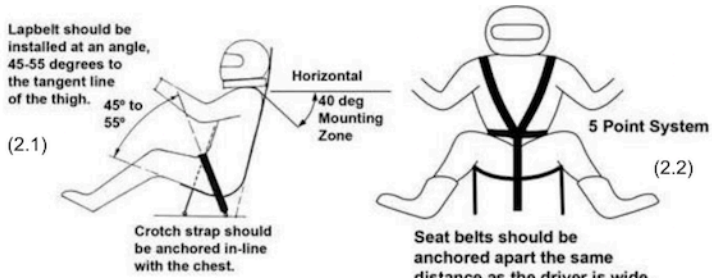
When the driver is seated in a semi-reclining position a six point system (two anti-submarine or crotch straps) is preferable. Most drivers find the two anti-sub strap position more comfortable regardless of the type of car.

In many instances, the anti-submarine straps are mounted much too far forward of the seat. This practice could cause 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 anti-submarine strap can be anchored in line with the chest.

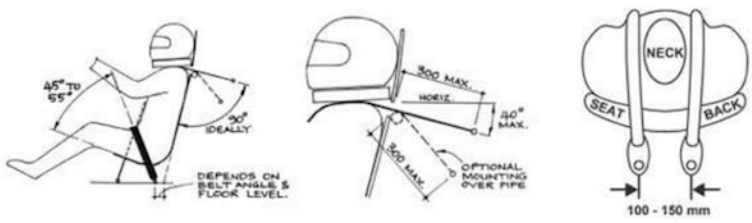
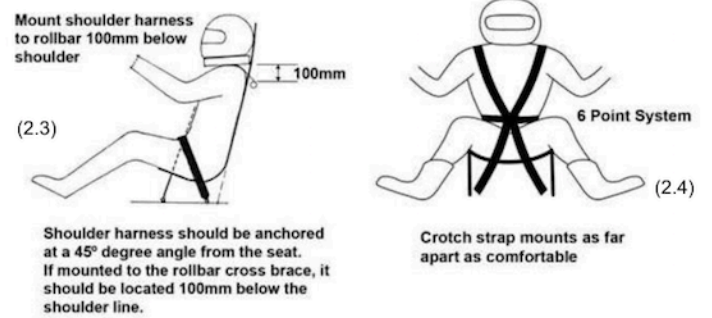
Because of difference (often vast) in competition vehicles, 'standard' method of mounting is impractical.

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.

**If passenger seat fitted and no passenger in race seat belts and window net must be removed or correctly buckled or attached.**



Seat belts should be anchored apart the same distance as the driver is wide. Mounting brackets should be angled the same distance as the belts pull and not tilted in or out.



### **ONE WAY COMMUNICATOR:**

The use of one way communicator is compulsory.

Operating one way communicator is to be presented at scrutineering.

### **FIRE EXTINGUISHER:**

On board fire extinguisher optional. It must be securely mounted and be of the correct type for the fuel being used.

### **NUMBERS:**

Numbers 1, 2 and 3 reserved for VSC State Title placegetters. All vehicles are to be presented for racing in a good condition, with paintwork, sign writing and allocated numbers to be painted on the both sides of body and a number to be visible when car viewed from the front: i.e. roof number or sun visor.

Registered number and prefix are to be a contrasting colour and clear of any sign writing, etc. Number will be 300mm minimum height x 75 mm minimum width and prefix 150mm high. Cars must also have car number front and rear of car, in a clearly visible position and to be minimum 75 x 100mm in contrasting colours. Driver's name/s to be on roof above driver's door or sunvisor minimum 50mm lettering.

### **ROOF NUMBER PLATE:**

The roof identification number shall be a metal plate 30cm (300mm x 300mm) square with a 5cm (50mm) right angle fold at the bottom where 2 holes, at 200mm centres shall be drilled to take 6mm bolts. The plate shall be bolted vertically on the roof of the vehicle parallel with the side of the car. (may also be V shaped)

The plate must be black background and white number/s in plain font 200mm high.

### **LICENSING:**

Only VSC licensed persons may participate as a driver or passenger. Junior Drivers and passengers to be aged 12 - 17 years.

### **INSURANCE:**

Proof of approved speedway accident coverage is compulsory for drivers.

Ambulance membership is compulsory for drivers and passengers.



**ALCOHOL:**

No alcohol/illicit drugs are to be consumed within twelve hours prior to racing by driver. No alcohol permitted in the pit area. Drivers, passengers or crews must not exceed .02% blood alcohol level at any time during scrutineering or race meeting, as per racing rules and regulations.

**TEK SCREWS:**

No self drilling screws (Tek Screws) permitted on external panels.

# *Class Specifications*

## **BODIES:**

Any 2 or 4 door mono construction sedan or station wagon permitted. Models **NOT** permitted – 4 wheel drive, 4 wheel steer, front wheel drive, ute, panel van. **No** chassis constructed cars. e.g.: Super sedan/AMCA permitted.

All diecast, brittle plastic and chrome must be removed from the vehicle and all holes in firewall must be covered.

Steel doors must be securely bolted or welded shut.

All glass to be removed, head and tail light apertures to be covered with body materials or thin mesh max 1.6mm.

**Optional body flares** Max 100mm x 1.6mm metal with maximum 10mm rod supports or plastic of equivalent strength.

**Wheels** the outside face of the wheel rim cannot protrude more than 60mm absolute from original body line excluding rub rails. Any further and the wheel is to be covered by a body flare, outside face of wheel rim cannot protrude past outside of flare.

Floor may be modified to suit suspension mountings any modification to be fully covered, covers to be min 1.6mm panel steel/ alloy.

The only panels which may be removed: Radiator support panel, front guards and inner guard panels forward of front suspension mounts, roof inner panels **ONLY** at the points where interference with the roll cage occurs, dash panel, boot inner panels, boot floor and/or rear wheel arch sections rearward of the rear axle centre-line, **rear quarter panels from rear window base line. Rear body silhouettes to be retained.**

Rear panel/vertical back of boot may have a hole maximum 375mm x 135mm and be filled with mesh.

If front guards and or 1/4 panels are removed must be replaced with fibreglass replica.

Replacement panels: bonnet, boot, and doors can be steel 1.6mm maximum, fibreglass, aluminium.

Steel bonnets and boots must have a minimum of 2 quick release pins at front and secured at back. Fibreglass front bonnet to have 5 quick release pins 3 front, 2 rear. Rear fibreglass boot to have 4 quick release pins 2 front, 2 rear.

Pins to be minimum of 12mm.

Heavy duty large reinforcing washers (min 32mm OD) to be fitted to all fibreglass bonnet and boot pin holes or worn holes in steel bonnets and boots.

No tek screws outside body.

No tow bars permitted.

## **ROLL CAGE:**

See attached minimum roll cage diagram.

All bars in diagram are compulsory.

**All cars** must be constructed with a complete Roll Cage built to the NASCAR design as used in other classes within the VSC Inc.

The roll cage is to prevent the collapse of cabin area under impact.

Roll cage to enclose the driver/passenger, to be full width and full height of the cabin area.

The roll bars are to constitute a cage type framework; braced fore and aft. The cage must extend from behind seats forward to the windscreen area and incorporate protection for the feet.

- a) All roll bar material must be good quality mild steel, minimum AS 1163 Gr200. Minimum 38mm OD x 3mm W.T. CHS.  
The use of any material other than low carbon steel for the construction of roll cage must have VSC Inc. Technical Committee approval.  
Aluminium based material **not** permitted.
- b) The rear main hoop and main roll cage bars will each be made of one continuous length of tubing, with smooth continuous bends and no evidence of crimping, wall failure or significant weakening. All bends to be made using a pipe bender with the correct size former, Galvanized tubing or welding over threaded tubing **not** permitted in any structural barwork. Water pipe fittings or malleable fitting are not permitted. Roll cage built using other than fusion welding techniques will not be accepted. Gussets on welded joints may be required.
- c) **Main roll cage hoop** to be within 50mm of sides of roof at narrowest point. **Top windscreen bar** to be within 50mm of windscreen at front roll cage leg on side elevation.  
**Front roll cage leg** is to be within 50mm of windscreen opening

on side elevation and follow down the 'A' pillar line at an angle of no more than 45 degrees downwards from the horizontal. The front leg will be no more than 300mm behind the original door pillar at original top door line. Or 75mm in on the front elevation at original top door line. Roll cage legs to be welded to top of a subframe within 50mm of door pillars on front elevation.

**Note for cars with sever rake of windscreen.** If the angle of roll cage 'A' pillar bar is less than 45 degrees down from roof bar a quarter vent bar minimum 25mm OD x 3mm W.T. CHS is necessary. Must be as close as practicable to the first upright of the NASCAR barwork and mounted in the top half of 'A' pillar bar.

**Foot protection** for rollcages with front leg more than 75mm behind original door pillar, maximum 450mm measurement from roll cage leg to forward section of foot protection bar and must be filled with 3mm plate, and must cover all pedals when pedals are fully depressed.

**Subframe** to be tubular or angle section running fore and aft, which is to be welded or bolted to the floor pan/sills using minimum FOUR 12mm steel bolts through the subframe and using 100mm x 100mm plates under the floor or four x 50mm fillet welds. Distance from 'B' Pillar to rear roll cage leg maximum 200mm.

d) **Subframe material:**

A. Tubular minimum 38mm OD x 3mm W.T. CHS or 38mm x 38mm x 3mm RHS.

B. Angle minimum 50mm x 50mm x 5mm.

e) **Diagonal brace.**

A minimum of a one piece diagonal brace, minimum 38mm OD x 3mm WT CHS, will be fitted in the main roll cage hoop behind the drivers head within 200mm from centre of bend. down onto left hand rollcage leg directly above subframe brace. A cruciform type brace may also be used minimum 34mm OD x 3mm WT CHS, **cruciform manditory for passenger.** Drivers side top down to left hand rollcage leg to remain one piece.

f) **ADDITIONAL MINIMUM BARWORK: Minimum 38mm OD x 3mm WT CHS**

**Top windscreen bar.**

**Lower windscreen / dash bar.**

**Nascar door bars** on drivers side: three horizontal sidebars with only one bend at each end curved out to the door skin, are to be placed between front and rear cage legs. Evenly spaced between window sill and cage subframe. Top bar to be within 75mm of original top window sill.

Door pillar can be removed(optional) to accommodate barwork. A minimum of two vertical spacer bars, evenly spaced between front and rear roll cage legs, are to be fitted between the cage sub frame and top horizontal bar. Two door vehicles or vehicles with excessive roll cage length between the front and rear legs of the roll cage, must use three vertical bars and a quarter vent bar fitted above the first vertical bar. Left side (passenger) minimum two bars fitted between front & rear roll cage legs, one must be horizontal within 75 mm at window sill height.

VSC Sports Sedans may carry a passenger (VSC Licence and Insurance)

**LEFT HAND SIDE (PASSENGER SIDE) TO BE MIRRORED OF DRIVERS SIDE IF PASSENGER SEAT IS FITTED.**

Including foot protection bar and brace, head plate and anti spear plates.

**SUBFRAME CROSS BRACES.**

Minimum of two sub frame cross braces at roll cage legs, minimum either 38mm OD WT CHS or 35mm x 35mm x 3mm RHS

Option for cars registered prior to 1-7-2014, front sub frame cross brace (spreader bar) may be moved rearward no further than the first vertical door bar or to a maximum 300mm from the front roll cage leg (as per rollcage diagram), providing a diagonal brace if fitted between spreader bar and front roll cage legs on both sides.

If rear subframe cross brace is bent to clear tunnel a vertical bar minimum 25mm x 3mm CHS or RHS must be fitted above tunnel between subframe cross brace and rear hoop diagonal brace or cruciform.

**Centre roof bar** minimum 32 OD x 3mm WT CHS.

**Centre windscreen bar** minimum 25mm x 3mm WT CHS.

**Rearward brace bars** minimum 34mm x 3mm CHS, must be attached to top rear of main hoop no more than 200mm from outside of roll cage leg. Down onto rear barwork.

- g) **FOOT PROTECTION** must be used as per diagram 1, minimum tube size 32mm x 3mm CHS with minimum height of 300mm and brought forward as far as practicable and must cover all pedals when pedals are fully depressed. May be filled with 3mm plate. A mandatory foot protection brace bar of a minimum 25mm x 3mm chs fitted between the front top half of the foot protection bar and bar work to the left on the driver's side (preferably the dash bar) and between the front top half of the foot protection bar and dash bar at approximately 45 degrees on the passenger side if passenger seat fitted. **Foot protection for rollcages with front leg more than 75mm behind original door pillar**, maximum 450mm measurement from roll cage leg to forward section of foot protection bar and must be filled with 3mm plate, and must cover all pedals when pedals are fully depressed.

**If fully depressed pedals do not protrude past roll cage leg. Foot protection bar is not compulsory.**

An '**ANTI SPEAR**' deflector plate, 3mm or 5mm aluminium (not to be lightened by drilling) to be fitted to drivers side, from floor line to window sill bar, forward of the first vertical door bar to the front leg of the roll cage and must be fitted outside of roll cage. If not welded one piece door plates to be bolted on using a minimum of 6 – 50mm x 50mm x 3mm steel tabs welded to nascar bars and bolted using 8mm high tensile bolts with no protrusions. If individual pieces are used then a minimum of 4 – 50mm x 50mm x 3mm steel tabs welded to nascar bars and bolted using 8mm high tensile bolts to each piece with no protrusions. Must be mirrored on passenger side bar work if passenger seat fitted.

## **MESH SCREEN:**

A mesh screen will be securely fitted to roll cage and/or metal body in front of driver and passenger if passenger seat fitted. Maximum mesh size 50mm x 50mm minimum gauge 3mm.

25mm x 25mm mesh may use minimum 2.5mm gauge wire.

### **HEAD PLATE:**

A head plate is compulsory for driver and passenger and must be welded on a minimum of three (3) sides. The head plate to be of 3mm flat mild steel. (Refer diagram)

Bolt-in roof plate optional. Removable head plate to be 5mm aluminium alloy or 3mm steel, 25mm x 3mm FMS strip to be welded to main hoop, top windscreen bar, centre roof bar and side roof bar. Or 10 of 50mm x 50mm x 3mm tags acceptable for 5mm aluminium. Plate to be mounted from above with 10 x 8mm diameter high tensile bolts, 3 each side, 2 front, 2 rear. Heads of bolts to be downwards, i.e. no projections.

### **SCATTERSHIELD:**

A scatter shield of 3mm steel / 5mm alloy min width 150mm to be securely mounted to auto transmission / clutch bell housing or inside / outside of floor tunnel as near as possible to engine firewall. To extend from right floor to left floor. So as to protect the driver and passengers limbs from a 'clutch explosion'.

### **FIREWALLS:**

Engine firewall must remain in original position. No air intake / filters permitted in cabin area.

Rear firewall must remain in original position, floor may be modified to suit suspension mountings any modification to be fully covered covers to be min 1.6mm panel steel / alloy. Rear firewall can be modified to fit radiator. Radiator not to protrude into boot more than the thickness of the radiator.

Parcel shelf to remain complete and in original position, can be modified for fuel access.

### **FLOOR:**

Floor can be modified to suit suspension mountings, any modification to floor must be fully covered.

**See attached minimum roll cage diagram 1.  
ROLL CAGE DIAGRAM**

ALL BARS IN THIS DIAGRAM ARE MANDATORY. LEFT HAND SIDE MUST BE MIRROR OF DRIVERS SIDE IF PASSENGER SEAT FITTED, INCLUDING HEAD, ANTI SPEAR AND FOOT PROTECTION PLATE AND BARS. NASCAR BARS MAY BE USED ON PASSENGER SIDE WITHOUT PASSENGER SEAT FITTED.

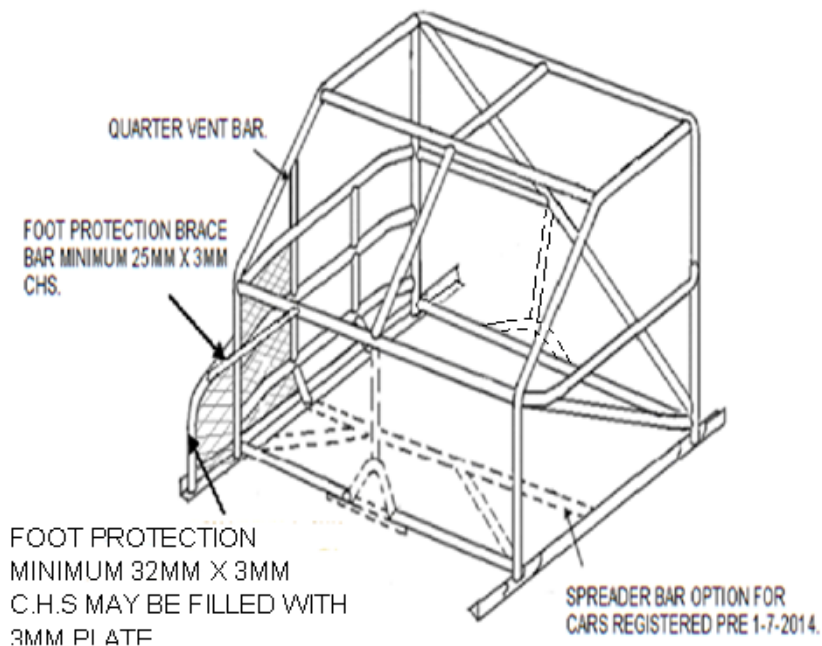
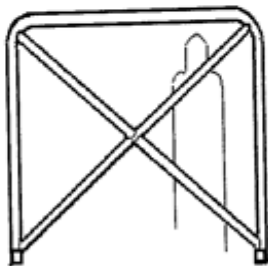
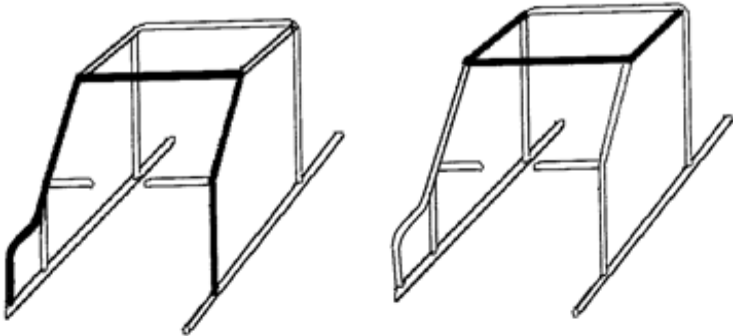


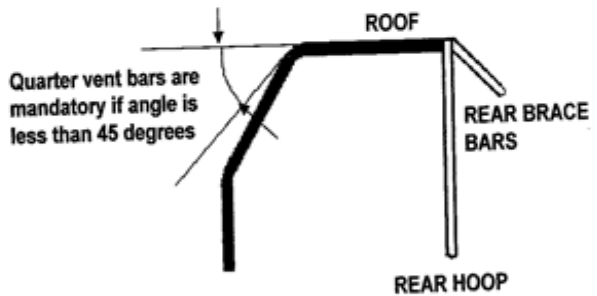
Diagram 1



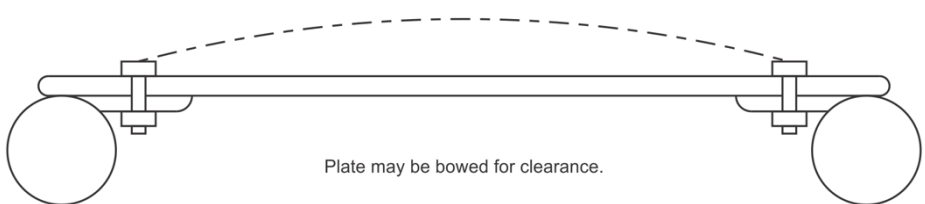
## SOME ROLL BAR OPTIONS



REAR HOOP DIAGONAL  
BRACE



## HEADPLATE



## **WINDOW NET:**

**Window nets meeting minimum SFI 27.1 are mandatory.**

Window Net lattice to be a minimum 19mm wide webbing with a maximum hole size of 75mm x 75mm inside.

Window net to be securely attached to roll cage at top and bottom, NOT car body and to cover 60% of side window area.

Not to be made of flammable material: i.e. Plastic.

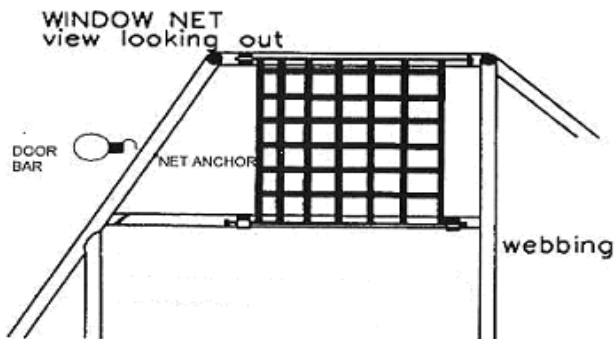
Window net must be fixed top and bottom using a minimum 25mm x 3mm flat steel or 8mm steel rod through window net. Original window net manufacturer supplied fitting hardware permitted.

The above design uses two push button seat belt buckles and the belts tongues are welded to side roof bar.

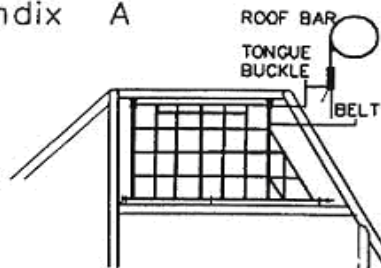
Using either 25mm x 3mm minimum flat steel or 8mm minimum steel rod, to be welded to rear of buckles.

**Tubeing at base of net must be removable and fixed with bonnet lock pins.**

No tek screws, pop rivets or cable ties permitted to fit window net.



Appendix A



## **FUEL PROTECTION:**

### **FUEL PROTECTION BAR WORK**

All rear barwork behind main rollcage hoop to be a minimum 34mm OD x 3mm WT CHS.

Tanks to be securely mounted in the boot area of the car, in a suitable metal cradle attached to the bar work, with a minimum clearance of 150mm forward of the lower rear end of the boot panel and 300 mm

minimum from side of vehicle and isolated from driver and battery by a metal firewall. Rear braces to be attached to top of roll cage rear hoop no more than 200mm from outside of roll cage leg. Tank to be protected by substantial bar work on all sides.

### **REAR FUEL TANK PROTECTION BAR**

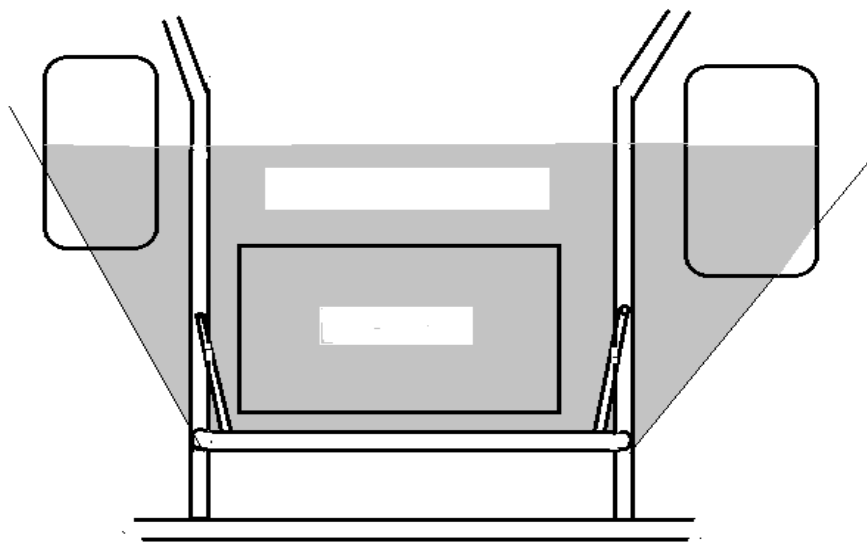
Bar must be constructed of minimum 38mm x 3mm CHS, or 40mm x 40mm x 3mm RHS and be 25mm clear all around tank, fittings and filter ect, projecting a line from the rear wheel centre to the bar. Bar is to prevent entry to tank by nose of another vehicle. Protector must be 25mm wider than any part of tank including corners. Protector must be 25mm higher or lower than any part of tank above or below rear bar work and mounted as per Rear fuel tank protection bar diagram 1, 2, 3, 4. Rear fuel protection bar braces to be minimum 25mm x 3mm CHS (Brace bars do not constitute bumper mountings.) Vertical anti intrusion bar is to be mounted central to fuel tank in the Rear fuel tank protection bar. Intrusion bar is to be a minimum 25mm x 3mm steel CHS or RHS.

### **Rear fuel tank protection bar diagram 1**

PLAN VIEW OF AREA PROTECTED BY BARWORK AND WHEELS

PROTECTED AREA

FUEL TANK



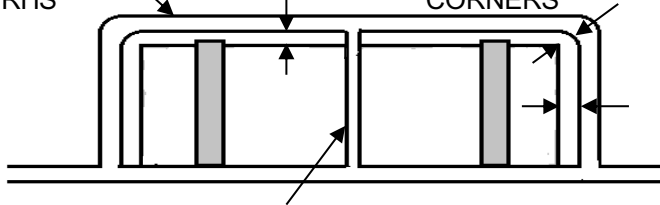
## Rear fuel tank protection bar diagram 2

FUEL PROTECTION BARS FOR FUEL TANKS THAT ARE ABOVE REAR BARWORK

MINIMUM 38MM X 3MM  
CHS OR 40MM X 40MM  
X 3MM RHS

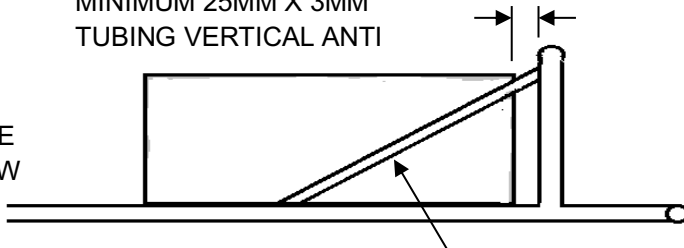
25MM MINIMUM GAP TANK  
TO BARWORK INCLUDING  
CORNERS

REAR  
VIEW



MINIMUM 25MM X 3MM  
TUBING VERTICAL ANTI

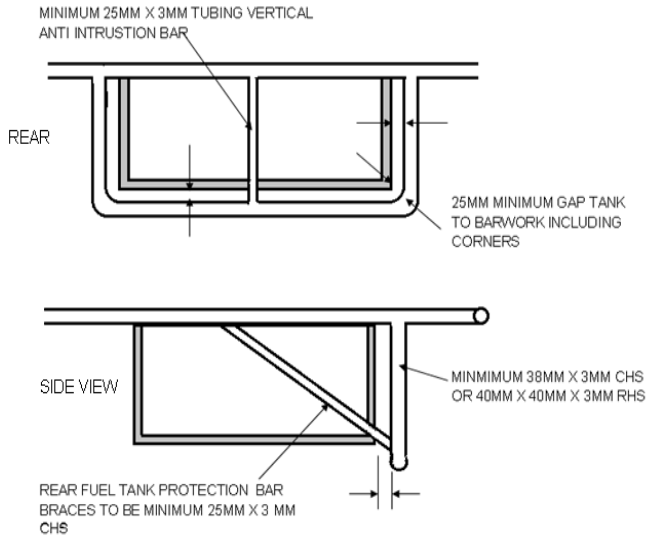
SIDE  
VIEW



REAR FUEL TANK  
PROTECTION BAR  
BRACES TO BE MINIMUM

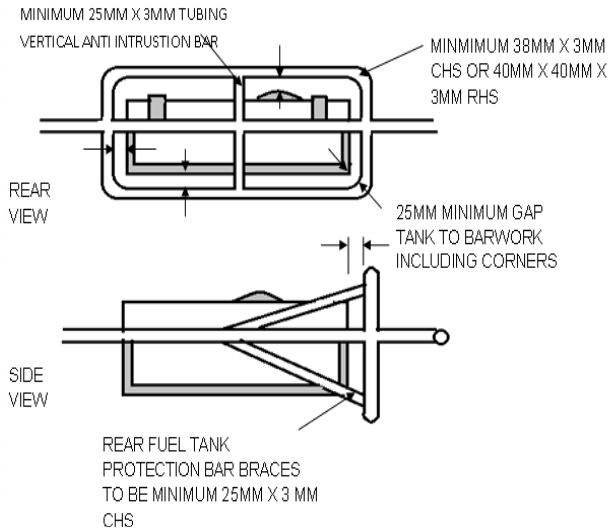
### Rear fuel tank protection bar diagram 3

FUEL PROTECTION BARS FOR FUEL TANKS THAT ARE BELOW REAR BARWORK,



### Rear fuel tank protection bar diagram 4

FUEL TANK PROTECTION BARS FOR FUEL TANK THAT ARE ABOVE AND BELOW REAR BAR WORK



## **FUEL TANKS / CELL:**

Must be securely mounted in a suitable cradle attached to barwork or fuel protection barwork **not floor**. Breather to be mounted to top of tank and must have a one way valve in working order with hose exiting floor away from exhaust. Mounting brackets not to be welded to tank. Fuel pick up fittings(etc) to come from top or sides. Pick up from bottom of tank not allowed past rear wheel arch. Side fittings to be protected by barwork or plate from intrusion. Metal fuel filler rings on plastic fuel cells must be fitted with earth strap to barwork or body.

### **Jerry cans not allowed.**

No aluminum straps or fittings permitted to secure tank. Fuel tank straps to be steel minimum 25mm x 3mm for tanks with maximum capacity up to 32 litres or minimum 25mm x 6mm steel straps for tanks with capacities from 33 litres to 60 litres.

Bolts holding straps to be minimum 8mm with lock nuts. Metal fuel filler rings on plastic tanks to have earth strap fitted from ring to body, tank mount or barwork.

An effective quick action lever type fuel tap or SAE R6 combination type lever tap/filter must be fitted to all non EFI cars within reach of the driver whilst belted in the car and accessible to crash crew and must be clearly marked ON/OFF and fuel type.

Fuel line from tank to engine, is to have flexible section close to the tank and engine, to be securely fastened. Screw type clamps with barb fittings or SAE R6 type fittings to be used throughout fuel system.

Maximum two fuel system connection to tap only in cabin area.

Commercial R6 bulk head fittings allowed at firewalls.

No fuel system connection in cabin area of EFI cars.

If a return fuel line is used must have a one way valve fitted near fuel tank. **EFI must use high pressure EFI fuel hoses.**

All electric fuel pumps must be controlled by the 'Kill Switch' EFI to also have engine monitoring relay to stop fuel pump running when engine stops.

Maximum fuel capacity 60 litres, Unleaded or Methanol. No LPG or Avgas as per Government regulations.

Fuel tanks to be constructed of minimum 1mm steel or 3mm alloy.

Competition plastic tanks allowed. Original fuel tanks to be removed.

There must be a comprehensive fire wall between tank and driver.

All fuel lines to be isolated from electrical wiring.

Fuel tank area must be accessible for scrutineering minimum access from top or rear (not below) is the size of the fuel tank.

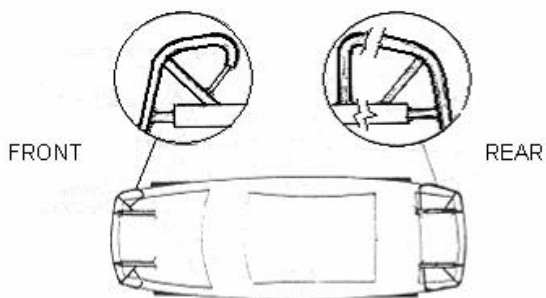
Type of fuel to be clearly marked at kill switch, boot and fuel tap (cabin).

## **BUMPER BARS & OPTIONAL EXTERNAL BARWORK:**

OEM type steel bumper bars permitted, but may be replaced with maximum 42mm x 3mm CHS OEM type steel bumper bars must only be fitted with original brackets in original position.

- a) Bumpers to be securely mounted in original position using supports of a minimum of 100 mm from rear of bumper tube. Maximum support size 42mm x 3mm CHS, 40mm x 40mm x 3.2 RHS, or 50mm x 25mm x 3.2 RHS only i.e. gussets are not to be used. Bumpers are not to tie to under guard bar work.
- b) Front bumper, maximum return 300mm, minimum 100mm by max 42mm x 3mm CHS. Pipe bumper must be covered with a plastic road car bumper.
- c) Rear only. Returns of rear bumper may be extended as a skid rail against outside of body between bumper and wheel arch, and then extend inward to the 'chassis rails/bar work'. Max 42mm x 3mm CHS. Pipe bumper must be covered by plastic road car bumper.
- d) Maximum of four (4) mounting points on front bumper bar and six (6) on rear bumper bar (Fig 9).  
Bumpers are to remain hollow.  
Returns and bumpers to be flush fitting with the body within 25mm. Anti hook-up bars from returns of front and rear bumpers to be extended onto the stay bars. (Fig 9)  
All bar work forward roll cage to be below top of lower windscreen bar.  
**No other bar work to be outside cabin, boot or engine bay, with the exception of skid rails.**





### **REAR OVERRIDE BAR**

An override bar may be used. Constructed of CHS maximum 25mm OD x 3.2mm WT it shall be no wider than the boot panel and shall be mounted centrally on TOP of the bumper at no more than four (4) points, be vertical and be max 100 mm high. Brace bars are NOT to be used.

### **FRONT OVERRIDE BAR**

An override bar may be used. Constructed of CHS maximum 25mm OD x 3.2mm WT maximum 600mm long. 150mm high and mounted centrally on TOP of bumper at three (3) points only i.e. may have a central support.

### **OPTIONAL ENGINE BAY BAR WORK**

Shocker tower support bars to be mounted to rollcage/ dash bar, bars may form a crucifix.

Bars may run from shocker tower to front chassis rail, lower bars to run along chassis rail top or bottom, inside or outside with only one bar to go across at radiator.

No bar work forward of radiator support panel.

All bar work to be maximum 42mm OD x 3.2mm CHS.

### **ENGINES**

Engines may be either 4, 6 or 8 cylinder at any stage of tune.

Super charged, turbo charged or any forced induction Not Permitted.

Fuel injection must be make and model of engine being used. Any standard or after market EFI manifold permitted. Must remain externaly visually standard. No custom made EFI manifolds allowed. Throttle

bodies size is open. After market computers permitted. EFI electric fuel pump must be fitted with engine monitoring relay to stop fuel pump running when engine stops.

Porting allowed.

multiple carbs permitted. Extractors and Headers permitted. After market inlet manifolds permitted for carburetor engines.

Engines which are not solid mounted MUST be fitted with minimum 6mm chains or cables.

One (1) throttle return spring must be used on each carburetor at the throttle shaft, and one (1) return spring on throttle linkage.

All engines must be fitted with air filter, no air filters or air intakes in cabin.

Engine firewall must remain in original position and must be complete and fireproof.

## **COOLING SYSTEM**

Cooling system may be modified.

All radiator hoses to be of fabric reinforced material, plain rubber hoses not permitted.

All hoses to be fitted with screw type clamps.

Radiators may be mounted inside cabin provided that they are mounted as low as possible in the rear of the vehicle and suitably isolated from the driver.

The upper half of the rear window opening MUST NOT be obscured by the rear radiator. Radiator ducting shroud, if used, maximum of 600mm forward of the radiator and must not be more than half the rear window height.

Cabin mounted radiators must have BOTH tanks and cap **fully** covered to protect driver/passenger in the event of a cap or tank blowing.

Lever type caps must be fitted to radiators in cabin area, must be covered. Pressure relief tap with hose fitted to direct water and steam towards ground may be fitted to thermostat housing.

Pipes leading to the radiator to be steel, aluminium or copper tube. All internal pipes to be ducted or lagged with suitable material.

Hoses to be as short as possible and fitted to radiator from rear side.

Exposed hoses or joints not permitted in cabin area.

Cabin mounted water pumps and over flow bottles must be lagged or covered by suitable guard. All over flow bottles must be fitted with over flow hose to direct water and steam towards ground.

Any type of fan permitted.

Cabin mounted fans to have shroud or suitable guard.

## **SUSPENSION**

No front beam axles permitted.

Suspension choice is optional.

## **WINGS**

Boot mounted wings permitted. No roof wings.

Wings to be securely mounted and be no higher than half the rear window height and to be made of body material.

Wings not to protrude past body line (quarter panel) and not past boot.

Optional front and rear spoilers to be either metal or plastic.

## **BATTERY IN CABIN**

Must be securely mounted with mandatory frame within rollcage bar work and attached to the rollcage or rear bar work.

Must have a single frame that covers four (4) sides of the battery, **top and bottom**. Angles to be a minimum 25mm x 3mm steel. Frames to be connected with a minimum 2 x 8mm rods/bolts, 4 recommended, no hooks or wing nuts permitted. Battery must be FULLY enclosed, marine type box acceptable.

A blue triangle of 50mm x 50mm x 50mm to be placed on the outside of the car to show the position of the battery.

Only one passenger vehicle size battery is to be used.

If vehicle has a passenger seat fitted, battery must be rear of rollcage rear hoop.

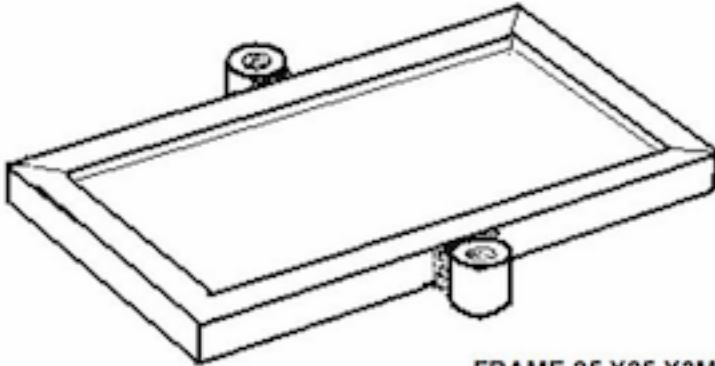
## **BATTERY IN BOOT**

Must be securely mounted with mandatory frame to rear bar work or sub frame (not body) Must have a single frame that covers four (4) sides of the battery, **top and bottom**. Angles to be a minimum 25mm x 3mm steel. Frames to be connected with a minimum 2 x 8mm rods/bolts, 4 recommended, no hooks or wing nuts permitted. Must be protected with minimum 38mm chs bar work. Must have a metal firewall between battery and fuel tank.

A blue triangle of 50mm x 50mm x 50mm to be placed on the outside of the car to show the position of the battery.

Battery in engine bay NOT allowed.

**Example of mandatory battery clamp/hold down frame.**



**FRAME 25 X25 X3MM ANGLE  
Top and Bottom**

### **DIFFERENTIALS**

Must be from any mass produced road going vehicle.

No after market diffs allowed (i.e. Quick change race version.)

Axles must have shrink rings tack welded in three (3) positions.

Locked and limited slip diffs allowed.

### **TRANSMISSIONS**

Must be from a mass produced road going vehical. Any manual or auto can be used.

If automatic a working gearshift activated inhibitor switch must be used.

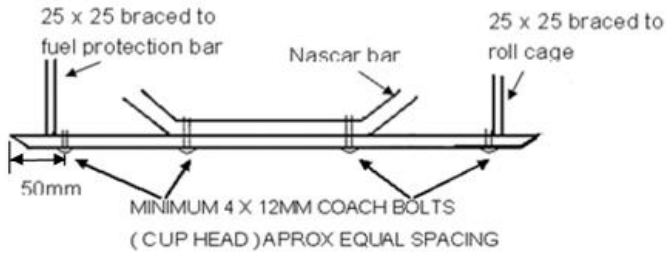
Floor shifts must have a knob fitted and a correctly fitting rubber boot.

### **RUB RAILS: (OPTIONAL)**

Mild steel rubbing strip between wheel arches to be maximum 25 x 25 x 3mm MS RHS or alternately, nylon (uretane, nolathane) 50mm x 12mm thick. Be securely mounted against body at a minimum of four equally spaced points. End mounting braces returning to bar work must be at 90 degrees to rubbing strip as per diagram below.

Bolts at each end must be no more than 50mm from the end of rub rail.

Bolts must be minimum of 12mm mild steel or 8mm 8.8 coach-head (cuphead) bolts and be bolted horizontally to bar work.



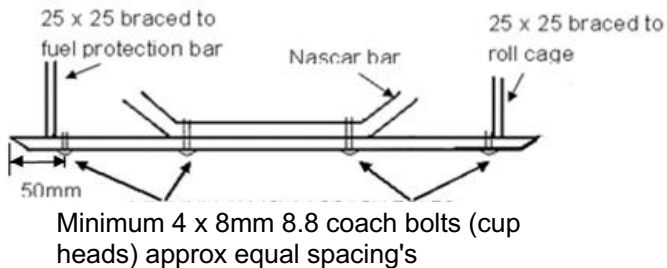
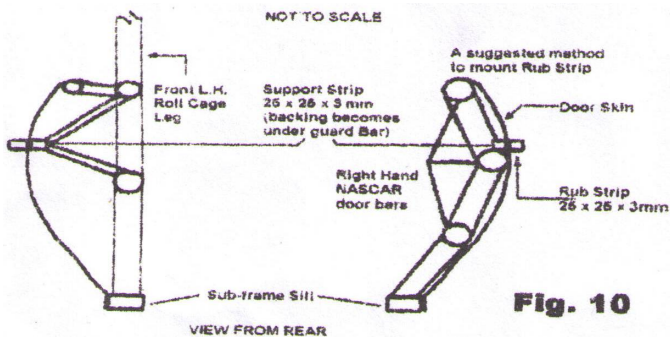
Rubbing rail ends to be closed and taper to 45 degrees as not to become a spear

Rub strips not to be used on quarter panel behind rear wheel.

Rub strips may be fitted with inner support strip maximum 25x25x3 rhs securely mounted at minimum 3 points to bar work, outer rubbing rail to be bolted to inner strip with four bolts as above.

Inner support strip to be returned to bar work at each end.

**See Fig.10.**



## **EXHAUST SYSTEM**

Exhaust must finish behind rear rollcage hoop.

Exhaust must be fitted with a muffler and be within noise level requirements, 95 dba.

All exhaust gases to be directed away from drivers/passengers, fuel tanks, tyres floor ect.

Internally ducted exhaust systems shall vent through the body, not higher than 100mm above door sill panel, using a slip joint as in diagram. Fig 13

Driver to be suitably insulated from exhaust system. Insulation and firewall sheeting not to exceed 150mm above drive shaft tunnel.

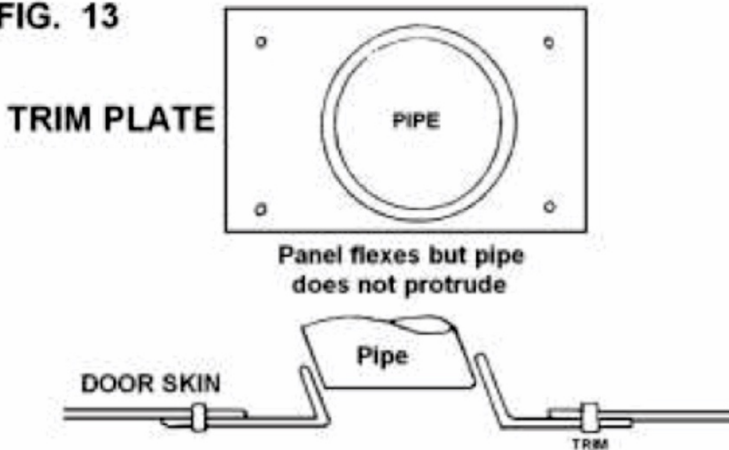
Exhaust must not have more than two (2) outlet pipes and not protrude past the body line.

If exhaust system is under floor, minimum 4mm safety chains will be fitted to front and rear of pipes and secured to floor pan or sub frame.

Pipes and mufflers must be securely attached to the vehicle.

Extractors allowed.

**FIG. 13**



## **STEERING**

Any safe form of steering is acceptable, but must be mounted to original mounting points. Power steering permitted.

Steering shaft must be securely attached to the roll cage (i.e. U bolt).

Quick release steering wheel is **MANDATORY**. (Must be fitted). Left hand drive permitted, must be mirrored of right hand drive.

## **HYDRAULIC UNITS**

All hydraulic, power steering, oil hoses and units in cabin area must be lagged or a metal firewal used.

No radiators or coolers permitted in cabin area, excluding water cooling radiator.

## **WHEELS**

Any size rim permitted. All wheels must be of professional quality steel or 'mag' construction.

Wheel studs not to protrude past face of rim.

Wheel spacers or adaptors allowed, correct fitting wheel, studs, nuts and **spacer to a maximum width of 51mm** may be used. Or correct wheel adaptor, nuts and studs may be used, **not spacer and adaptor together.**

(Adaptor uses studs in axle to attach the adaptor to axle and another set of studs in the adaptor to attach the wheel to adaptor no wide 5 type adaptors permitted.)

Wheel fitted with spacer or adaptor must must have wheel studs a minimum of 10mm past outer face of wheel nut.

Wheels with out spacers or adaptors may use standard correct fitting wheel, wheel studs and nuts without 10mm past outer face of wheel nut.

Dual stud pattern wheel not permitted.

All wheel nuts to have open ends.

The outside face of the wheel rim cannot protrude more than 60mm absolute from original body line excluding rub rails. Any further and the wheel is to be covered by a body flare, outside face of wheel rim cannot protrude past outside of flare. Maximum width of flare 100mm.

Competition type bead locks are the only form of mechanical tyre attachment permitted.

Wheels fitted with wheel cover must use correct wheel manufactures attachments only, covers may be required to be removed for scrutineering purposes.

All balancing weights to be removed.

## **TYRES**

No snow/ rally tyres permitted.

Tyres must be in good condition.

Race rubber to be max of 8.5" (inches) as per manufacturers markings eg: 84 x 8.5 x 15.

Radials maximum 245 eg: 245 x 60 x 15.

All details to be visible in OEM marking on tyre sidewall.

## **BRAKES**

Minimum of three (3) brakes operational, four (4 recommended).

Outside front wheel is the only brake that may be removed or disconnected.

## **STARTER MOTOR**

All vehicles must be capable of starting by the starter motor at scrutineering.

## **TAILSHAFT**

Each piece of tailshaft must be fitted with 360 degree hoops at the front and rear. Front hoop to be minimum 40mm x 5mm FMS or equivalent, be round, no longer than twice the diameter of the tail shaft, and be securely mounted approximately 150mm from the universal joint, minimum 6mm chain or cable securely mounted through the floor can form hoop.

Rear hoop to be as above except that it may be elongated vertically to permit suspension movement. Full chain or cable hoops permitted.

Tail shaft and universal joints to be correctly phased and be suitable for the application. A one-piece tail shaft may be used in place of a two-piece tail shaft. Minimal modification permitted to fit the one-piece tail shaft in the tunnel.



## **KILL SWITCH**

An external Kill Switch must be fitted to the middle of the cowl panel and to be clearly marked ON – OFF, and must be of a contrasting colour.

### **Type of fuel being used to be marked at Kill Switch.**

Kill switch must kill 'ALL' electrics.

## **BALLAST**

Each piece of ballast must be painted white with registered car number painted in black.

If ballast is dislodged from race car during an event penalties may apply.

Maximum ballast size 610mm x 100mm x 50mm.

Ballast must be mounted to rollcage/ barwork or chassis and mounted below top nascar door bar height.

Mounting bolts to pass through ballast.

If attached to rollcage/barwork tubing correct mounting brackets to be used ie: AFCO.

If attached to chassis must be attach direct to chassis using half inch high tensile bolts and nylock nuts . Bolts to go directly through chassis using proper engineering practice. (sleeves and washers).

Ballast up to 305 long minimum 1 bolt.

Ballast between 305mm and 610mm minimum 2 bolts.

Maximum 10kg per piece of ballast.

Maximum 40kg of bolt on ballast allowed.

## **MIRRORS**

Mirrors NOT permitted.

## **PADDING**

All projections that may present a danger to driver / passenger must be suitably padded.

## **TOWING EYE**

Lifting / towing chain is permitted front and rear, to be fitted between bumper irons and chassis rails.

## **DIRECTION OF RACING**

Cars to race anti clockwise.

## **VSC SPORTS SEDAN JUNIOR**

Juniors participating in this class must be 12 to 17 years of age.  
Junior racing as per section 16 State Policy & Procedure Manual.  
Junior competitors are required to nominate a 'Chief Crew Person' as per section 10:9 of the Racing Rules & Regulations Book.  
Junior drivers are required to hold a VSC Junior Licence and have personal accident cover (i.e. Accident Fund).

## **SPECIFICATIONS:**

Specifications current until June 30<sup>th</sup>, 2024.

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