

NT Sedans

Specification & Rulebook

2024

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Introduction

NT Sedans is a class designed for the entry race car driver on a limited budget. Its purpose is to allow people with low budgets to get started and act as a breeding ground for future upcoming competitors to not only be competitive but also have some fun.

Some specialised and high quality parts are banned from this class to enable it to be affordable for all. If you wish to have these banned components on your race-car please go and compete in another class instead of arguing. This class is not for you if that is what you want. There are plenty of other classes out there for your budget.

Delegated scrutineers shall enforce these specifications in all aspects and be supported from those racing in this class of racing.

Where possible the data in the Specification Manual has been taken from the Glass Directories or Manufacturer Workshop Manuals. If you find a discrepancy please inform the review committee so the rule book can be updated.

Specifications listed in this book are a guide to building race cars. Unless otherwise specified; If "IT" is not in the book, please enquire for clarification or approval prior to building your race car so you are not disappointed.

All enquiries have to be submitted to your section class Scrutineer who will forward on to an elected review committee for approval / non approval by vote.

All NT Sedans must have participated in at least two race meets or practice sessions within a yearly season to be eligible to compete in a title.

No other National registered race cars are allowed to compete in NT Sedan events.

Scrutineers Authority to Exclude Car from Racing

NT Sedans will not be allowed to compete if the car or drivers apparel does not meet rule book requirements or SA safety requirements.

A car will not be allowed to compete unless, by the discretion of the NT Sedan Scrutineer, the deficiency:-

- A) Will not adversely affect the orderly conduct of the race.
- B) Will not provide the competitor with a significant competitive advantage over other competitors.
- C) Is so insubstantial as not to warrant a determination that the car is ineligible to race.

If the Scrutineer permits the car to compete under these circumstances, the Scrutineer will advise the competitor in writing of the deficiency, and if the deficiency has not been corrected, within the allotted time frame, the car will be prohibited from competing in any future event.

NT Sedans Specification

Please read the main points first in specifications. If your ideas of a race-car don't fit into this, please find another section to race in.

Grid Line-up

Pole position will take the position of the Drivers left hand side. Off pole position will take the position of the driver's side.

New Drivers

New drivers to this class will start rear of field for a minimum of 1 race meeting. This applies to all no matter what previous experience they have had. Drivers will require Chief Steward approval after this to be allowed to enter the Grid Draw.

Direction of Racing.

Racing will be Left or Right and decided by the flick of a coin at the In Gate by an Official just before the vehicles enter the racetrack. There is to be no pre-warning to competitors before they enter the track.

Body

An NT Sedan is what it is. Must be from a hard-top road car seating a minimum of 4 persons and was / is available through Australian Authorised Dealers.

Four wheel drive, four wheel steer, Full chassis LH Drive, Front wheel drive vehicles not permitted.

Age limit of cars is over 5 years. For a 2014 model vehicle, latest model can be 2008. This will change as each year goes by.

Aftermarket Fibreglass or plastic boot flares are allowed. Minimum 4 bolt mounting.

Bonnet scoops allowed but must be sealed or vent to the front of vehicle.

WHEEL ARCH FLARES NOT ALLOWED.

Engine

Must be from model being raced or earlier. No Rotary or forced induction type engines. Otherwise Open. V8 and 6 cylinder only. No 4 cylinder are permitted.

Induction / fuel lines and fuel

Naturally aspirated only. No Turbo charging, supercharging or forced induction.

Fuel

Pump fuel available to the public in the town conducting the race meeting ONLY. No additives allowed. Specific gravity should be no better than .780, maximum octane rating 98 (RON).

A minimum of 2 return springs must be fitted to the throttle shaft for safety. Inbuilt throttle springs are acceptable.

Fuel lines

Must use approved piping for petrol.

Fuel injected cars must use approved fuel injection hose.

Grommets must be fitted where fuel lines pass through metal fire-walls.

Air Cleaners.

Open. Must cover entire fuel intake for fire safety.

Carburettors

No multiple carburettors. Single carburettor only. 2 X barrel, 4 X barrel etc. OK.

A fuel tap inside the vehicle within easy reach of a restrained driver and official must be installed with ON/OFF positions clearly marked.

Fuel Injection.

Fuel must be able to turn off and only give supply if the engine is turning over and has ignition at the same time. This may be controlled by the manufacturer's computer or other. Automatic fuel priming devices for a maximum of 1.5 seconds is allowed.

No ON/OFF tap allowed.

No multiple throttle bodies. Single throttle body only. There is no restriction on size.

Fuel injection Computers.

No aftermarket computers allowed.

Computers must be from mother company and from model of car or earlier. It is up to the car driver to prove this. Not the scrutineer.

Injectors open.

Fuel pressure Regulators must be for fuel injection. Otherwise open.

Passenger car fuel pumps only allowed.

Fuel Tank

Fuel tanks may only have a maximum capacity of 30 litres (8 US Gallons).

Home-made fuel tanks are allowed but must have minimum 1mm wall thickness for steel and 3mm wall thickness for aluminium. Plastic boat fuel tanks allowed.

If using a plastic type fuel tank it must be fitted with an earth wire that is mounted from tank to body/roll-cage.

If wishing to have the fuel supply exit from the bottom or side of tank an approved proprietary fuel cell must be used without any modification. Otherwise fuel exit point must be from the top of fuel tank.

Fuel tanks are to be mounted in a cradle and not secured by brackets welded to the tank. A steel harness minimum 20mm wide x 2mm thick to retain the fuel tank in position.

A one way breather pipe must be mounted to the top of the fuel tank and exit external of the vehicle.

Return lines for fuel injection cars must have in-situ a 1 way valve or shut off valve for when engine is not running.

A 300mm by 300mm hole must be cut into the floor / wheel well as close as possible to the fuel tank inside the boot area to allow for fuel leak drainage and access for fire control.

Exhaust

Must run external of the car and finish no further forward than Drivers / Passengers seat. Must be chain mounted minimum 2 places.

Must meet the local area noise guidelines.

Otherwise, open. Extractors etc. allowed.

Electrical

Grommets must be fitted where electrical cables pass through metal fire-walls.

No battery with a larger dimension of an N70ZZ is to be used.

Battery holder is to be securely mounted to the roll cage in an enclosed box with a non-conductive cover to prevent spillage

Batteries mounted within the cabin area are to be mounted by an angle iron steel frame minimum 25mm x 25mm top and bottom with minimum 8mm hold down bolts or rods. No plastic hold down brackets allowed.

At the beginning of a race meeting, race cars must be able to start with their own starter motor and alternators will be charging.

An engine "KILL" switch, must be fitted in the centre cowl panel suitably marked with a contrasting colour Engine ON / OFF.

No electrical switches or wiring to be mounted through the floor or outside the roll-cage.

Electrical wiring not to be attached to fuel lines.

Cooling System

Radiators are allowed to be mounted in the front of vehicle and specifications are open as long as the bonnet covers the top for protection of driver and there is a pressure relief tap or cap fitted to the top of the radiator.

If radiator is mounted inside the vehicle it must meet the following safety specifications.

Be rear of the main roll-cage rear hoop.

Obstruct no more than half the bottom of the rear window.

Radiator tanks must be shrouded front and rear of tanks.

Radiator outlets to rear of car.

No rubber hose joins within the cabin except after the radiator.

Radiator cap to have lever pressure relief.

All cooling system components under pressure (except for radiator core) pipes, header tanks and radiator caps are to be fully shrouded if in the cabin area.

Brakes

Foot operated hydraulic brake system. Must operate on all 4 wheels when applied.

No brake isolation valving allowed.

No ABS allowed

Transmission

Must be from mother company. Otherwise open.

To protect the driver from clutch explosion, a scatter-shield must be secured to the cage or floor minimum thickness 3mm steel or 5mm aluminium 150mm wide and cover 180 degrees of the transmission tunnel. FWD vehicles will be in line with fire wall or on bell housing. Transmission cooler can be fitted into boot, as long as piping is covered in cab,

Drive-shafts Rear Wheel drive

In the event of universal failure and stop the driveshaft dropping and injuring another driver, the following rules are critical.

Must have minimum 2 x 360 degree safety straps per length of driveshaft. Each must be within 150mm of the Universal joint.

Must use -:

Steel strap minimum 40 mm x 5mm or 6mm chain or steel cable or chain.
2 piece drive-shafts allowed to be replaced with 1 piece drive-shafts.

Differential housings are open but must bolt to body without modifying the original body mounting points.

Rear track must meet NT Sedan specifications.

Differentials to be locked.

Axles must have retaining ring tack welded to axle in 2 places. This is to prevent other drivers being speared in the head from an axle. *Failure to do so could result in guilty driver being taken to court for physical damages or death by injured driver.*

Suspension

Apart from the following rules, suspension is open.

Shock absorbers must mount to the original mounting points without modification. The following High quality brand shock absorbers are not allowed and if found the vehicle will not be allowed to compete under any circumstances. ***Externally adjustable shock absorbers, air adjustable shock absorbers, Competition aftermarket shock absorbers. High quality brands Afco, Koni and Bilstein strictly prohibited.***

Suspension components must originate from mother company and bolt to vehicle body without modification.

Steering

Steering is open apart from the following exceptions.

No steering component with the exception of the steering column is to be cut and re-welded.

Steering column to pass through a steel loop of minimum 12mm diameter welded or bolted to roll-cage.

Steering components must originate from mother company.

Steering components must bolt to original body mounting points

Electric steering pumps are permitted.

Aftermarket quick steer kits are optional.

Driver and steering to be in original position.

Power steering components must be located under bonnet of vehicle for driver protection.

Vehicle track must be within NT sedan specifications.

Wheels / tyres

Maximum rim width 7"

Maximum rim diameter 16".

Mag or steel rims allowed. No composite rims (Dangerous), no custom made rims.

Wheel studs not to protrude more than 12mm past the outer face of the wheel nut.

Competition or performance tyres prohibited. Highway tyres only.

Maximum tyre width 235.

Tyre Profile open. Eg. 30, 40, 50, 60, 65, 70 etc.

Maximum speed rating T (see tyre listings rear of book). Re-treads/remoulds on V rated casings allowed provided they have AS1973-1985 imprinted on the re-tread. (See tyre ratings at end of book).

Track Measurement

Rims, tyres and tyre sidewalls must not protrude further than the original mudguards.

Guards may be flared but not allowed to be cut and more panelling added.

Driver Safety Apparel

All drivers / passengers must utilise the latest SA rule book for safety attire. This is to be worn at all times when racing or practicing. These rules are only to be relaxed with Chief Steward's approval for track packing or grand parades.

Safety Apparel

Race Suit Minimum standard:

of a 1 piece complying with either SFI 3.2A/5, FIA 8856-2000, FIA 8856-2018 or a higher standard 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 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 underwires on bras. No synthetic attire & no jewellery to be worn by a competitor whilst competing.

Helmets:

Full faced and comply with one of the following:- 1) Snell SA2025 (to be introduced October 1st 2025) 2) Snell SA2020 3) Snell SA2015 (Please note all Snell SA2015 Standard Helmets cannot be used after July 1st 2026) 4) FIA 8858-2010 5) FIA 8859-2015 6) FIA 8860-2010 7) FIA 8860-2018

Current horse collar is acceptable. Head and neck restraint not compulsory but recommended.



Seat

Minimum clearance 50mm from top of helmet to roll-cage head-plate.

Top head rest must be minimum 50mm above helmet contact point.

Fibreglass, steel or aluminium one piece seats with full containment allowed as well as mass produced one piece racing seats.

Plastic, magnesium and spring upholstered seats are illegal and must not be used under any circumstances.

The seat must have a minimum of 4 mounting points using minimum 40mm

washers and 8mm bolts. 2 at top support and 2 on bottom support.

Bottom to be mounted to roll-cage. Seat back to be mounted and braced to roll-cage approximately 75mm below shoulder height.

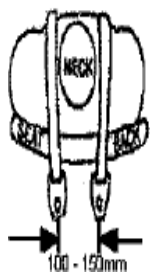


Fig. 2 (i)

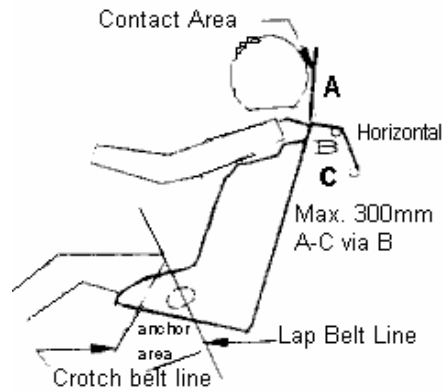


Fig 2 (ii)

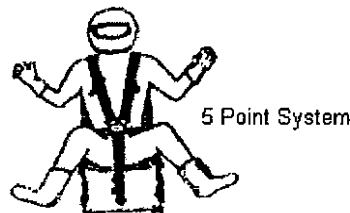
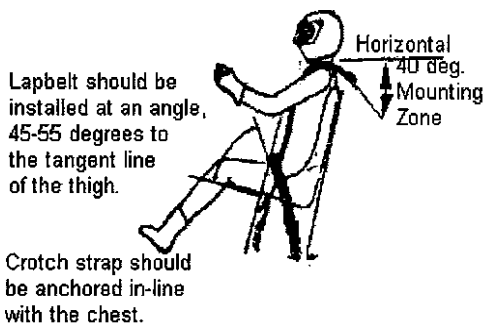
Shoulder belt mounting points shall be positioned to the rear and below the point at which the shoulder belts come through the seat and be not more than 300mm from that point, attached to 38mm x 3mm tube. Fig 2 (ii)

Lower seat belt mounting brackets (anchor points) must be on roll cage and chassis or substantial bar work using a minimum construction of 25x25x3mm RHS or 25mm OD CHS.

Seat belt attachment tag to be 3mm minimum mild steel.

Fig 3 (i)

(ii)



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

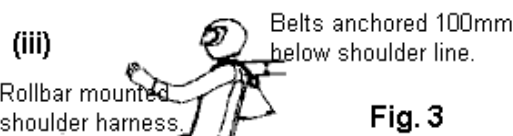
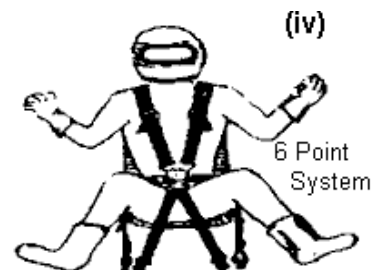


Fig. 3

Shoulder harness should be anchored at a 45 degree angle from the seat. If mounted to a roll bar cross brace, located 100mm below the shoulder line.



Crotch strap mounts as far apart as comfortable.

Fig 3 Sample Seat only shown for clarity.

See "Installation of Restraint System". See "Adjustment of Driver Restraints".

INSTALLATION OF DRIVER RESTRAINT SYSTEMS: Fig 3

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.

With the seat, roll cage and belt anchors all part of the same structure, deformation of the remainder of the car does not put driver at serious risk.

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 3 (i) & (iii).

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.

The required minimum 50mm from the top of the driver's helmet to the roll cage roof/hoop bar does not leave much leeway for the shoulder harness to prevent the helmet from striking the head plate or bar work in the event of a rollover. The shoulder harness is a major means of preventing injury in such an incident.

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 ii). For extra assurance a double strap anti-submarine belt can be used (Fig iv)

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 systems 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 anti-submarine strap can be anchored in line with the chest. (Fig i) Because of the differences (often vast) in competition vehicles, a 'standard' method of mounting is impractical. Good judgment 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.

ADJUSTMENT OF DRIVER RESTRAINTS:

With the driver fully kitted out in 'long johns 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. Check also 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). Now check if the belt is holding the seat or the driver, it should 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 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.

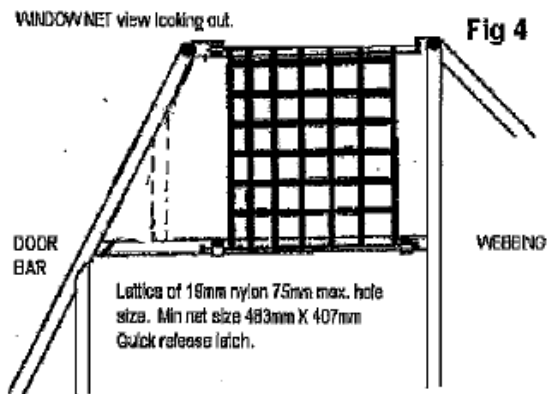
Before drivers releases the buckle he should slacken shoulder belts with the adjusters, keeping the area of the adjuster supple, accessible for cleaning and making entry to the car a simple routine.

While lining up for restarts, it becomes a simple exercise to tug the adjusters to snug up the belts and stay in control of the car.

WINDOW NET:

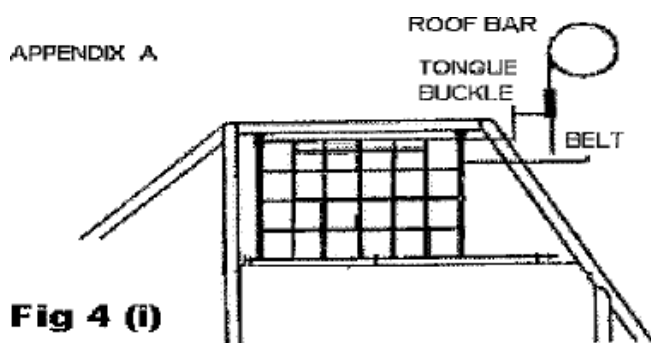
Window net is mandatory.

Net to be a minimum 19 mm woven webbing with 75mm max hole size.



It is recommended that the window net be hinged from the bottom. Window net - a lattice of 19mm woven webbing.

Rod thickness to be a minimum of 6mm.



This design uses two push button seat belt buckles and belts. Tongues are welded to side of roof bar. 25 X 3mm FMS welded to rear of buckles. Tubing at base of net fixed with bonnet lock pins.

PADDING:

The driver must be protected in the race car from all sharp edges and projections or bar work, which could cause injury in an accident.

FIRE EXTINGUISHER:

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

SEAT:

Minimum 50mm clearance helmet to roll cage roof/hoop bar.

a) Seat to be mounted totally on the right hand side of the vehicle centre line measured at waist line of body.

- (i) 4 DOOR CARS. No part of the seat may be more than 125mm behind the centre pillar.
- (ii) 2 DOOR CARS. Must not be further back than rear of "B" pillar. Both measured at window sill height

b) Seat base to be mounted to roll cage chassis at a minimum of two points using 8mm bolts and minimum of 40mm diameter body washers. Four points recommended.

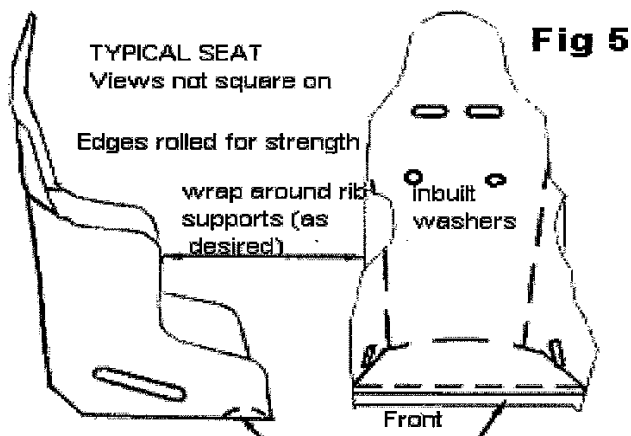
c) Seat back to be braced to, and attached to, the roll cage approx. 75mm below shoulder height using a minimum of two 8mm bolts and 40mm body washers.

d) A "Purpose Built" one piece, solid (i.e. no lightening holes), fibreglass, steel or aluminium bucket type seat incorporating a substantial head rest must be used. Approved proprietary line competition seats and mounts permitted. Eg. Kirkey, Butler, United Speedway Accessories, Bratpac and Racetech. The use of a full containment seat is recommended or at least the use of a seat with head and shoulder supports.

e) Spring upholstered, Plastic, or magnesium alloy seats not permitted.

f) Lateral (sideways) support must be given to hips and above waist. Concave seat to support back to minimum of TOP of shoulder height and width.

NOT TO SCALE



g) Top of head rest to be at least 50mm above helmet contact point, head rest must be padded. At the discretion of the Scrutineer the head rest will need a form of support if it is deemed too flexible and/or the area between seat and roll cage is too great. Upper support (mounting bolts) should not exceed 75mm below shoulder height.

h) Cut-outs for belts to be suitably grommet and have adequate clearance.

i) All seats may be padded and covered, the covering being securely attached. Maximum padding thickness 50mm.

j) Driver to be able to reach pedals mounted in the original OEM mounting position. Passengers must face forward.

CONSTRUCTION OF RACECAR

a) Workmanship on race cars is to be of professional standard. All materials used must be of good quality.

Bolts are not to be used through structural tubing in the roll cage cabin area unless a welded sleeve is provided. No pop rivets in roll cage tubing.

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

b) Full chassis and convertible cars not permitted.

c) Parts to be removed: All glass, interior trims, grille, door handles, ornamentation, Bull bar, tow-bar and helper springs. (glass apertures must not be covered with fibre glass or other material).

d) The only panels which may be replaced with fiberglass / aluminium, metal / plastic replica: - max. 2mm. thick, are doors, bonnet, boot, front guards, nose, head and tail light apertures. If original roof is damaged, fiberglass overlay may be used over existing damaged roof. Under panel reinforcement plate not permitted. Replacement panels must be securely fastened, self-drilling (TEK) screws not to be used.

e) If replica panels used: - To assist with the fitting of door panels, maximum of 25mm x 25mm x 3mm RHS, may be welded at window sill height from A to C pillars.

f) All body-work, including any subsequent repair of any race day damage, shall be to a Tradesman-like standard and must permit the vehicle to be presented in as near to original condition as possible.

g) To assist with appearance of cars, the rear quarter panels may be COVERED with fibreglass replica panels securely attached to the steel panel. Self-drilling (TEK) screws etc. or self-tapping screws are not to be used. The inner boot skin side vertical panel may be removed.

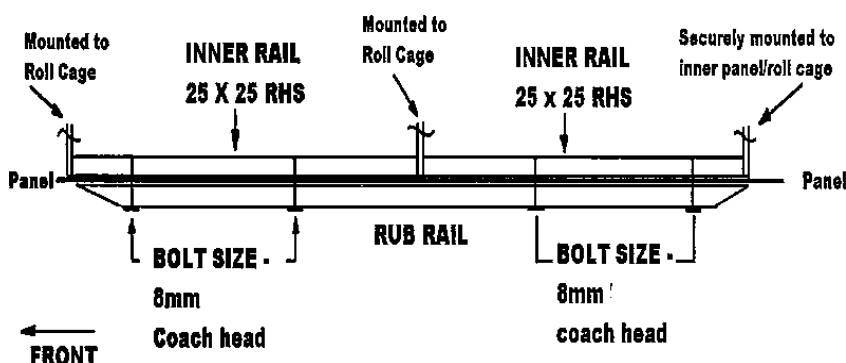
h) The door pillars may be notched for bar-work but otherwise must remain intact.

i) Doors to be securely bolted or welded.

j) Only interior parts which may be removed: - Dash Panel - to assist with the roll cage installation. Replacement dash panel is not permitted to continue past the forward most point of the steering wheel across the width of the car. No extra decking or internal sheeting permitted in cabin. If the rear radiator mounts against the rear firewall, the core area of the rear firewall may be removed.

k) Data logging dashes are not permitted.

Fig 6



l) Mild Steel rubbing strip between wheel arches 25X25X3mm MS RHS or Alternately a nylon (urethane, nolathane) rubbing strip 50mm x 12mm thick. To be securely mounted against body, at a minimum of four points, evenly spaced. Bolts must be minimum 8mm coach head (cup-head) and be bolted horizontally to bar-work. Bolts at each end must be no more than 50mm from the end of rub rail. Inner mounting bar 25 x 25 x 3mm or roll cage material to be returned to the chassis or roll cage at each end. Rubbing rail ends to be closed and taper

to 45 degrees as not to become a 'spear'. Fig. 6 Rub strips not to be used on quarter panel behind rear wheel.

m) Rear View mirror - not permitted

n) Ballast of any description is not to be carried. e.g. Water in tyres etc.

o) Grille - If grille is fabricated it must be of a steel welded wire mesh, no thicker than 5mm diameter x 25mm minimum aperture or panel steel, 1.6mm maximum. Folded sections, for strength, are not permitted

p) Light apertures must be filled using max. 1.6mm metal sheet, fibreglass or plastic

q) Wheel arches may be cut out to give a maximum of 50mm clearance around tyres. The inner and the outer panels of the wheel arch are to be re-welded.

r) Bonnet to be securely fastened. Four bonnet pins (five for fibreglass) to be 12mm minimum to 15mm maximum mild steel or approved equivalent. Bonnet pins to be in the bonnet not sides of mudguards. No mounting pins in side of panels, i.e., mud guards. Bonnet lock pins 3mm min to 6mm max. Heavy duty large reinforcing washers (min 30mm O.D.) to be fitted to all bonnet pin holes on fibreglass bonnet. Similarly, boot lid to be securely fitted, using pins and large washers as for bonnet. The removable boot lid to be securely mounted in four points.

s) Hinged bonnet and boot lid permitted, using minimum of two pins. Skeletonising not permitted on hinged panels within 50mm of hinges. The hinged panel to be welded to the bonnet or boot skin.

T) Bumper Bars

Original front and rear bumpers to be attached to sub-frame of vehicle using original mounting brackets or back to the roll cage, using one pipe per side. Where an original type bumper is not available, a bumper of similar profile and weight may be used. Plastic Bumpers if retained, may be attached using maximum 40mm x 3mm flat aluminium and cup head bolts.

OEM steel bumpers ARE NOT PERMITTED but may be replaced with max. 38mm x 3mm CHS.

All bumpers may have a pipe bumper, max 38mm x 3mm CHS to be securely mounted in original position using supports of a minimum of 100mm from rear of bumper tube max support size 38mm x 3mm CHS, 40mm x 40mm x 3.2mm RHS or 50mm x 25mm x 3.2mm RHS only. i.e. gussets are not to be used.

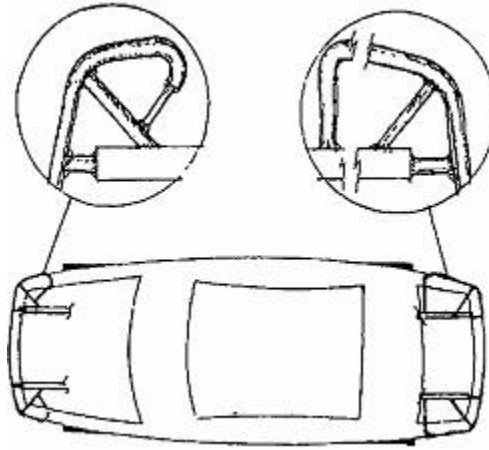
Front or rear original plastic bumper can be reinforced with pipe bumper.

Front bumper maximum return 300mm minimum 100mm x maximum 38mm x 3mm CHS. Front spreader bar between bumper bar mounts permitted, as per figure 7(i). Bumpers are to remain hollow. Corners and ends of front and rear bumpers to be radius formed 100mm maximum. Maximum of four mounting points on each bumper. 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 to the chassis rails.

Rear only: returns of rear bumper may extend as a skid rail against the outside of the body between bumper and wheel arch and then extend inward to the chassis rails. Corner plates on top edges of either bumper not permitted.

Pipe bumpers are to be mounted to original bumper mounts using maximum 3mm flat plate and may extend inside chassis rail maximum 250mm. Bumper to be returned to chassis and bolted or welded to side of chassis rail using maximum 250mm x 3mm flat plate. Alternatively front and rear bumpers maybe attached to the roll cage (one bar per side maximum S38mm x 3mm CHS). If this option is used roll cage rearward brace bars may attach to this CHS.

Fig 7



Override bars

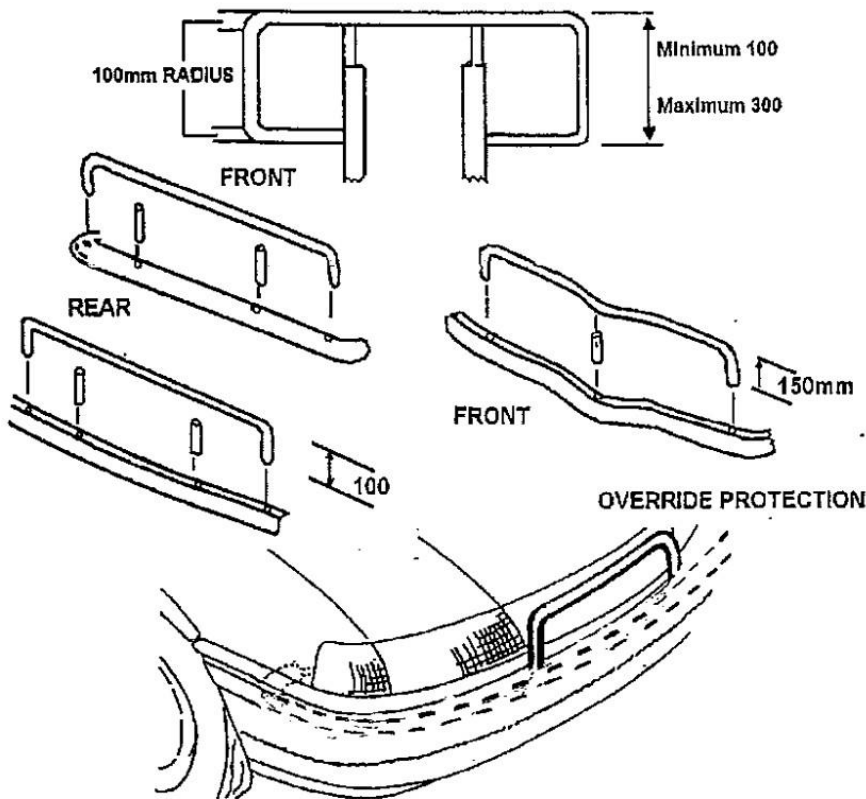
Rear Override bar,

An Override bar maybe used. Maximum 25mm OD x 3mm CHS. It shall be no wider than the boot panel and is to be mounted centrally on the pipe bumper at no more than 4points, be vertical and a maximum 100mm high.

Front Override Bar

An Override bar may be used. Maximum 25mm OD x 3mm CHS Maximum 600mm long, 150mm high and mounted centrally on top of pipe bumper at 3 points only. It may have a centre support

Fig 15 Front & Rear Overrider Bars



Pipe must be behind plastic bumper cover

Fig 7(i) Bumper-to-Bumper Kit

- u) Paint-work and Sign-writing:** All paint-work, sign-writing and numbers to be neat, attractive and of a professional standard.
- v)** All vehicles must carry the identification number, as issued by their club. This number is to be displayed on the roof plate. The name of the driver will appear on the roof over RH door or on visor strip, in letters of a minimum of 75mm high.
- w) Roof Plate.** The use of a roof plate number is mandatory for all race meetings. It shall be a metal plate, 30cm square with a 5 cm right angle fold at the bottom, where 2 holes, at 20cm centres shall be drilled to take 6mm bolts. The number on the plate shall be painted using a black background & white number/s. Number to be minimum 250mm high in block font.
- x) ADDITIONAL FIREWALLS** if required. The driver must be protected and isolated from mechanical, fuel, electrical and exhaust components by metal fire-walls, min. 1mm. thick.

ROLL CAGE

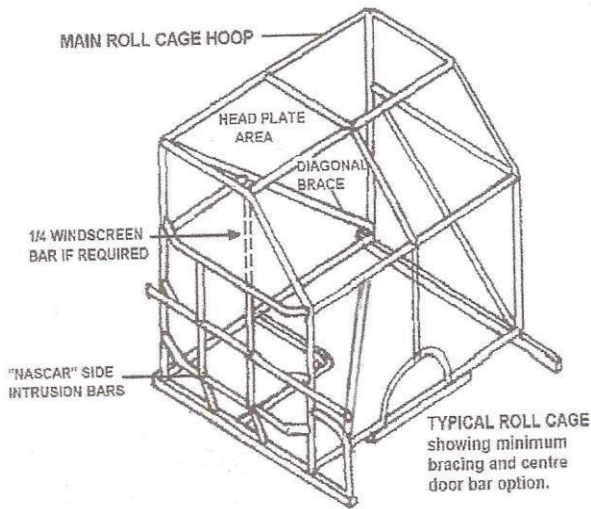


All new cars must be fitted with a complete Roll Cage built to the NASCAR design as used in other classes within SSA Inc. Refer also Fig 9(i-v)

- a)** The roll cage is to prevent the collapse of the cabin area under impact. Roll cage, to enclose the driver, to be full width and full height of the cabin area and will be within 50mm of the inside line of the B pillar, measured at window sill height, parallel to the window sill line. Self-drilling (teck) screws etc. or self-tapping screws are not permitted to be used and no pop rivets
- b)** The roll bars are to constitute a cage type framework, braced fore and aft.
- c)** The cage must extend from behind the driver's seat forward to the windscreen area and incorporate protection for the driver's feet. All roll-cage bar-work is to be inside the body.
- d)** All roll bar material must be of a good quality mild steel, minimum AS1163 Gr300. MINIMUM 38mm OD x 3.0mm wt. CHS. (Sonic tester reading, at not less than 2.70mm ABSOLUTE). Aluminium based materials not permitted.
- e)** All bends to be made using a pipe bender with the correct size former. Galvanised tubing or welding over threaded tubing not permitted in any structural bar work Water pipe fittings or malleable fittings are not permitted.
- f)** Roll cages built using other than fusion welding techniques will not be accepted. Gussets on welded joints may be required (Daylight Inspection).
- g)** The rear main hoop and the 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. (Fig. 9(v)).
- h)** 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. The base of the main roll cage hoop to be fitted square in the car.
- i)** Roll cage legs - to be welded to top of a sub-frame of tubular or angle section running fore and aft. The sub-frame is to be securely welded or bolted to the floor pans/sills using at least four 12mm steel bolts through the sub-frame and using 100mm x 100mm x 3mm minimum plates under the floor, or bolted on the spreader bar no more than 150mm from sub-frame.
- j)** To assist in the fitting of roll-cage bars in the dash area, the dash panel may be removed.
- k)** The front roll-cage legs are to follow the "A" pillar line. Exception: Cars with severe rake of the windscreen. Angle of roll cage "A" pillar bar to be of not less than 45 degrees down from roof bar. (fig. 9(ii)) Quarter window bar be installed from the top NASCAR bar to top half of pillar bar using minimum 25mm x 3mm CHS (38mm x 3mm CHS recommended). Alternately, a

38mm x 3mm O.D. bar may be fitted from top of "A" pillar bar to top of NASCAR bar at 45 degrees of the top bar both sides. Fig 9(ii). If a pillar bar does not follow "A" pillar line and is 45 degrees, additional sub frame cross brace from front of foot protection to LHS is required.

Fig 9 (i)



Note: - REARWARD BRACES HEADPLATE AND ANTI-SPEAR PLATE, OMITTED FOR CLARITY

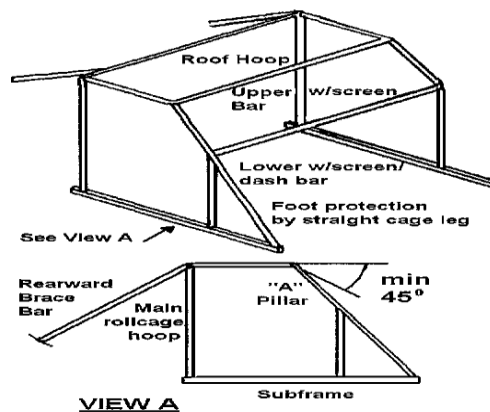
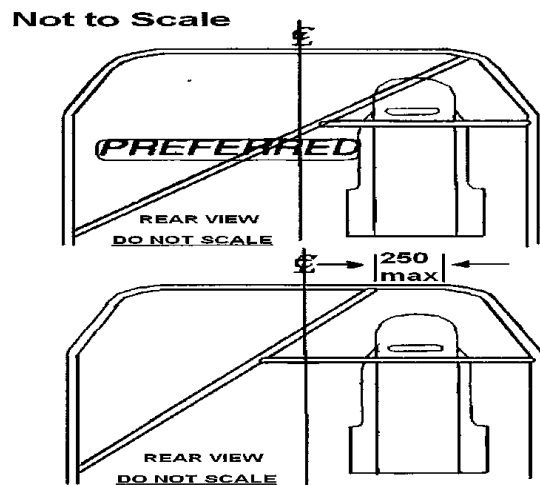


Fig 9 (ii)

Fig 9 (iii)



Sub-frame Material Sizes

(i) Tubular min. 38mm x 3.0mm wt. CHS
or 50mm x 50mm x 3mm wt. RHS

(ii) Angle minimum 50mm x 50mm x 5mm.

m) A one piece diagonal brace, min. 38mm OD x 3.0mm wt. 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 roll cage leg. (Top right to Bottom left) Fig 9 (iii). A second brace may be fitted in cruciform for passenger option. The diagonal brace, top right to bottom left, must be one piece. If a cruciform type bracing is used a minimum of 32mm OD x 3.0mm wt CHS may be used.

n) ADDITIONAL MINIMUM BARWORK

Material size - 38mm OD x 3.0mm wt CHS.

Top windscreen bar.

Lower windscreen / dash bar.

Seat back support/Shoulder belt mounting bar.

(i) Nascar Door Bars

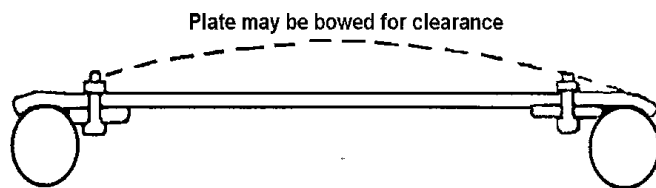
On the driver's (right) side - three horizontal side bars, curved out to the door skin, are to be placed between the front and the rear cage legs, evenly spaced between the window sill and the roll-cage sub-frame. On the driver's side nascar bars, one of the three horizontal door bars may run straight through, eg. from front wheel arch to rear wheel arch and then have two separate pieces of 38mm x 3mm turning at ninety degrees to the nascar bar connecting on to the roll cage a and b pillar bars

A minimum of two vertical spacer bars, evenly spaced between the front and rear roll cage legs, are to be fitted within each opening between the cage sub-frame and the top horizontal bar a minimum of six bars fitted. The top horizontal NASCAR bar will be within 50mm of the window sill ("NASCAR" bars in Fig 9(i))

(Left) side: Two bars fitted between the front and the rear roll cage legs. One must be horizontal within 50mm at window sill height. The top drivers side nascar bar, lower windscreen bar and passenger's side nascar bar maybe formed in one continuous bar. This entails the "A" pillar bar to be formed in two pieces.

- (ii)** Cross Brace/spreader bar - A minimum of two sub-frame cross braces within 200mm of roll-cage legs. A brace is required if more than 200mm and these may be , either 38mm OD x 3mm wt. CHS or 35mm x 35mm x 3mm wt. RHS. Spreader bar may be covered with metal sheeting in driver's foot well area only.
- (iii)** 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 (Recommended 38mm x 3mm CHS).
- (iv)** Centre roof bar, 32mm OD x 3.0mm wt. CHS
- (v)** Centre windscreen bar, 25mm OD x 3.0mm wt. CHS
- (vi)** Rearward brace bars from the top rear of main hoop down onto rear sub frame (approx. 45 degrees), no closer to the rear boot panel than 300mm. May be crucifix. Must attach to the rearward side of the hoop within 100mm of the centre of the top radius, To be minimum of 34mm CHS. May have one spreader bar as long as it is of pipe material. Minimum 34mm x 3mm. Rearward brace bars may be bolted together within 200mm of roll cage hoop. Bumper support bars maybe bolted within 200mm of roll cage spreader bar.
- o)** Mesh screen, in front of the driver, will be securely fitted to the roll- cage/body. Maximum mesh size 50mm x 50mm. Minimum size 3mm. Mesh screen to cover entire area from "A" pillar to centre bar and from dash to roof bar. Windscreen mesh to be welded, or clamped with metal clamps to the roll cage "A" pillar and centre windscreen bar. Minimum of four clamps. May be welded to body.
- p)** Front strut towers may be braced back to lower windscreen bar using one bar per tower. Brace bar may extend forward down to chassis rails or lower optional bar work. CHS 34mm x 3mm wt Maximum, with a 3mm x 100mm x 100mm plate welded to tower for support.
- q)** One piece anti spear external door plate 3mm steel or 5mm alloy, (NOT to be lightened by drilling) to be fitted on driver's side, on the outside of the Nascar bars, from floor-line to window sill bar, forward of the first vertical door bar to the front leg of roll cage. To use a minimum of 6 - 50mm x 50mm x 3mm MS tags and bolted to either 8mm or 5/16th high tensile bolts with no protrusions. If individual pieces are used then a minimum of four 50 x 50mm x 3mm MS tags and bolted to either 8mm or 5/16th high tensile bolts to each piece with no protrusions.
- r)** Minimum requirement for foot protection to be a minimum of roll cage material. Foot protection bar and brace bar is mandatory if drivers feet are past the A pillar bar whilst the driver is seated in the car in race position. A bar min 25 x 3mm support from the foot protection bar must be attached to the foot protector bar at one end and the other end to bar work to the left. A plate may also be required.Fig. 9(iv).
- s)** Passenger Option: - Roll cage left side must mirror right hand side and have full cruciform. Passenger handle for support, optional.
- t)** Head Plate. To simplify the removal of an injured driver it is highly recommended that a removable full size head plate be used. Fig 10.
- a)** Head Plate to be of 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. 10 of 50mm x 50mm x 3mm MS tags acceptable.
- b)** Plate to be mounted, from above, with 10 x 8mm (5/16") diameter. High Tensile bolts, 3 each side, 2 front, 2 rear. Heads of bolts to be downwards and spot welded, e.g. no protrusions.

Fig 10



ALTERNATIVELY

c) A head plate min 3mm steel must extend from rear roll bar to top windscreen bar and from driver's side outer roof bar to centre roof bar. This plate must be securely welded to these bars with intermittent welding procedure.

d) Helmet clearance between roll cage roof/hoop bars for existing vehicles, may raise head plate as per drawing below, to obtain 50mm clearance. Fig 10 (i)

Fig 10(i)

Mounting procedure for raising of head plate (existing cars).
38mm x 3mm tube – stub length is determined by height required to



Fig 10(i)

e) Mounting procedure for raising head plate (existing cars). 10 stubs 38mm x 3mm tube – stub length is determined by height required.

f) Stubs to be end capped and threaded for mounting purposes.

TYRE RATING

Tyres - Radial only

215mm 235 maximum width on side wall markings.

Minimum 60 series profile.

Speed rating H maximum.

E.g. 215/60/R or 215/75/15H

SPEED RATING

| | | |
|---------|------|-----|
| A1 – A8 | 5-40 | kmh |
| B | 50 | kmh |
| C | 60 | kmh |
| D | 65 | kmh |
| E | 70 | kmh |
| F | 80 | kmh |
| G | 90 | kmh |
| J | 100 | kmh |
| K | 110 | kmh |
| L | 120 | kmh |
| M | 130 | kmh |
| N | 140 | kmh |
| P | 150 | kmh |
| Q | 160 | kmh |
| R | 170 | kmh |
| S | 190 | kmh |
| T | 200 | kmh |
| U | 200 | kmh |
| H | 210 | kmh |

GLOSSARY OF TERMS & DEFINITIONS:

Material:

CHS Circular Hollow Section.

RHS Rectangular Hollow Section.

W.T. Wall thickness.

FMS Flat mild steel

OD Outer diameter

AS1163 Gr300 Australian Standard 1163 for structural steel tubing Grade 300

OEM Original Equipment Manufacture; used to indicate parts used on the complete vehicle as it left the production line from the original manufacturer and means for make and model unless otherwise stated.