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Roll Cage Specifications

Modified, Production, Street Stock and Junior Sedans

The following Roll Cage Specifications for Modified, Production, Street Stock and Junior Sedans have been released with amendments (highlighted in red), For all new constructed cars.

Cars previously registered prior to the 22nd August 2014 will fully comply with the relevant specification book, with that being the last printed version of each respective Mono Sedan Class Specification Book.

All new constructed cars registered after the 22nd August 2014 will comply with the following Roll Cage Specifications.

ROLL CAGE

Fig 3(i) details the minimum structural requirements. Each item number is referred to in the text below.

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

Roll cage, to enclose the driver, 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 driver's seat forward to the windscreen area and incorporate protection for the driver's feet.

All roll bar material must be of good quality mild steel, AS 1163, minimum Gr300. MINIMUM 38mm O.D. x 3.0mm w.t. CHS. (Sonic test at not less than 2.70mm ABSOLUTE). Aluminium based materials not permitted.

All bends to be made using a pipe bender with the correct size former, with no evidence of crimping, wall failure, or significant weakening. Galvanised tubing or welding over threaded tubing is not permitted in any structural bar work.

Water pipe fittings or malleable fittings are not permitted. Roll cages built using other than fusion welding techniques will not be accepted. Gussets on welded joints may be required at daylight inspection of weld quality.

1. **Main Hoop:** The rear main hoop will be made of one continuous length of tubing. See Fig.3 (i). Hoop to be within 50mm of sides of roof at the narrowest point, be within 50mm of the inside line of the B pillar measured at point B of Fig. 3 (i), and be completely inside the body line. The base of the hoop will be fitted square in the car.
2. **Roof Hoop:** The roof hoop will be formed from one continuous length, or alternately be replaced by using one continuous length to form the front leg A pillar bar, which then continues back to the rear hoop, with a top windscreens bar being fitted to complete the hoop. The roof hoop to be within 50mm of the roof at sides, within 50mm of windscreens opening, and be welded to the main hoop to form a halo around the drivers head.

3. **Front Legs / A pillar:** The two front legs are to be formed each from a continuous length, and be welded to the roll cage base (bar 13) and the roof hoop (bar 2) or if using the second option for the roof hoop, welded to the main hoop (bar. 1). A third option is: The top Nascar bar, lower windscreens bar and passenger's top Nascar bar may be formed in one continuous bar. This entails the front leg to be formed in 2 pieces. One from the roll cage base to this hoop with the upper section from this hoop upwards to the roof hoop.

The top part of all options must join the roof hoop at a point no further than 50mm from the windscreens opening, and follow downwards to point A of Fig. 3 (i) at an angle of 45 degrees downward from the **horizontal**.

A quarter window bar (bar.15) if required because of excessive rake or a long roll cage, where the "A" pillar bar (bar. 3) is less than 45 degrees from the horizontal must be fitted to both sides and installed from the top nascar bar to top one third section of the "A" pillar bar, using a minimum of 25mm x 3mm CHS.

The lower mount point must be aligned with or be within 50mm of the first dropper bar. On the passenger side this will require an additional dropper bar (bar.18) between the top nascar bar (bar.7) or the door bar (bar.8) and the base bar (bar.13) to support the quarter window bar.

Newly constructed cars, as at 22nd August 2014 the front leg will be no further than 300mm (Modifieds, Productions) and 250mm (Street Stock, Junior's) behind, and 50mm inwards of the OEM door opening at points A & C of Fig 3 (i).

Cars previously registered prior to the 22nd August 2014 will fully comply with the relevant Specification Book, with that being the last printed version of each respective Mono Sedan Class Specification Book.

4. **Centre Roof Bar:** Centre roof bar to be minimum of 32mmx3mm CHS, and shall be welded between the main hoop and the roof hoop, in the centre line of the roll cage.
5. **Rear Diagonal:** A one piece diagonal brace, minimum 38x3mm CHS will be fitted in the roll cage hoop, behind the driver's head, within 250mm of the bend, and down to the point where the hoop joins the L/H cage base as per Fig 3 (i). A second brace may be fitted in cruciform. If cruciform type bracing is used, a minimum of 32x3mm CHS may be used.
6. **Seat Back/Shoulder belt Bar:** A 38x3mm CHS mounting bar to be fitted to mount the seat and seat belts, to be positioned so that the belts are anchored a maximum of 300mm from the point at which the shoulder belts come through the back of the seat. Top seat mount to be no further than 75mm lower than this bar.
7. **NASCAR Bars:** On the driver's side, three horizontal bars **that will resemble the drawings provided. They are to have a deflection/bend at either end of the bar which allows the Nascar bars to be positioned** towards the door skin and placed between front and rear cage legs, evenly spaced between window sill and roll cage sub-frame. The centre horizontal bar may run straight through, from front wheel arch to rear wheel arch, and then have two separate pieces of 38x3mm CHS turning at 90 degrees to the Nascar bar connecting to the roll cage main hoop, and to the front leg. There will be a minimum of two bars evenly spaced between the front leg, and the rear hoop for each of the openings created by the Nascar bars, making a minimum of six bars to be fitted. Refer to Fig 3 (i). Door pillar to be notched, NOT removed, to accommodate bar work.
8. **Door Bars:** Passenger side will have a minimum of two bars fitted between the front leg and the main hoop. One of these must be horizontal at window sill height.
9. **Lower Windscreens/dash bar:** A 38x3mm CHS bar between the front legs must be fitted at top Nascar bar height. Refer also to front leg options (3). As an option a bar (16.) can be fitted between lower windscreens/dash bar and the front spreader bar.
10. **Centre Windscreens Bar:** A 25x3mm minimum bar, to be fitted at centreline of cage, between to roof hoop, and the lower windscreens bar.
11. **Rearward Brace Bars:** Two rearward brace bars minimum 34mm CHS to extend from top rear of main hoop down onto the rear sub frame (approx.. 45 degrees). They may form a crucifix and must be attached to the rearward side of the main hoop within 100mm of the centre of the bend.
12. **Foot Protection Bar:** Foot protection bar 38x3mm CHS, shall be required if any part of the driver's feet or legs, are in front of the front leg (bar 3) whilst the driver is seated in the car in race position. A bar (17) minimum 25x3mm CHS will attach from the foot protection bar at one end, and the other end to bar work to the left. If the front leg is more than 100mm behind the OEM door opening, a plate of 3mm steel or 5mm alloy, must be fitted to the foot protection bar hole. The foot protection bar must mount to the front leg/A pillar bar no lower than 300mm from the roll cage base.

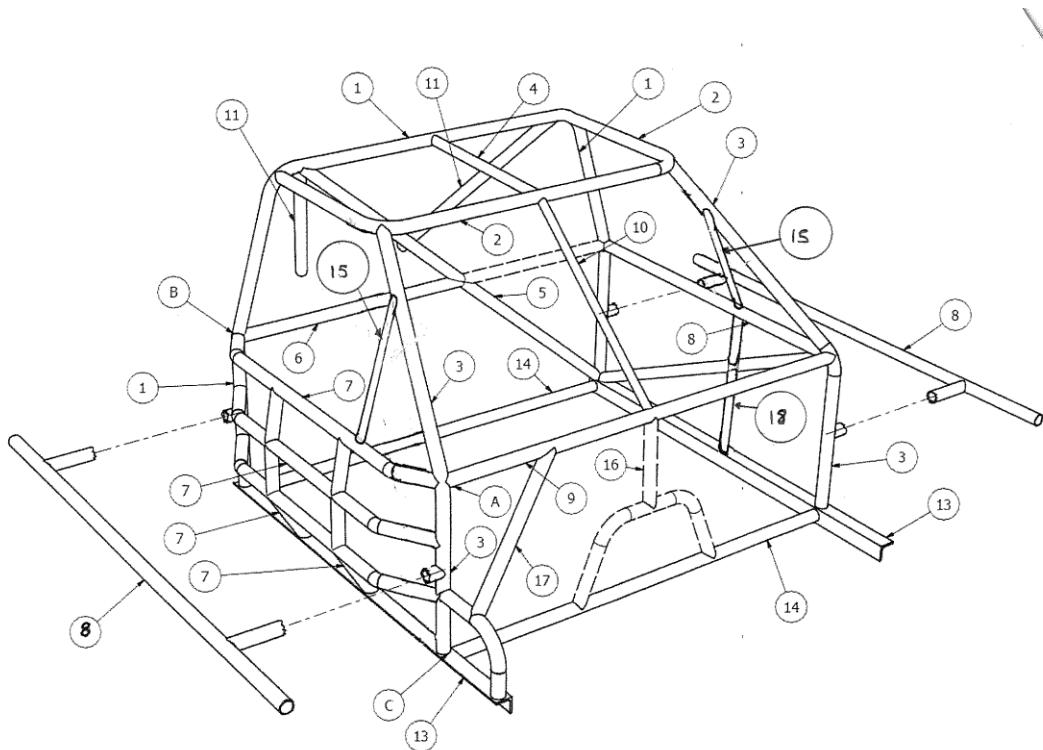
13. **Sub Frame:** Roll cage legs shall be welded to the top of a sub-frame of 38x3mmCHS, 50x50x5mm angle or 50x3mm RHS section running fore and aft. Sub-frame to be securely welded, or bolted to the floor pan/sills using at least four 12mm steel bolts through the sub-frame and using 100mm x 100mm plates under the floor.
14. **Spreader Bars:** A minimum of two sub frame spreader bars at roll cage legs, either 38x3 CHS or 35x3mm RHS to be fitted. 200mm is the maximum distance forward or back, from the front leg of roll cage, for fitment of the spreader bar, before a brace may be required.
15. **Quarter Window Bar:** A quarter window bar (bar.15) if required because of excessive rake or a long roll cage, where the "A" pillar bar (bar. 3) is less than 45 degrees from the horizontal must be fitted to both sides and installed from the top nascar bar to top one third section of the "A" pillar bar, using a minimum of 25mm x 3mm CHS.
The lower mount point must be aligned with or be within 50mm of the first dropper bar. On the passenger side this will require an additional dropper bar between the top nascar bar (bar.7) or the door bar (bar.8) and the base bar (bar.13) to support the quarter window bar.
16. **Lower Windscreen/ Dash Bar Support:** As an option a bar (16.) can be fitted between lower windscreen/dash bar and the front spreader bar.
17. **Foot Protection Support Bar:** A bar (17) minimum 25x3mm CHS will attach from the foot protection bar at one end, and the other end to bar work to the left.
18. **Dropper Bar:** On the passenger side this will be required between the top nascar bar (bar.7) or the door bar (bar.8) and the base bar (bar.13) if the quarter window bar is fitted.

Windscreen Mesh: Mesh screen to cover entire area from "A" pillar to centre bar and from dash to roof bar. Maximum effective mesh size 50mm x 50 mm. Mesh gauge 3mm. Windscreen mesh to be welded, or clamped with metal clamps to the roll cage "A" pillar and centre windscreen bar. Minimum of four clamps. Mono cars may be welded to body.

Anti Spear Plates: 3mm steel or 5mm alloy, (NOT to be lightened by drilling).

The anti spear plates to be fitted to the outside of the Nascar bars. Recommended 1/3 length between roll cage legs, to be fitted on the driver's side, from base of roll cage to top Nascar bar, forward of the first vertical door dropper bar to the front leg of the roll cage. If not welded, three external door plates to be bolted on, using 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 4 – 50mm x 50mm x 3mm MS tags and bolted to either 8mm or 5/16th high tensile bolts to each piece with no protrusions.

Fig 3. (i) Typical Roll Cage.



*The CAD drawings will replace the above drawing on the website once they are completed.

