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# ***Dirt Modifieds Australia***

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P.O. Box 153 Alstonville, N.S.W. 2477



## ***V8 Dirt Modified 2009/10 Specifications***

## RULE BOOK DISCLAIMER

This Dirt Modified Australia specification book, as amended, supersedes the previous year's book and shall remain in effect until it is superseded by the next annual Dirt Modified Australia specification book.

The rules and regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events.

The rules and regulations shall govern the condition of all events and by participating in these events, all participants are deemed to have complied with these rules and regulations.

NO EXPRESSED OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM THE PUBLICATIONS OF, OR COMPLIANCE WITH THESE RULES AND REGULATIONS.

NO EXPRESSED OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM SUCH ALTERATION OF THESE RULES AND REGULATIONS.

THEY ARE INTENDED AS A GUIDE ONLY FOR THE CONDUCT OF THE SPORT AND ARE IN NO WAY A GUARANTEE AGAINST INJURY OR DEATH TO A PARTICIPANT, OFFICIAL OR SPECTATOR.

## FORWARD

DIRT MODIFIED AUSTRALIA officials attempt to be fair and maintain consistency with the application of these specifications. Our objectives are fairness and safety. For an organisation to be successful, it must have good rules and enforce them fairly. Cooperation between officials and competitors will assure our sport a bright future.

## PREFACE

After a race car has passed scrutineering, it may not be altered to any specification that would make it illegal. Any race car that has passed scrutineering may still be subject to further inspection and may be excluded from the event.

Please be advised that all rules will be applied as per this specification book. Please do not try and bring a race car that is out of specs, you will have to bring it back to specs at the track before being permitted to compete. Scrutineering is required to ensure that all race cars are safe and evenly matched. It is in YOUR OWN INTERESTS to present a LEGAL and SAFE race car.

## **DMA DIRECTORY**

<b>President</b>	Paul Britten - Queensland
<b>Vice President</b>	Garry Wathen - Queensland
<b>Secretary</b>	Shawn Mortimer – New South Wales
<b>Treasurer</b>	Lynne Wathen – Queensland.
<b>Committee</b>	Nev Pezzutti (NSW) Col Clark (QLD) Steve Robinson (NSW)

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## **CONCEPT**

The aim of the DMA is to produce a vehicle that is upright in design, centre line drive and open wheeled. Wheelbase to be 2290mm minimum and 2693mm maximum, wheel Track Width to be 2185mm maximum, Body Width to be 1500mm minimum and 1730 maximum, body shape and configuration as per current seasonal specification book, powered by a 361 ci maximum V8 pushrod engine with cast iron block and cast iron heads and a maximum compression ratio of 11.5 to 1, and running on methanol fuel only.

### **PLEASE NOTE**

**All speedway teams are required to carry as a minimum  
in the pit area effective immediately:  
2.3kg ABE Dry Powder Extinguisher that meets  
Australian Standards 1841& 1851.1 with current date  
Stamps. Other Types of Extinguishers that meet this  
criteria are : 9 Ltr AFFF Foam Extinguisher,  
9 Ltr Cold Fire Extinguisher,**

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**Sections of the DMA Specification book that have been amended are high lighted in bold print such as this.**

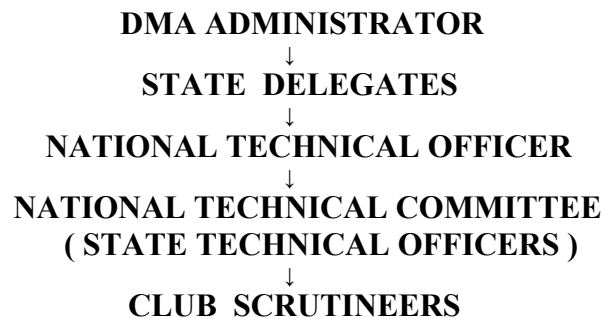
Words importing the masculine gender shall include the female gender and visa versa.

## **2.0 GENERAL**

### **2.1 National Number System**

1. Competitors must apply in writing to the DMA for allocation of a number and the DMA will confirm the allocation to that Competitor and their Club in writing.
2. Numbers will remain the property of the DMA and cannot be sold privately.
3. Numbers will not be transferable between Competitors without the DMA's consent.
4. An approved number holding Fee of \$50 **per** year will be paid to the DMA, to hold a particular number for a maximum of **1 year**. **A RACE CAR MUST COMPETE IN TWO RACE MEETINGS IN THE FOLLOWING YEAR TO RETAIN THEIR RACE NUMBER**
5. A waiting list is to be maintained. i.e.:- Anytime a number becomes available the 1st name on the list with that number as their preference will have first option on that number. Ring the National Secretary for allocation of numbers.

### **2.2**



1. The interpretation, implementation and maintenance of these Specifications will be the responsibility of the DMA, National and State Technical Officers & Club Scrutineers.
2. Nothing contained in or omitted from these Specifications constitutes permission to run an unsafe vehicle.

### **2.3 Race Car Construction**

1. All vehicle construction is to be carried out in a professional manner using top grade materials.

### **2.4 Race Car Registration**

1. Only registered vehicles will be permitted to compete.
2. Vehicles may only be registered after the appointed scrutineer is satisfied that the vehicle complies with these Specifications.
3. All cars are to be registered with a DMA affiliated club, in the state and where the car is maintained or garaged for the most part of the racing season.
4. Tow money will be paid from where the race car is maintained or garaged for the most part of the racing season.

### **2.5 Race Car Specification Disputes**

1. Driver/car owner raise issue with Club Scrutineer - unresolved
2. Club Scrutineer will refer (in writing) to State Technical Officer - unresolved
3. State Technical Officer will refer to the National Technical Officer - unresolved
4. National Technical Officer will refer to National Technical Committee for debate, resolution will be based on a majority vote - unresolved
5. National Technical Officer will refer to DMA for resolution.
6. DMA decision is FINAL

### **3.0 PENALTIES**

#### **3.1 Enforcement**

PENALTIES WILL BE ENFORCED BY THE DMA ON ADVISEMENT FROM THE NATIONAL TECHNICAL COMMITTEE. (EXCLUDING ITEM #3.12 WHICH WILL BE ENFORCED DIRECTLY BY THE DMA.)

- |             |   |                     |
|-------------|---|---------------------|
| <b>3.2</b>  | <b>Engines - components</b>   | MAXIMUM - 12 MONTHS |
| <b>3.3</b>  | <b>Engines - cubic capacity</b>   | MAXIMUM - 12 MONTHS |
| <b>3.4</b>  | <b>Engines - compression</b>  | MAXIMUM - 12 MONTHS |
| <b>3.5</b>  | <b>Traction control</b>   | <b>LIFE</b>         |
| <b>3.6</b>  | <b>Adjustable controls</b>  | MAXIMUM – 12 MONTHS |
| <b>3.7</b>  | <b>Rear Axles / Spools</b>  | MAXIMUM - 12 MONTHS |
| <b>3.8</b>  | <b>Fuel - fuel</b>  | MAXIMUM - 12 MONTHS |
| <b>3.9</b>  | <b>Fuel - induction</b>   | MAXIMUM - 12 MONTHS |
| <b>3.10</b> | <b>Unauthorised Communications</b>  | MAXIMUM - 12 MONTHS |
| <b>3.11</b> | <b>General Non Compliance</b>   | MAXIMUM - 12 MONTHS |
| <b>3.12</b> | <b>MISCONDUCT – including – Unruly Behaviour or Bringing the Sport into Disrepute</b> | MAXIMUM - 24 MONTHS |
| <b>3.13</b> | <b>Consistent Under-Weight</b>  | MAXIMUM - 12 MONTHS |

The following penalties #3.14 & #3.15 will be enforced by the Chief Steward at the race meeting.

- 3.14 UnderWeight - LOSE ALL POINTS FROM THAT HEAT or FEATURE RACE, and NO FINISHING POSITION RECORDED.**

**2<sup>nd</sup> Offence at Same Meeting – EXCLUDED FROM ALL POINTS AND POSITIONS and EXCLUDED FROM RACE MEETING. (NO APPEAL)**

- 3.15 Over-Width - TO BE RECTIFIED BEFORE RACING or  
If found to be racing on track with Over-Width - NO POINTS AND NO POSITION RECORDED FOR THAT RACE.**

## **4.0 CHASSIS & ROLLAGE**

### **NOTE!**

**Specification changes relating to tubing sizes will become effective 1<sup>st</sup> July 2009 and will apply to newly constructed chassis only.**

**Existing cars will be as per rule book at time of construction with the exception of rule 4.3.5**

#### **4.1 General**

1. All joints to be notched to accommodate corresponding parts for sound welding.
2. No holes allowed in chassis or roll cage unless sleeved and welded.
3. All new chassis's must be inspected by the relevant club scrutineer BEFORE painting or powder coating. All imported cars both new and used must supply proof of materials used by original manufacturer and will be ultrasound tested. For Australian built cars, DOM / chrome moly must be etched with size and wall thickness as per text on diagram 1 & 2.

#### **MEASURE WALL THICKNESS ON TUBING BEFORE USE.**

ERW (and any other material) will be ultrasound tested for diameter and wall thickness as per text on diagram 1 & 2.

4. The driver, when fitted with an ambulance backboard, must be able to be removed through the roof opening in emergency cases.
5. Minimum helmet clearance inside roll cage to be 80mm minimum from all roll bars including 80mm vertical clearance from the top of the top roll cage bars measured left to right. **Must be checked when car is scrutineered for Registration.**
6. No engine offset within chassis rails is permitted.

#### **4.2 Wheel Base**

1. Minimum = 2290mm (90")      Maximum = 2695mm (106")

#### **4.3 Chassis Construction & Design ALL V8 Dirt Modifieds**

1. Chassis construction is to include sound triangulation in its design.
2. The chassis will incorporate a bar behind the seat for the seat belts to pass over or mount to. – refer to Diagram 2, bar 16
3. A protective plate is to be fitted below the seat. – refer **Rule 9.2-1.**
4. The chassis will incorporate a 'lower back' seat bar to prevent the rear axle housing intruding on the driver. – refer **Rule 9.2-2.**
5. **An overhead intrusion bar is to be fitted left to right of overhead rollbars Aproxamatly one third from front rollbar OR a "V" brace in the top of the roll cage as per diagram 2, but MUST comply with Rule 4.1.4**
6. A 3mm aluminium floor plate is to be fitted, extending from front firewall (engine plate) to at least the front edge of the drivers seat and out left and right to connect up with the chassis rails box sections. Floor plate may have 4 x 25mm holes for drainage.
7. Front shock towers to be a maximum of 75mm above the top of the shock carrier clamps.

#### 4.4 Chassis Rails

1. The chassis rails are defined as - from the rear torsion bar rack (or extension) or where the roll cage down tube intersects with the chassis rail (coil over car) forward to the front crossbar of the nose cone mounting.
2. The chassis rails will incorporate box sections and will start no more than 355mm in front of rear axle centre line and finish at no less than front of the radiator.
3. Box sections will be constructed of 75mm x 50mm x 2.8mm RHS. Or 100mm x 50mm x 2.8mm RHS. HIGH SIDE MUST BE VERTICAL
4. **Balance of chassis rails to be constructed from tubing as per Diagram 1**
5. Chassis rails are to be equal distance from the centre line.
6. Right hand bottom chassis rail may be stepped out forward of the radiator to accommodate the shock tower.
7. Chassis rails are to be 700mm MINIMUM / 1000mm MAXIMUM width at the rear of the box section and 650 mm MINIMUM / 1000mm MAXIMUM width at the front of the box section.

#### 4.5 Roll Cage – low/mid bar

1. Only round steel tubing to be used for roll cage.
2. Front and rear roll cage bars must be connected at the top in a cage type configuration.
3. The roll cage is to be gusseted at all four upper corners.
4. Front and rear roll cage bars must extend to the chassis rails.
5. The external width of the roll cage bars at the chassis rails must at least be maintained for the full vertical height.
6. The box section must connect to rear roll cage hoop or “A” bracing.
7. Front and rear roll cage hoops are to be braced in an “A” configuration.
8. Rear roll cage hoop bracing is to extend to chassis rails.
9. Front roll cage hoop bracing is to extend as low as possible and then supported to the chassis rails.
10. The rear roll cage hoop must have at least 600mm MINIMUM internal width. (Measured at deck height)
11. The rear of rear roll cage hoop will be supported by an “A” frame. The centres of the top of the “A” frame bars are to be 90mm apart and the bars are to extend down toward the chassis rails as far as possible and attach to a substantial member.
12. The “A” frame construction must prevent the seat from passing thru.
13. A round horizontal side bar between front and rear hoops is compulsory. To be no higher than 500mm below the lower edge of the top roll cage bar.
14. **Construction materials as per Diagrams 1 & 2**

#### 4.6 Roll Cage – high bar

1. High bar assembly may be used, incorporating a single unbroken top rail from the torsion bar rack up to the rear roll cage upright, forward to the front roll cage upright and then down to at least the radiator support uprights.
2. The unbroken top rail will be braced in an “A” configuration, front and rear, with braces extending down to the chassis rails.
3. Chassis design to include triangular construction in conjunction with high bar configuration.
4. **Construction materials as per Diagrams 1& 2**

## **5.0 PUSH BARS**

### **5.1 General**

1. The centre line of front and rear bars to be 450mm to 550mm from ground level.
2. Vertical spacing of front and rear push bars, measured at centre line of bars  
Minimum - 200mm                      Maximum - 300mm
3. All bars are to have corners with radiuses and be fully returning to the chassis.
4. All bars are to be securely fastened to the chassis.
- 5.

### **5.2 Front Bar**

1. Front push bars are to have 2 horizontal hoops and 2 vertical uprights with no bracing whatsoever.
2. Front push bar top hoop is to be chassis width for entire length. Lower hoop may be narrower to suit chassis design - minimum width 350mm.
3. Front push bar must extend 650mm forward from the centre line of the front axle to front of the bar.

### **5.3 Rear Bar**

1. Rear push bars must have 2 horizontal bars.
2. Rear push bar minimum width will be the chosen body width (measured at point F), but may extend to a maximum of 75mm outside the body on each side. The rear push bar must return to the chassis from the outer edge of the bar work. A brace within 100mm of chassis mounting sleeve is considered chassis.
3. Rear push bar must extend rearward to a minimum of 1225mm and a maximum of 1250mm from the centre line of the rear axle to the rear of the bar.

### **5.4 Construction Sizes**

1. Front: - 25mm OD x 3mm. ERW or DOM tubing
2. Rear: - 25mm OD x 3mm - minimum. ERW or DOM tubing  
- 38mm OD x 3mm - maximum. ERW or DOM tubing
3. Corresponding size 4130N chrome moly in .095thou wall thickness is allowed.

## **6.0 SIDE NERF BARS**

### **6.1 General**

1. Side nerf bars must **NOT** protrude outside any tyre. Measured same as 6.1-2
2. Side bars are to be **NO more than 100mm inside** a straight line measured from the outside front edge of the front tyre to the outside front edge of the rear tyre with the front wheels in the straight ahead position.
3. Front top edge is MANDATORY to be between 300mm and 450mm from ground level.
4. Rear or rear centre line of side nerf bars is to cover a height of 450mm to 550mm from ground level.
5. All bars to have corners with radiuses and be fully returning to the chassis.
6. All bars to be securely fastened to chassis.

### **6.2 Constructional Sizes:-**

1. Single rail: - 25mm x 3mm– minimum. ERW or DOM tubing  
- 40mm x 3mm - maximum. ERW or DOM tubing
2. Double rail: - 25mm x 3mm– minimum. ERW or DOM tubing  
-38mm x 3mm - maximum. ERW or DOM tubing
3. Corresponding size 4130N chrome moly in .095thou wall thickness is allow

## **7.0 TAIL SHAFTS**

1. All drive shafts must be painted white.

### **7.1 Front Hoop = open tail shaft**

1. Front tail shaft hoop is compulsory.
2. It must consist of a hoop, welded or sleeved & bolted to a substantial cross member.
3. When attached, must provide 360° protection and be situated 100mm to 150mm behind centre line of front uni and provide minimal clearance around tailshaft.
4. Material = 25mm OD x 3mm ERW or DOM tubing or 1" x .095" 4130N chrome moly
5. Bolts = 2 x 5/16 grade 5.

**OR**

### **7.1A Combined front hoop/scattershield**

1. Cars with open tail shafts may combine front hoop and scattershield into one by encasing tail shaft inside steel tubing.
2. Steel tubing will be securely bolted to the rear of the gearbox and continue rearward and be securely attached to the seat -front support bar. Tubing may be slotted at the rear to allow for tail shaft drop.
3. Steel tubing must cover drive flange, front uni joint and tail shaft.
4. Material = 3mm wall thickness as a minimum.

**OR**

### **7.1B Torque Tube**

1. Torque tube driveline must still use a compulsory front tail shaft hoop.
2. Specifications = same as **Rule 7.1A**
3. The tubing of the torque tube is considered to be the scattershield.

### **7.2 Rear Loop = open tail shaft**

1. Rear tail shaft loop is compulsory. It must be securely fixed to the diff torque arms or chassis.
2. It must consist of plate or steel bar, bent into a loop. Plate to be attached using a minimum of 2 x 3/8" grade 5 bolts. Bar to be threaded and attached by nuts on both sides of torque arm.
3. It must be situated 100mm to 150mm forward of the centre line of the rear uni.
4. When attached, it must provide 360° protection.
5. Material - 50 x 6mm steel plate or 13mm (1/2") steel bar

### **7.3 Torque arms = 2 arms – 1 fitted *each side* of tail shaft**

1. Race cars using 2 separate torque arms must be fitted with 2 steel safety rings.
2. Rings must be bolted to each torque arm by a minimum of 2 x 3/8 grade 5 bolts.
3. One ring must be positioned 100mm to 150mm behind the front uni joint and the other ring positioned 100mm to 150mm in front of the rear uni joint.  
Both torque arms must be covered by the uni joint scattershield. see **Rule 8.2**
4. Safety rings material 50mm X 6mm steel plate.

**OR**

#### 7.4 Torque Arm – 1 arm fitted on *one side* of tail shaft

1. Race cars using a single torque arm, that protrude into driver's cockpit, must be contained, limiting travel and preventing contact with the drivers lower body.
2. Method 1 -- fitted with a steel cable (¼" or more in diameter) connecting to a substantial cross member or front tail shaft hoop. Cable to be attached within 150mm of the front edge. Cable attachment to be spliced eyes & shackles or accepted cable clamps.
3. Method 2 – steel tubing welded or sleeve/bolted as a hoop to a substantial cross member and/or front tail shaft hoop, positioned within 150mm of the front edge and maintaining minimum clearance to torque arm. This hoop must be between the torque arm and drivers foot.
4. Material = 25mmOD x 3mm ERW or DOM tubing or 1" x .095" 4130N chrome moly.

## **8.0 SCATTER SHIELDS**

### **8.1 Bell Housings**

Race cars **not** using an aftermarket racing gearbox (Bert - etc) must be fitted with an approved aftermarket competition steel bell housing. Bell housings are to be free of holes. Only hole allowed is for clutch fork operation and this is to be kept to a minimum.

### **8.2 Universal Joints**

1. All cars with open drive shafts must have a 180 degree scattershield, made from a minimum of 3mm steel and extending from the front edge of the seat to the back of the transmission, covering the uni joint, front flange, driveshaft, and torque arms.
2. It must be free of holes and extend completely down to the floorplate and be held in place with a minimum of 4 x 3/8" bolts at the bottom connecting to substantial cross members.
3. The only opening allowed is for gear lever/linkages and this is to be kept to a minimum.

## **9.0 SEATS**

### **9.1 Seat**

1. Full Containment type seats are HIGHLY Recommended.
2. A one piece high back bucket seat, designed to give support for hips, ribs and head is a mandatory minimum.
3. The seat must be fabricated from aluminium only.
4. Seat is to be secured with a minimum of “four (4) x 3/8 grade 5” high tensile bolts, with large diameter steel flat washers under their heads.
5. The seat must be prevented from protruding thru the rear roll hoop “A” support bars. High density padding accepted as a minimum. (consider other methods)

### **9.2 Seat Protection**

1. A protective plate is to be fitted under the seat and must extend fully from the front of the seat to the rear of the seat. The plate must be welded or bolted by 4 x 3/8 bolts to the chassis.

Material = 3mm steel or 6mm aluminium plate x 200mm Minimum wide.

2. The chassis construction will incorporate a lower back seat bar to prevent the diff from intruding on the driver, through the seat in the event of an accident. This bar is to be located at the bottom / rear apex of the seat and welded to chassis. If chassis design does not allow this bar to be suitably positioned, the bar may be positioned up to 150mm up the rear of the seat, but the protective seat plate (**rule 9.2-1**) must extend up to this bar and meet the above requirements.

Minimum size = 25mmOD x 3mm tubing

## **10.0 FIREWALLS & COCKPIT SIDE PANELS**

1. All firewalls and cockpit side panels to be a Minimum of 1.2mm aluminium or 0.8mm steel
2. **All firewalls/side panels are to be free of holes.**

### **10.1 Front Firewall**

1. An **Effective** firewall is to be fitted between the engine and the driver, all gaps are to be sealed.
2. All pipes, hoses and wiring are to be grommetted or sealed.
3. Slot for accelerator linkage must be kept to a minimum.
4. Width to be outside edge of front roll bars and connect with cockpit side panels and extend down and connect with engine plate.

### **10.2 Rear Firewall**

1. An **Effective** firewall is to be fitted between the driver and the fuel tank.
2. Firewall to be directly behind driver.
3. The top edge of the firewall must connect up with the deck panel.
4. Width to be the outside edge of the rear roll bars and to connect with the cockpit side panels and must extend down as far as the bottom of the seat.

### **10.3 Cockpit Side Panels**

1. Cockpit internal side panels must extend from the front edge of the front roll bar to the rear edge of the rear roll bar and up to the decking panel and down to the lower chassis rail.

## **11.0 V8 DIRT MODIFIED BODY**

### **11.1 Body**

1. Body panels (all 11.\* items) are to be fabricated in either fibreglass, aluminium or steel, Minimum thickness - 1.8mm aluminium & steel. - 1.5mm fibreglass.
2. All panels are to be single skin only.
3. Maximum width 1730mm, Minimum width 1500mm, measured at point "F".
4. Body must be mounted on the centre line of the chassis only ( no offset ) with 50mm minimum of both rear tyres exposed at all times.

### **11.2 Bonnet**

1. A bonnet is to be fitted and securely mounted using quick release fasteners.
2. Bonnet length must be from the windscreen mesh to no more than 400mm forward of the centre line of the front axle.

### **11.3 Nosecone**

1. Nose cone must be 830mm wide for entire length, and parallel to the centre line of the chassis.
2. Must protrude forward 600mm of the centre line of the front axle and no further back than the centre line of the front shock absorber mounting point.
3. Nose cone panelling = MAXIMUM thickness - 2mm.
4. Metal end plates must be fully welded and smoothed round and NOT protrude above the profile of the nosecone face. Soft plastic (MAXIMUM thickness - 2 mm) to be used for endplates and above nosecone profile, and follow the profile of nosecone face and be no more than 50mm higher.
5. Any framework used to support the nose cone may incorporate the front nerf bar mounting points and be constructed from material no larger than 38mmODx3mm wall thickness and no smaller than 25mm OD x 3 wall thickness.
6. No 'V' or cross bracing to protrude further forward than 400mm from the centre line of the front axle.
7. Any framework or chassis rails used to support the nose cone, must be covered by bodywork or panelling.
8. The front lower edge may be level with or up to 75mm above the bottom of the chassis rail.

### **11.4 Roof**

1. To be a length of 1200mm only, measured at all points.
2. Width (measured under roof lip in front of ¼ panel) to be 300mm minimum / 400mm maximum narrower than the chosen body width (measured at point F).
3. Angle to be 10 degrees.
4. Must be removable and secured using quick release fasteners.
5. Must be mounted on the centre line of the body.
6. **May** be flat or may have a maximum 75mm convex.
7. Roof lip (or edges) are to be a maximum of 50mm.
8. Any framework used to support the roof panel must be constructed in such a manner that it cannot protrude into the driver cockpit of any car in an accident.
9. The back edge of the roof (measured at outside edge) is to be 125mm rearward from the centre line of the rear axle.

### 11.5 Side Panels

1. Both sides must be identical, except for wheel arches, and must be completely flat.
2. Front pillars are mandatory on both sides and are to be 50mm wide only.
3. The body contour must be a straight line from "A" thru "H" to "F".
4. The body contour at "A" – "B" must be vertical and measure between 700mm minimum and 800mm maximum, measured from the bottom of the chassis rail.
5. "B" – "C" to be middle of the bottom chassis rail. A maximum of 150mm vertical plastic will be permitted at "B" – "C". The plastic thickness will be a maximum of 2mm and an overlap of 50mm to secure is permitted. This is the only position plastic can be used.
6. A corner radius or bevel of 75mm maximum at point "A" if desired.
7. A corner radius of 50mm maximum at points "B", "C", "D" and "E" if desired.
8. 2 supports each side are allowed above the interior sheet metal panels to brace the body side panels. These supports must have rounded ends and cannot exceed sizes of -- 25mm x 3mm flat aluminium plate or 10mm aluminium tubing.

### 11.6 Interior Panelling

1. Interior horizontal panelling will include full rear decking extending to the "F - E" line, with the horizontal panels continuing forward to a maximum of 100mm back from the "A – B" line.
2. A rear deck spoiler is permitted at point "F" only. Must not protrude above the top of rear quarter panel and must continue rearward to the "E" – "F" line.
3. A maximum of 4 vertical 2mm thick ribs may be used to brace the spoiler to the rear deck. These ribs can be up to a Maximum of 250mm in length, and height must not protrude above the 1/4 panel.
4. The interior sheet metal panels must be a flat single plane across the inside of car, covering the area from points "A" – "F", however the line from "A" – "F" may be contoured.
5. No protrusions or apertures (openings) allowed whatsoever in the interior sheet metal panels with the only exception being for the steering drop arm and wheel tubs and fuel filler access. Fuel access is to be covered and secured using quick release fasteners.
6. No fabricated structures are permitted above the interior horizontal sheet metal panels. Helmet air blower and rear axle housing breather/filler are permitted above horizontal panels, but must be within the confines of the roll cage rear "A" bracing.
7. Any cross bars used to support interior panelling/rear decking/spoiler must be capped with at least :- 40mm x 40mm x 2mm plate or :- 40mm x 40mm x 2mm angle running the length of the body side panels covering all cross bars.
8. Front and rear firewalls are compulsory. **Refer Rules 10.1, 10.2, 10.3**

### 11.7 Dirt Deflecting Panel

1. A dirt deflecting panel may be fitted to the cockpit.
2. This panel is not to exceed the height of the lower edge of the windscreen.
3. Must be secured with quick release fasteners to allow easy removal.

### 11.8 Windscreen/Rock Guard

1. Screen mesh is to be 75mm x 50mm maximum hole size and 3mm minimum steel bar mesh.
2. Must be full width of the roll cage and secured by welding, bolting or worm drive (or better) hose clamps.
3. The minimum vertical height of the windscreen mesh is from the bottom edge of the roll cage front cross bar to the top of the bonnet/scoop surface. This must be a minimum of 200mm.

### 11.9 Rear Fuel Tank Panel

1. Rear panel is compulsory from the decking panel to the bottom of the fuel tank and as wide as the chassis.
2. If side panels are fitted, there must be a 2 x 150mm diameter fire extinguisher access holes **above** the fuel tank , 1 on the left side and 1 on the right side - or - 1 x 150mm diameter fire extinguisher access hole **above** the tank in the rear.

### 11.10 Window Styles

1. 3 styles only are permitted - refer to drawings - page 28
2. Only the clear window area is permitted to be made of LEXAN (poly-carbonate) with the rest of the window panel fabricated from fibreglass, aluminium or steel.
3. No other LEXAN is permitted elsewhere in the car.

## 12.0 SIGNWRITING

1. All vehicles are to be presented for racing in good condition and with a neat gloss paint job.
2. Allocated **numbers** and additional sign writing are to be professionally done in **contrasting colours** to that of the background.
3. Race cars will display their State initials and the drivers Surname in both rear quarter panel lexan windows.
  - State initials at the top in **50** mm high block letters. eg: **QLD**
  - Drivers SURNAME in **75mm** high block letters or Surname in 75mm high Block letters, below the window but within the confines of the ¼ panel.
4. Side panel numbers are to be located forward of the rear wheels only, and numbers are to be a Minimum 500mm high x 75mm wide.
5. Roof numbers are to be facing forward and outside. Minimum 300mm x 50mm.
6. No other sign writing over or into the numbers. Exemption is Australia 1.
7. A rear panel number, 100mm high to be located on the right side of the rear bodywork. - refer to drawings - page
8. State Title Holders are permitted to display State No 1 on drivers dirt deflecting panel or bonnet sides.
9. DMA approved Fuel tap sticker to be applied to top of internal decking panel adjacent to fuel tap. Sticker to be readable from outside.
  - (Uniform *fuel tap sticker will be supplied with race car registration*)
10. Ignition or magneto kill switch to be clearly marked as IGNITION or IGN and OFF in contrasting colour vinyl.

## **13.0 ENGINES**

### **13.1 General**

1. All engines must be V8 configuration, pushrod type valve operation, cast iron block and cast iron cylinder heads, using carburetion only.
2. Capacity – 361 cubic inch absolute maximum.
3. Compression – 11.5 to 1 maximum compression ratio, tested with a whistler.
4. After legally complying with capacity and compression specifications, the engine may be sealed. Seal number to be recorded in vehicle log book.
5. The opposing front bolts on each side of the inlet manifold will be drilled and lockwire and DMA seal will be fitted to these bolts.
6. As long as this seal is intact and not tampered with, the engine will be legal to use without further testing, unless a paid protest is lodged.
7. No engine offset within chassis rails.
8. Engine must be parallel to chassis rails and the centre of the engine block must be forward of the centre line of wheelbase.
9. No computer engine management systems.  
(Rev Limiters/Tell Tale Tachometers are not considered engine management).

10. **NO TRACTION CONTROL DEVICES  
ALLOWED UNDER ANY CIRCUMSTANCE  
INCLUDES ON-BOARD & REMOTELY CONTROLLED DEVICES  
REFER PENALTIES - PAGE 6**

11. No titanium engine components allowed, except for Valve train components.
12. Any type of engine oiling system is permitted.

### **13.2 Cylinder Heads**

1. Cast iron only.
2. One inlet and one exhaust valve per cylinder.
3. No raised inlet or exhaust port runners.
4. No material may be added to the combustion chambers, inlet or exhaust ports with the only exception being, if it is necessary to repair the head.
5. Standard valve angles must be maintained.

Chevrolet - 23 deg.

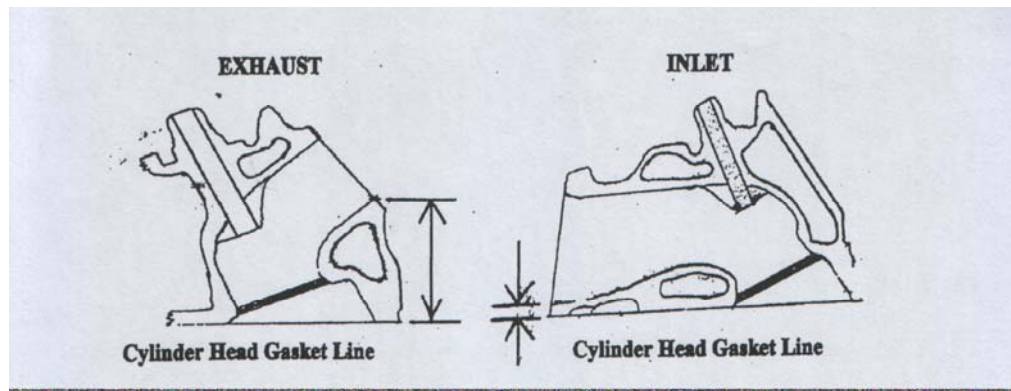
Chrysler - 18 deg.

Holden - 10 deg.

Ford Windsor - 22 deg.

Ford SVO - 10 deg.

Ford Cleveland - 22 deg.



6. Port measurements are to be taken from the head gasket surface to the bottom of the port.

Chevrolet	55 - 60mm	Chevrolet	5 - 8mm
Ford Cleveland	25 - 29mm	Ford Cleveland	13 - 17mm
Ford Windsor	40 - 50mm	Ford Windsor	6 - 10mm
Ford SVO	62 - 64mm	Ford SVO	8 - 12mm
Chrysler	Unknown	Chrysler	Unknown
Holden	Unknown	Holden	Unknown

7. The following part numbers relate to bare head castings and are the only Aftermarket Cylinder heads permitted.

## CHEVROLET

Must be 23 degrees.

Must meet port specifications detailed above.

## FORD

World Products	Part #	Description
Windsor JR	053030B	58cc/1.940" x 1.600"/170cc Intake Runners
Windsor	053020B	64cc/2.020" x 1.600"/197cc Intake Runners
Pro Top Line	F2204000215	

SVO	Part #	Description
	M-6049-E351	64cc/2.020" x 1.600"/197cc Intake Runners
Sportsman	M-6049-N351	64cc/2.020" x 1.600"/195cc Intake Runners

DART	Part #	Description
	5302	
Dart Head for Ford formerly E351		64cc/2.020" x 1.600"/197cc Intake Runners

## CHRYSLER

Chrysler W2 Cast Iron

## **14.0 FUEL SYSTEM**

### **14.1 Carburettor and Manifold**

1. Intake manifolds are to be of a cast iron or cast aluminium construction only.
2. No forced Induction allowed.
3. No chemical supercharging allowed.
4. One carburettor only.
5. To be based on a Holley 4150/4160 Series carburettor.
6. Must have Four (4) venturis and Four (4) butterflies. Venturis to be 1.375" + 0.040" maximum.
7. The carburettor throttle lever must be fitted with a minimum of 1 return spring in addition with the manufacturer's standard throttle shaft return spring. This spring is to be attached to the throttle shaft lever.
8. A half stirrup type toe clip must be fitted to the accelerator pedal to enable the manual closing of the throttle by the accelerator pedal.
9. Throttle is to be controlled by a mechanical linkage. Refer rule 14.1-8

### **14.2 Fuel**

1. Methanol only.
2. Maximum specific gravity 0.820.

### **14.3 Fuel Tanks**

1. The use of a fuel cell is highly recommended
  2. Fuel Tank Capacity: – 85 litre maximum
  3. Fuel tanks to be made of : - Mild steel – 1.6mm.  
Stainless steel – 1.2mm.  
Aluminium – 3mm.  
Approved Plastic racing tanks.
- ### **14.4 General**
1. DMA approved "FUEL TAP" sticker to be applied in contrasting vinyl to top of internal decking adjacent to the fuel tap, and readable from the outside.
  2. Fuel tanks must be fitted with a positive sealing cap.
  3. Fuel tanks must be fitted with an anti spill device (non return valve) to prevent fuel escaping in the event of a roll over.
  4. Mechanical fuel pumps only.

### **14.5 Tank Mounting**

1. Fuel tank is to be mounted in a cradle and metal tanks are to be suitably insulated from both the cradle and retaining straps to prevent chafing.
2. Mounting straps to be steel or stainless steel only. Minimum 2 straps 25mm wide material: steel = 3mm thick, stainless steel = 2mm thick.
3. Mounting straps are NOT to be welded to tank.
4. Fuel tank is to be mounted inside the chassis rails and be adequately protected by the rear bar work.
5. Any fuel tank that projects 100mm or more above the top of the rear push bar must have a vertical or horizontal hoop with two (2) braces to protect the fuel tank, fuel filler neck, fuel cap and fuel fittings from being damaged in the event of an accident. Hoop is to be made of 25mm x 3mm tubing (minimum). **ERW or DOM or 1" x .095 Chrome molly**

### **14.6 Hoses**

Braided or hydraulic style hoses with swaged or reusable fittings are recommended. Worm drive hose clamps are to be used as a minimum.

1. Fuel lines are to be run through cockpit and not over exhaust system.
2. A quick action lever type fuel tap is to be fitted between fuel tank and fuel pump. The tap must isolate the fuel tank when closed. Fuel tap control must be within easy reach of the driver when secured for racing.

## **15.0 EXHAUST SYSTEM**

1. Mufflers are to be fitted, engine noise emissions are not to exceed 95 DBA, or track requirements.
2. Must exit in the rear 2/3 of the body side panels, but not past the rear axle housing.
3. Must be directed away from the driver and the fuel tank.
4. Side exit exhausts are permitted, but the top of the pipe must be no higher than 425mm above the ground.
5. To be suitably insulated from the driver and exit outside of the cabin.
6. Mufflers are to be suitably retained in the vehicle should they break loose.
7. Exhaust pipes incl. collectors, joining pipes and mufflers must be retained together as one (1).
8. Slip joints held together by exhaust system u-bolt type clamps are **not acceptable** as being retained.

## **16.0 COOLING SYSTEM**

1. All radiators must be under the bonnet and in front of the engine and between the chassis rails.
2. A pressure release radiator cap or valve, with overflow or pressure vent pipe extending to the lower chassis rail level is mandatory.
3. All hose clamps are to be of automotive quality or better. (eg:- Worn drive clamps)
4. All radiator style oil coolers must be under the bonnet or nose cone.

## **17.0 TRANSMISSION/GEARBOX**

1. Must be fitted with working forward and reverse gears, capable of moving the vehicle off under its own power. (ALL WITHIN ONE GEARBOX)

## **18.0 BATTERY & ELECTRICS**

1. Sealed batteries ONLY - to be used.
2. Batteries are to be mounted in a cradle and securely attached to the chassis.
3. Batteries exposed below driver's seat are to be covered to prevent contact between seat belts and terminals.
4. Ignition or magneto kill switch must be clearly marked IGNITION or IGN and OFF in contrasting vinyl.
5. Ignition or kill switch must be accessible to driver when secured for racing.
6. All holes for cables and wiring are to have grommets fitted at possible chafing points.

## **19.0 BRAKES**

### **19.1 General**

1. Foot operated hydraulic, air cooled brakes only.
2. Brakes on 3 wheels are to be operational at all times.
3. Outside front brake may only be removed.
4. Rear brakes must consist of two (2) separate units consisting of a minimum of one (1) operating calliper and rotor per unit.
5. Inboard brake rotors must be made of steel or ventilated cast iron only.
6. **NO TITANIUM** or **CARBON FIBRE** rotors.

### **19.2 Hoses/Lines**

1. Steel, braided or approved after market nylon lines only to be used and must be fixed to chassis.
2. All flexible brake line joins are to be fixed to chassis.

## **20.0 STEERING**

### **20.1 General**

1. Steering joints – namely: - steering arms (stub axle), track rod (wheels), drag link (s/box-s/arm) are to be suitably locked with split pins, locknuts or tie wires.
2. Heim joints to be free from play or wear.  
Heim joints to be minimum of 1/2” mounting bolt x 5/8” thread.

### **20.2 Steering Wheel**

1. A quick release steering wheel is mandatory.
2. Steering wheel to have a minimum 3 spoke centre.

### **20.3 Steering Box**

1. Knee guards are highly recommended.
2. Steering boxes must be adequately padded as a minimum.
3. Steering box must be in good condition and free from play.
4. It is recommended that the drop arm of the steering box be secured by a bolt and washer fitted to the end of the sector shaft.

## **21.0 SUSPENSION**

### **21.1 Stub Axles**

1. Aluminium (sprint car style) - stub axles allowed, however the bearing spindles must be steel or aluminium stubs with 2 7/8” – 73mm big bearing aluminium spindles.
2. Hollow king pins are allowed.
3. Aluminium or alloy king pins are **NOT** permitted.

### **21.2 Front Axles.**

1. Beam axle type front ends only.
2. Beam axles are to be fabricated from high grade steel tube with a minimum of 50mmOD x 4mm wall thickness or chrome moly 2” OD x 0.120” wall thickness.
3. Maximum wheel track = 2185mm - measured same as **RULE – 21.3/6**

### 21.3 Rear Axles

1. Full floating hubs or live axles only to be used.
2. Live steel axles only. (No aluminium axles).
3. Enclosed axle type diff housings to have solid aluminium or steel SPOOL fitted with both drive axels to be of solid or gun drilled steel. Both axles are locked together at all times.
4. Enclosed axle type diff housings may use aluminium axle tubes.
5. Cars with enclosed axle type diff housings must be inspected at registration to verify fitment of a spool. The representative for the car will do whatever is necessary to verify to the scrutineer that a spool is fitted. Spool must be visually sighted.
6. Once the spool is verified, the diff housing will be sealed by lockwire and DMA seal and noted in vehicle log book.
  - Methods: - 1 - drill hole in bolt head and hole in bolt thread behind nut.
  - 2 – Drill holes in bolt heads of opposing bolts-left and right.
  - 3 – Drill holes in opposing webbing ribs of each side cover.
7. Maximum wheel track allowed is 2185mm at all times or Race Ready. (Measured from outside of tyre to outside of tyre at axle height as car sits on the ground).

### 21.4 Shock Absorber/Springs

1. Only 1 conventional style shock absorber permitted to be used for each wheel.
2. Shock absorbers that utilise remote reservoirs or canisters are not permitted.
3. Coil springs are to be located in spring seats and fastened to same. If spring seats have no cutouts, fasteners do not apply.

## **22.0 TYRES**

1. Only racing tyres can be used.
2. Minimum tread depth 2mm at the start of a race is required.
3. Right rear control tyre: - AMERICAN RACER 34/17 (MC2, MC3), or 32/13 (SD44 & SD48).
4. Control tyres must have all brand, size and compound marking as produced by the manufacturer on both sides. (If no markings, the tyre will not be permitted to be used in competition).
5. Minimum of 50mm of both rear tyres to exposed beyond the body side panels.

## **23.0 WHEELS & WHEEL HUBS**

### 23.1 Wheels

1. Wheels must be competition type or aluminium or steel.
2. Flat plate centres are to be a minimum of --
  - Steel = 8mm
  - Aluminium = 16 mm

### 23.2 Wheel Hubs

1. Front hubs = MINIMUM of three (3) x 16mm / 5/8" studs with locknuts.
2. Front hubs may also use an approved aftermarket Direct Mount hub system – Minimum 250mm stud base circle.
3. Rear hubs = MINIMUM of 5 x 16mm / 5/8" studs with locknuts.
4. Knock-ons are permitted but must screw on in the reverse direction, and are to have a MINIMUM of three (3) x 16mm / 5/8" pins on the front and a MINIMUM of five (5) x 16mm / 5/8" drive pins on the rear. Drive pins may be stepped down to 13mm / 1/2" where they screw into the hub.

## **24.0 VEHICLE WEIGHT**

1. Minimum weight of 980 kg, **including** the **driver** at all times.
2. Random weight checks are to be made when a car comes off the track after a race.
3. Ballast is to be declared at scrutineering and recorded in the log book for future inspections.
4. All ballast will be bolted to the left hand chassis rail under the extractors using four (4) 3/8" high tensile bolts or two (2) 3/8" high tensile u-bolts with two (2) 3/8" thick fish plates.

## **25.0 DRIVER ADJUSTABLE CONTROLS**

1. **NO** driver controlled or / and remotely controlled on board adjusters are permitted.
2. Panhard adjusters are to be located below, and NOT protrude thru, deck panels.

## **26.0 TRANSPONDERS**

1. Transponder mounting bracket. Centre mounting line will be 3150mm from the rear of the front axle, no higher than 400mm above the ground with direct line of sight to the ground, preferably on the left hand side.

## **27.0 SAFETY EQUIPMENT safety specs compulsory on July 1- 2008 ALL SAFETY EQUIPMENT MUST CARRY SFI or FIA LABEL**

### **27.1 DRIVING SUITS**

1. Driving suits = minimum specifications of SFI 3.2A/5 or FIA 8856-2000.
2. Fireproof underwear must be worn under ALL suits. Underwear includes Socks and Balaclava.  
Fireproof Underwear = minimum specifications SFI 3.3 or FIA 8856-2000
3. Undergarments worn under fireproof underwear should be cotton and no underwires on bras for females.
4. There must be no jewellery or synthetic attire worn while competing.
5. Drivers should be aware of the potential FIRE danger from incorrectly applying sew-on patches to driving suits.

### **27.2 OTHER**

1. Gloves must be worn = minimum specifications SFI 3.3 or FIA 8856-2000, recommended to be gauntlet style and **must not** be modified in any way.
2. Racing boots must be worn = minimum specifications SFI 3.3 or FIA 8856-2000
3. Horse Collar type neck brace is compulsory without a head and neck restraint, however if a head and neck restraint device is worn, then the neck brace is optional.
4. Arm restraints must be worn - **behind** the shoulder harness straps, attached at the buckle, and able to be released in the same motion as the seatbelts.

### **27.3 HELMETS**

- 1 All drivers must wear a Snell approved full face helmet.
1. Helmet = minimum specifications Snell SA2000 or SA2005 and must be no older than 5 years from manufacturers date.
2. NO DATE = NO USE
3. Helmet air blowers can be mounted above the deck, behind the seat and must be fully inside the confines of the rear roll bar "A" brace.

**27.4 HEAD & NECK RESTRAINTS compulsory from July 1-2008**

1. Head and Neck Restraint = minimum specifications SFI 38.1.
2. If head and neck restraint systems are used, they must be used and mounted as per that manufacturers instructions. Instructions must be shown to the scrutineer.

**27.5 SEATBELTS**

1. 5-point Seatbelts - Compulsory minimum = minimum specifications SFI 16.1
2. **SFI 16.5 approved 2"shoulder straps is recommended for used with Hans & Schroth approved head and neck restraint device.**
3. The useful life of the webbing in a race harness shall NOT EXCEED TWO (2) years from the date of manufacture and must be replaced at or before that time.  
A harness that has been re-webbed and recertified will be accepted.
4. NO DATE = NO USE

**Seatbelts to meet these criteria:**

5. Minimum width 75mm.
6. Metal to metal over centre lever action quick release buckle only.
7. Any seatbelt not incorporating a duckbill style latch/lever is to be fitted with a Velcro latch guard device or similar capable of preventing the accidental release of the seatbelt by the arm restraints or other. The device shall not alter the single action motion to release the buckle mechanism.
8. The belts must come through the seat sides near the bottom of each side, thereby wrapping and holding the pelvic area over the greatest possible area. Belts must NOT pass over seat sides.
9. Seat belt webbing that can come into contact with any sharp or unrolled metal edge must be protected from that edge by push-on grip vinyl trim.
10. MINIMUM roll of metal edges = 3mm.

**Installation**

11. It is mandatory that shoulder harness straps should be attached to, or pass over, a strong structural member, 5° above to 5° below the horizontal.  
Material size = 25mmOD x 3mm ERW or DOM tubing or chrome molly 1"X .095"- MINIMUM
12. Shoulder harness straps must be securely attached to a strong structural member at 100mm to 150mm centres.
13. Head and Neck restraint devices may specify different specs to rules **27.5/10 & 11**, seat belts must be mounted as per head and neck restraint specifications.
14. Seat belts must NOT pull at 90° to top mounting plate.

**28.0 PADDING**

1. Any bars or projections etc. in the cabin area, which could be contacted by the driver, must be adequately padded. Includes roll bars, braces and supports around the drivers head area with the exception being full containment seats.

## **29.0 RADIO COMMUNICATIONS - COMPULSORY FROM JULY 1-2007**

1. One-way radios will be allowed to drivers.
2. Chief Steward to drivers only.
3. Chief Steward/official to advise radio frequency at drivers briefing and also do radio check for drivers.
4. All radios to be of an approved type by DMA technical committee.  
(Recommend the use of Raceceiver 1600 as used by other divisions).
5. MANDATORY – **NO** UNAUTHORISED RADIO COMMUNICATION ALLOWED AT ANY TIME.

## **30.0 Cubic Inch Tester**

This tool should be kept very clean. Before using, the nylon piston and tube should be well lubricated with fine oil, such as top oil or very light mineral oil. This should be done each time it is used, or, if cars are being checked, one after another, it should be given a shot of oil approximately every tenth (10<sup>th</sup>) car checked. WD-40 CRC 556 or light oil is recommended.

If you get dirt or sand in the tube, clean it immediately. This tube is ground glass (.001 tolerance).

### **Operating Instructions**

1. Have car under protest, remove all spark plugs, and also remove one rocker cover and both push rods out of any given cylinder.
2. Screw adaptor that matches spark plug thread size and length into spark plug hole in cylinder where push rods have been removed.
3. Make sure that the nylon piston is as far down the tube as possible (3/4 of the way or better). Insert rubber marker ring on top of the piston, making sure it is in straight. With tick edge towards piston attach rubber hose to the adaptor and to the Tester.
4. Have someone turn the engine over with the starter approximately 10 times at cranking speed, or, in cases where the car does not have a starter, push the car in high gear fast enough to assimilate cranking speed. The piston will start travelling up and down the tube. The piston should travel down far enough each time to open the small valve on the bottom of the tube case. If this does not occur, stop cranking and push piston down again. This valve gives the piston a common starting point each time the engine piston comes up. It makes a kind of “pop” “pop” sound every time the piston goes to the bottom of the tube. As long as you are able to hear this noise, even if it is so slight, you are getting a correct reading.
5. The number of cubic inches is marked on the face of the tube, so the underside of the rubber ring would be the reading in cubic inches of the cylinder. Multiply by the number of cylinders and it will give you the total cubic inches of the engine.

NOTE: These readings will be absolutely correct if the engine is cold. By this we mean, the same temperature as the outdoor temperature or room temperature, where the work is being done. The chart attached is for engine temperatures warmer than outdoor temperature where we have to use a calibration percentage factor. The reason for this is, the warmer the engine the less cubic inches the Tester will read. We have used the calibration many times, and know it to be accurate within three (3) cubic inches over the whole engine. When checking temperature, insert thermometer until the tip is into the combustion chamber.

## Engine Internal Temperature

### **Fahrenheit**

180 degrees.....	add	8 %
160 degrees.....	add	6 %
140 degrees.....	add	4½ %
120 degrees.....	add	3 %
100 degrees.....	add	2½ %

If you are off on your reading, it will always be on the short side, never on the long side. Two pistons are furnished. The one marked with "X" is the undersized one to be used in real hot weather when normal sized pistons might stick from expansion.

## Measuring Combustion Chamber with Katech Whistler

1. Prepare engine for measuring by removing any convenient spark plug.
2. Crank engine with starter for a few seconds with ignition off.
3. Engine should then be rotated to get piston near top dead centre (TDC) with both valves closed.
4. Purge any remaining fuel vapours from combustion chamber using a nozzle and compressed air.
5. Plug in air supply and adjust regulator until flow meter on front of instrument reads 20 SCFH. (Flow meter must be vertical to set flow.)
6. Screw whistle adapter into spark plug hole.
7. At this time, check internal engine combustion chamber temperature. A reading of plus or minus 5 degrees is close enough. If a thermometer or other temperature-measuring device is not available, the engine water temperature may be used.
8. Plug whistler in. Display should read all "8"s for a moment and then 350.0. Set three switches on front of instrument as follows:

Left Hand: Set 4, 6, or 8 cylinders.

Centre: Up position to read out compression ratio.

Middle position to adjust and display engine capacity.

Down position to adjust and display combustion chamber temperature.

Right Hand: Move switch up or down until display shows correct engine capacity and c/c temperature.

NO OTHER CALIBRATION IS NECESSARY.

9. Insert whistle probe into spark plug adapter, and set Centre switch to "CR" / UP position.
10. Whistle probe should make an audible noise and display will read compression ratio.
11. Rotate engine slowly in either direction to determine if it is at TDC.
12. Display will read highest compression ration when piston is at TDC.

## **Basic Rules for Accurate Reading**

1. You must know the capacity of the engine being checked to determine CR accurately. The engine capacity entered into the computer's memory is the number that the compression ratio is calculated on.
2. The temperature setting must be correctly set. Temperature will affect the compression ratio reading.
3. Purge the chamber being checked with compressed air before measuring. Any fuel or vapours in chamber can drastically affect the "CR" reading.
4. Whistle probe must be inserted all the way into spark plug adapter, and holes on the rear of the whistle probe must not be obstructed.

OVER

### **In Case of Difficulty**

No tone from whistle, unsteady reading Whistler

One or more valves open - engine not at TDC on compression stroke

Bent valve or other leak in chamber

Piston too far away from TDC

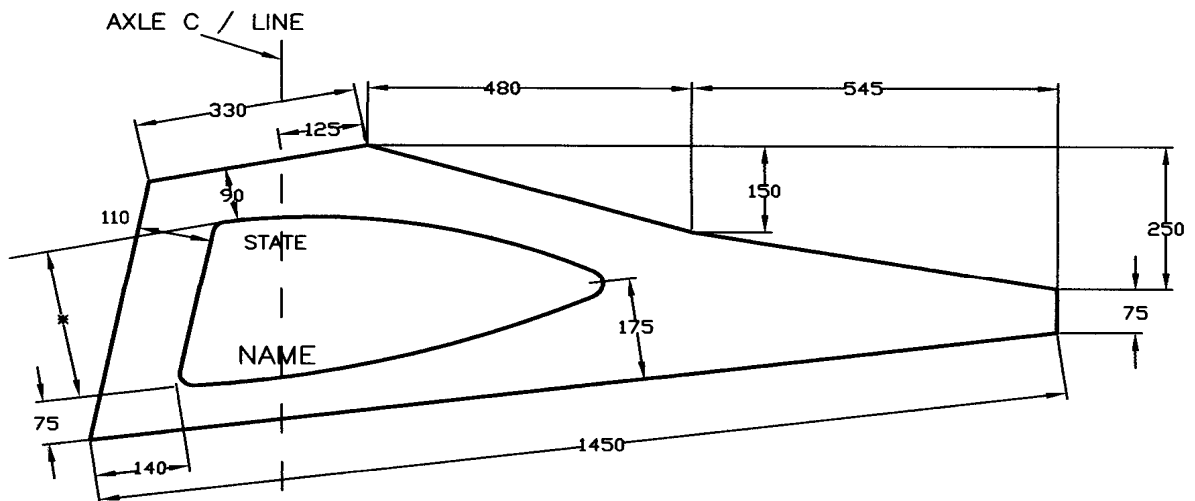
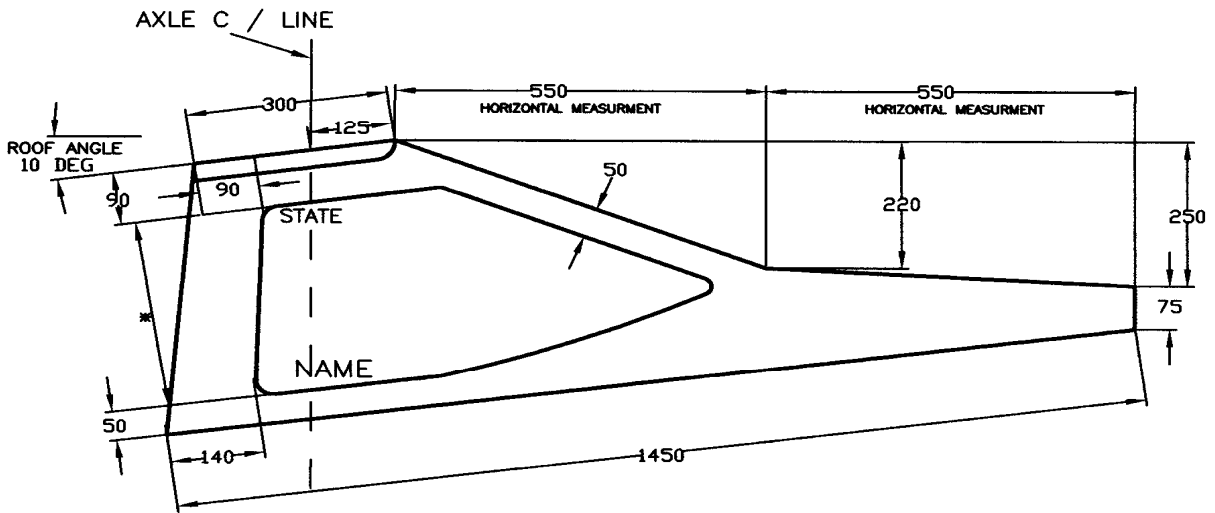
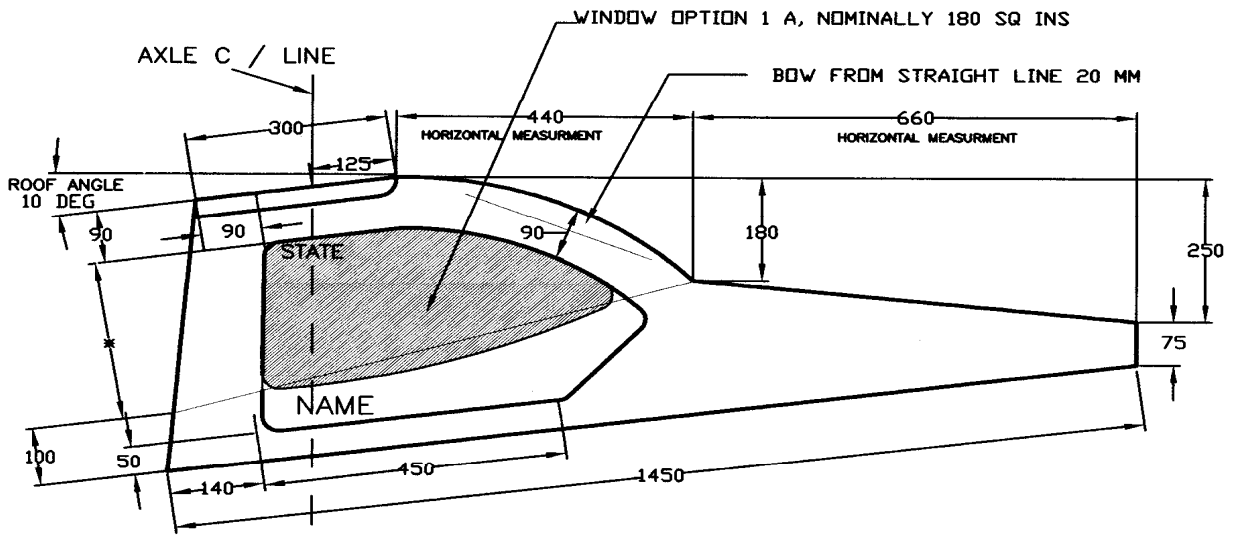
If you cannot get a steady tone from whistle, try another cylinder

Check tubing between whistle tube and whistle for bends or obstructions

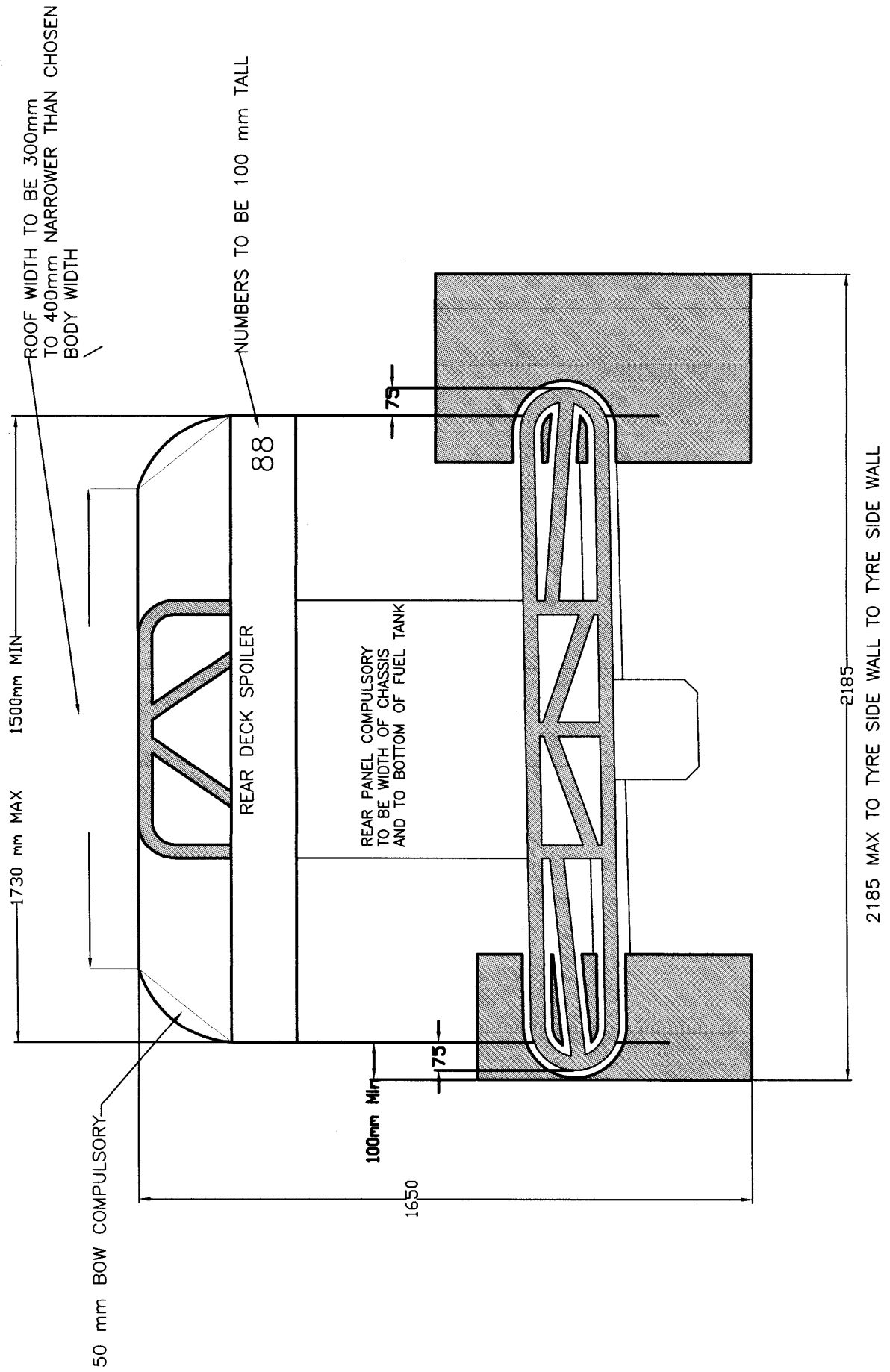
Do not obstruct air exiting back of whistle tube with hand

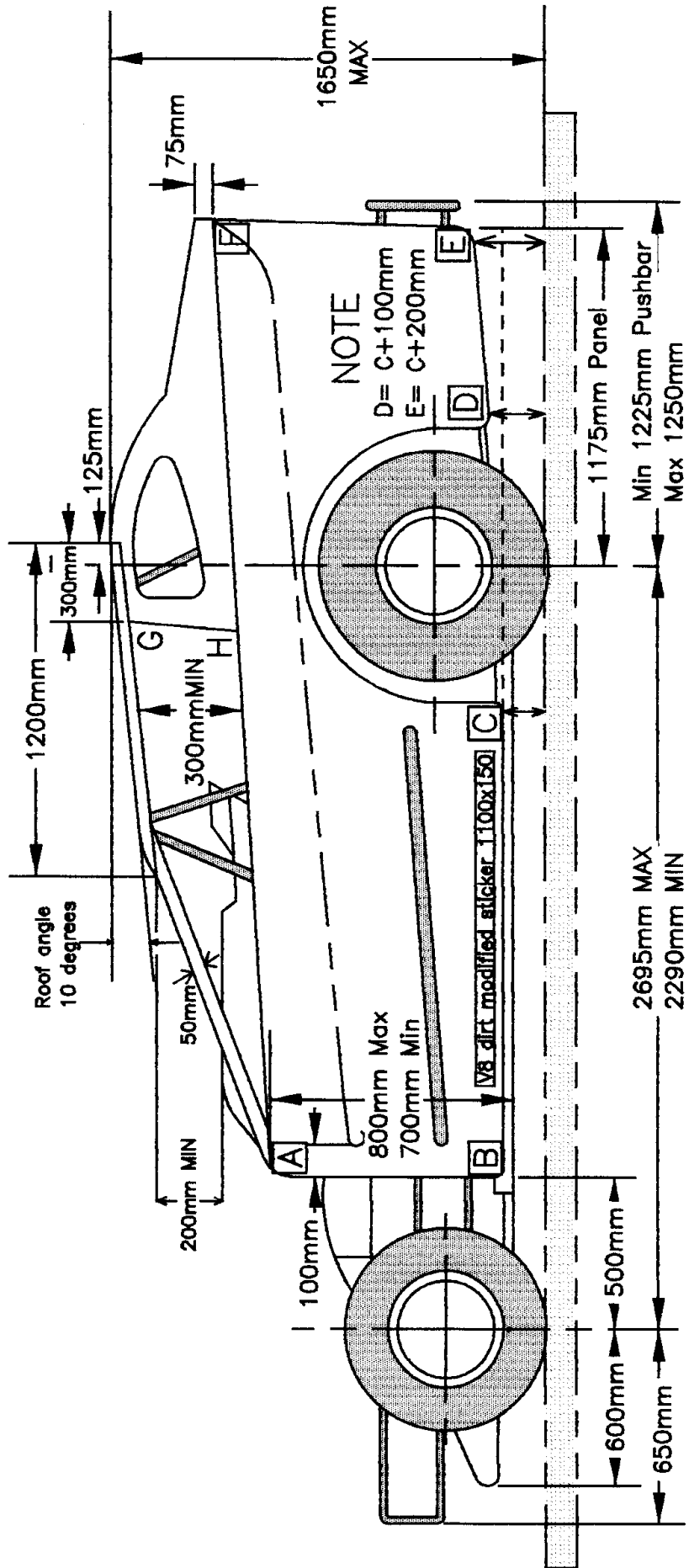
**\*\*\*\*\*IMPORTANT\*\*\*\*\***

**ANY MODIFICATION OF THE WHISTLE OR SPARK PLUG ADAPTER WILL RESULT WITH AN IMPROPER READING ON THE L.E.D DISPLAY.**



\* HEIGHT WILL VARY DEPENDANT OF CHASSIS TO SUIT HEAD CLEARANCE  
 MEASUREMENT TAKEN AT OUTER EDGE OF ROOF  
 QUARTER PANEL WINDOW DESIGNS





## SEAT BELT ATTACHMENT

### **MOUNTING BRACKETS**

Mounting brackets should be installed at an angle that is compatible with the direction of pull on the webbing under full load. Preferred mount is in a double shear with allowance for the bolt-in bracket to pivot and align toward the direction of the load as shown in Figure 1.

**FIGURE 1**



**CORRECT**

**FIGURE 2**



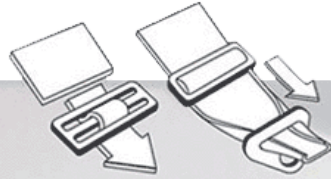
**INCORRECT**

### **FIGURE 1 AND FIGURE 2**

All mounting brackets should be attached directly to the frame or chassis of the car and installed to limit the driver's body travel both upward and forward. Do not weld around or near belts or belt hardware.

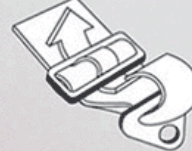
Minimum specification for bolts and washers to attach the seat belts, harnesses and anti-submarine belt hardware are Grade 8.

"LOCKING" the 3-Bar Slide Adjuster shown in Steps 1 through 4 is **VERY IMPORTANT**. The 3-Bar Slide Adjuster must be located as close as possible to the Bolt-in bracket or Roll Bar (In Wrap Around design).



**STEP 1:** Insert strap through tightening buckle.

**STEP 2:** Pull strap to 8"-10" beyond buckle, fold edges and insert into mounting bracket.



**STEP 3:** Fold back strap and reinsert through buckle as shown.



**STEP 4:** Fold back strap again and insert through bottom portion of buckle.

### **WARNING**

THIS ARTICLE IS SOLD WITHOUT WARRANTY EXPRESSED OR IMPLIED. NO WARRANTY OR REPRESENTATION IS MADE AS TO THIS PRODUCT'S ABILITY TO PROTECT THE USER FROM ANY INJURY OR DEATH. THE USER ASSUMES THAT RISK. THE EFFECTIVENESS, WARRANTY AND LONGEVITY OF THIS EQUIPMENT ARE DIRECTLY RELATED TO THE MANNER IN WHICH IT IS INSTALLED, USED AND/OR MAINTAINED. THE USER ASSUMES THE RISK. NO WARRANTY OR REPRESENTATION IS MADE AS TO ITS ABILITY TO PROTECT AGAINST SERIOUS INJURY OR DEATH WHICH MIGHT RESULT FROM CIRCUMSTANCES BEYOND THE CONTROL OF CROW ENTERPRISES.

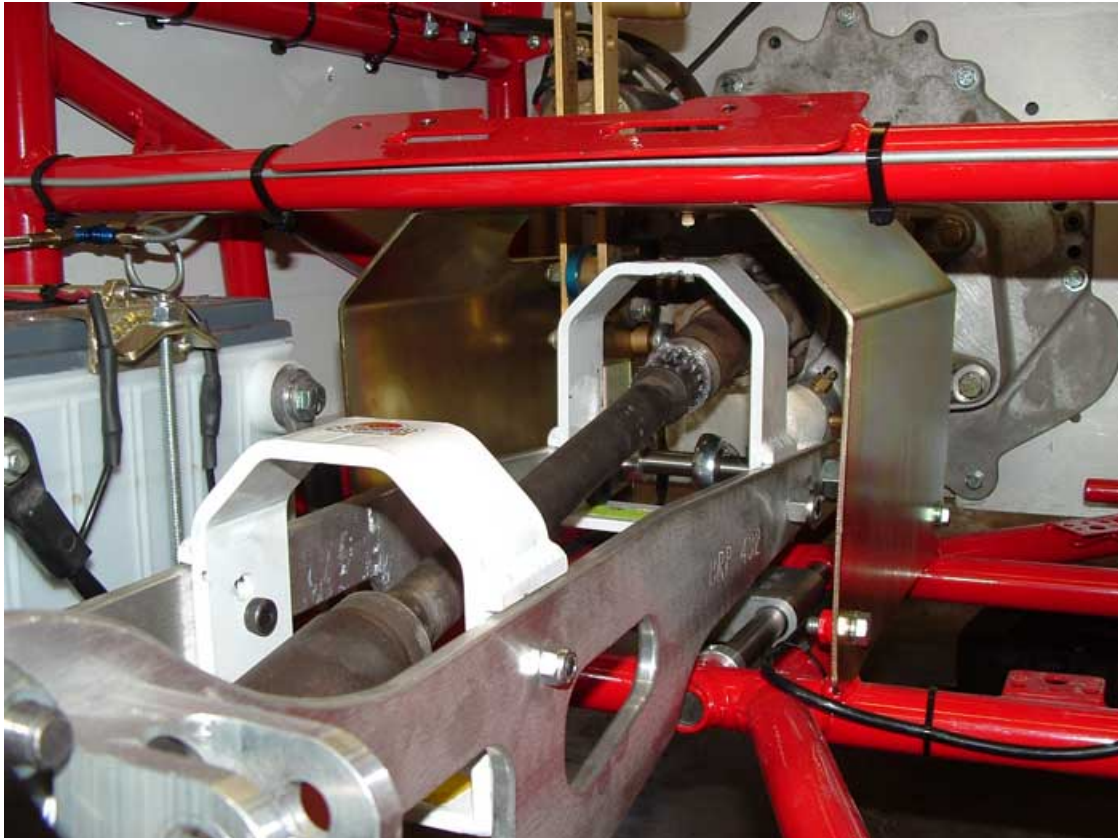


Diagram 1

Bar 3 and 5  
option A and  
B as identified  
in diagram.

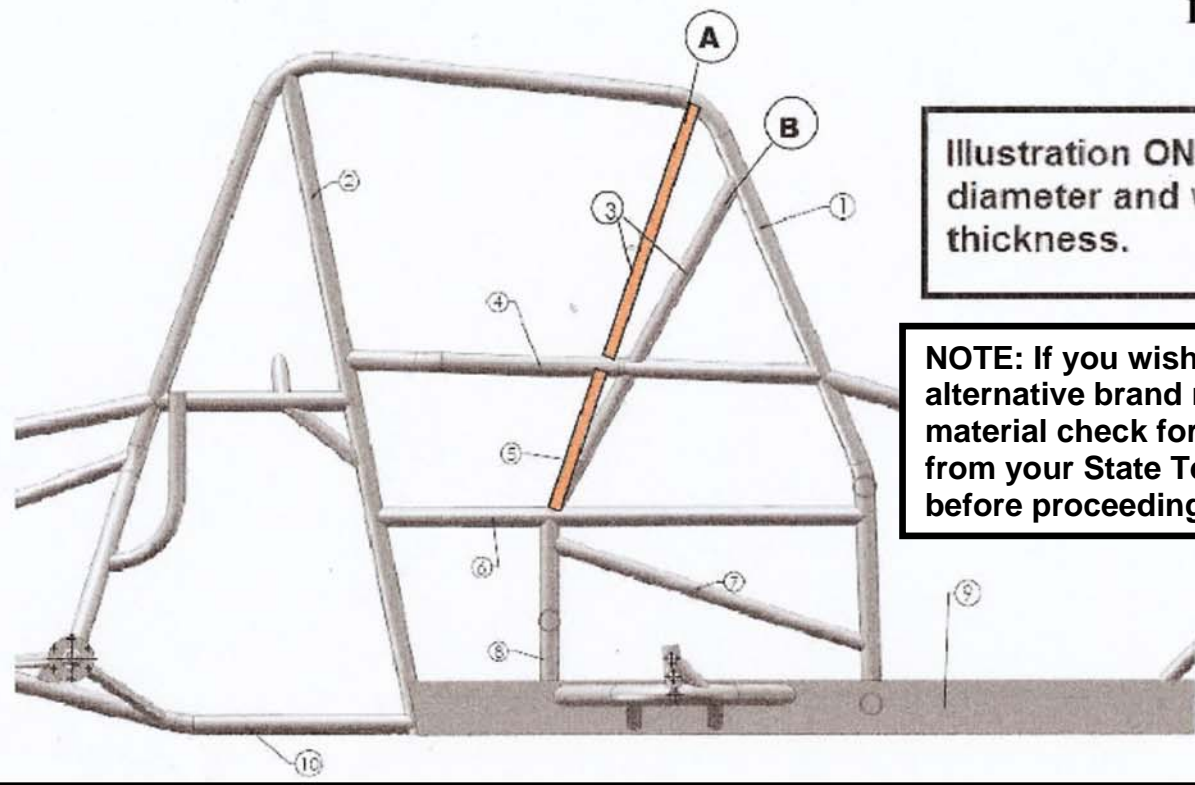


Illustration ONLY for tube  
diameter and wall  
thickness.

NOTE: If you wish to use an  
alternative brand name  
material check for approval  
from your State Tec Officer  
before proceeding.

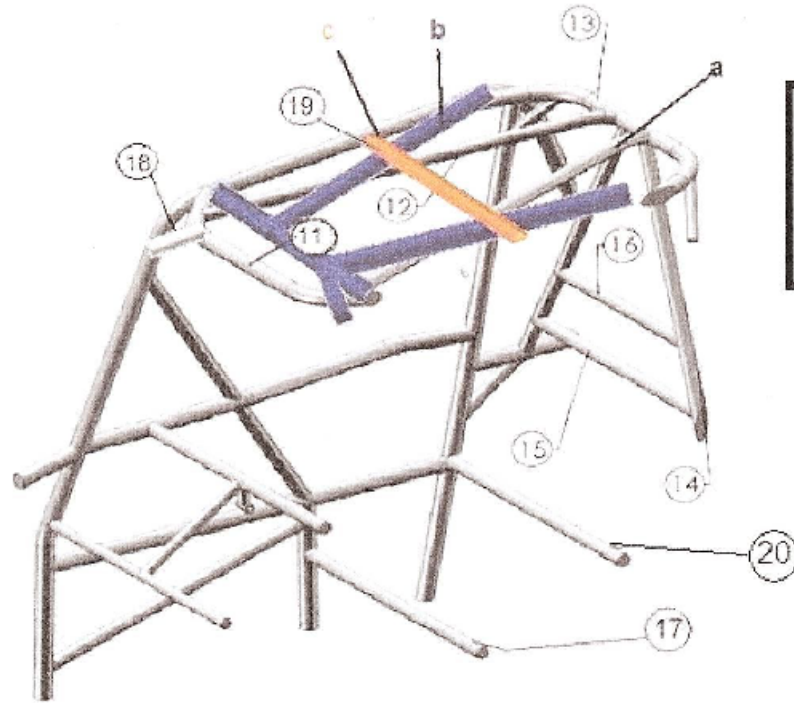
Bar Number	R/Marked DOM	R/Marked 4130 C/Molly	ERW
1	1.5 x 0.120 Wall	1.5 x 0.095 Wall	38mm x 3mm
2	1.5 x 0.120 Wall	1.5 x 0.095 Wall	38mm x 3mm
3	1.25 x 0.095 Wall	1.25 x 0.095 Wall	32mm x 3mm
4	1.5 x 0.095 Wall	1.5 x 0.095 Wall	38mm x 3mm
5	1.25 x 0.095 Wall	1.25 x 0.095 Wall	32mm x 3mm
6	1.5 x 0.095 Wall	1.5 x 0.095 Wall	38mm x 3mm
7	1.25 x 0.095 Wall	1.25 x 0.095 Wall	32mm x 3mm
8	1.5 x 0.095 Wall	1.5 x 0.095 Wall	38mm x 3mm
9	75mm x 50mm x 2.8mm RHS or 100mm x 50mm x 2.8mm RHS		
10	1.5 x 0.095 Wall	1.5 x 0.095 Wall	38mm x 3mm

Diagram 2

Option a.  
Forward facing roof V as  
identified in grey

Option B:  
Rear facing roof V as  
identified in purple

**Bar C:**  
Horizontal roof bar as  
identified in orange  
compulsory for all cars  
that do not have  
Option A or B



**Illustration ONLY for tube  
diameter and wall  
thickness.**

Bar # 19- Minimum requirement  
for all V8 Dirt Modifieds. 1/3 back  
from bar #11

Bar Number	R/Marked DOM	R/Marked 4130 C/Molly	ERW
11	1.5 x 0.120 Wall	1.5 x 0.095 Wall	38mm x 3mm
12	1.25 x 0.120 Wall	1.25 x 0.095 Wall	32mm x 3mm
13	1.5 x 0.095 Wall	1.5 x 0.095 Wall	38mm x 3mm
14	1.25 x 0.095 Wall	1.25 x 0.095 Wall	32mm x 3mm
15	1.25 x 0.095 Wall	1.25 x 0.095 Wall	32mm x 3mm
16	1.25 x 0.095 Wall	1.25 x 0.095 Wall	32mm x 3mm
17	1.25 x 0.095 Wall	1.25 x 0.095 Wall	32mm x 3mm
18	1 x 0.095 Wall	1 x 0.095 Wall	25mm x 3mm
19	1.5 x 0.120 Wall	1.5 x 0.095 Wall	38mm x 3mm
20	1 x 0.095 Wall	1 x 0.095 Wall	25mm x 3mm