

VICTORIAN SPEEDWAY COUNCIL INCORPORATED
VSC SPRINTCAR SPECIFICATIONS 2016 / 2019 SPECIFICATIONS
359 cubic inches iron engine to be reviewed at end of 2016/17
season.

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

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

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

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

GENERAL SPECIFICATIONS

CONSTRUCTION

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

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

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

Definition of material:

C.H.S. Circular Hollow Section

R.H.S. Rectangular Hollow Section

W.T. Wall Thickness

O.D. Outside Diameter

AS 1163 G.200: Australia Standard 1163 for structural steel tubing grade 200.

For clarity in printing Imperial sizes changed to Metric have been rounded off to nearest full millimetre. These sizes will continue to be accepted (i.e.: 1.25"=31.75mm rounded to 32mm)

DRIVER SAFETY

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

PROTECTIVE CLOTHING

RACE SUIT:

Driving suit must meet minimum standard of either SFI 3.2A /1 or FIA 8856-2000 Suit to be snug fit at ankles, collar and cuffs. Must be fastened at all times whilst in car. Suit to be in a clean and tidy condition and free of holes or wear. **The only IMPACT RACING safety attire accepted is to have relevant SFI label with date of manufacture 2009-2010 or later on label.**

Two piece suits **NOT PERMITTED.**

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

No jewellery to be worn.

UNDERWEAR:

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

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

Socks meeting minimum standard of either SFI 3.3, FIA 8856-2000. **MUST**" be worn by all drivers.

Socks must be higher than bottom cuff of under wear.

BOOTS, GLOVES, BALACLAVAS:

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

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

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

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

HELMET:

Driver must wear approved and correctly fitting helmet. The helmet must meet minimum standard **AS 1698, Snell 2010, Snell 2015** and pass inspection by the Scrutineer or Technical Committee.

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

NECK BRACE (HORSE COLLAR)/ HEAD & NECK RESTRAINT

Approved head and neck restraints (eg: "Hans" type devices) can be used in lieu of a horse collar neck brace. A compulsory neck brace must meet minimum standard of either SFI 3.3, or FIA 8856 – 2000. Correctly fitted to suit the driver and helmet used, leaving a nominal 15mm gap to prevent leverage injuries. A horse collar neck brace is to be high of density foam covered with Nomex, wool or similar fire retardant material. Head and neck restraint devices must only be fitted to the helmet by authorised installer as directed by the manufacturer and must be SFI 38.1 or FIA 8858-2002 or FIA 8858-2010.

5 YEAR REPLACEMENT OR RECERTIFICATION FROM DATE OF MANUFACTURE ON SFI 38.1 HEAD AND NECK RESTRAINTS.

EYE PROTECTION/GLASSES

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

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

SEAT AND SEAT BELTS

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

Minimum 75mm clearance Helmet to top of the roll cage bars.
Concave seat to support back to minimum of TOP of shoulder height and width.

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

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

Seat base to be mounted to roll cage subframe at a minimum of two (2) points using 8mm bolts and minimum 40mm diameter body washers.

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

Seat Plate: Of minimum 3mm steel or 5mm aluminium plate securely attached (bolted or welded) under seat, minimum width 200mm by full length of driver seat plus a 25mm OD x 3mm WT bar at rear of seat bottom.

Lateral (sideways) support must be given to hips and above waist.

Front of seat under legs to be raised and rolled.

Cutouts for belts to use suitable grommets.

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

Maximum padding thickness 50mm.

An approved type racing harness must be fitted. MUST be SFI or FIA approved SFI recommend 2 year service life. Five or six point 3 inch harness is mandatory and MUST be a lever latch type, narrow OEM crotch strap is permitted. Harness to be fitted to manufacturer's specifications or for existing fitment the following guide lines.

SFI or FIA approved head and neck restraint (eg: "Hans" type devices) seatbelts permitted when restraint is used.

Seat belt mounting brackets must be on roll cage, chassis or cross frames, not on sheet metal.

See "*Installation of Restraint System*". [Fig. 1 and 2].

In order for the driver restraint system to be fully effective, considerable thought must be given to the location of mounting points and to proper installation. Many installations comply only with the letter of the rule with no understanding of the needless injury to the driver.

The mounting points should 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 to protect internal organs make it the preferred location for the belt. (see Diagrams)

The shoulder harness should be mounted to prevent the driver from moving upward, out of the seat, in the event of a rollover. The required minimum distance from the top of the driver's helmet to the top of the roll

bar does not leave much leeway for the shoulder harness to prevent the helmet from striking the roof in the event of a rollover. The shoulder harness is the major means of preventing injury in such an accident.

Anti-Submarine straps serve two purposes.

To secure the lap strap down across the drivers hips, so in the event of an accident, it is not pulled up across the stomach by the shoulder straps. To prevent the driver from sliding forward and out of the harness [see Fig. 2(i) and Fig. 2(ii)]

For extra assurance a double strap anti submarine belt can be used [see Fig. 2(iii) and Fig. 2(vi)]

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

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

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

Good judgement and common sense in inspecting restraint system mounts is needed.

Safety equipment is often neglected in favour of performance equipment, but its proper operation when the need arises is essential to survival.

The belts must be in good condition – no fraying, tears etc.

ARM RESTRAINT AND MINIMUM 1 HELMET NET MANDATORY:

Not to be made of flammable material eg plastic

KNEE GUARDS MANDATORY:

Knee guards to be manufactured from metal panel minimum 1.6mm thick and minimum 150mm wide formed into a double "U" shape, care to be taken to prevent sharp edges. Knee guards to be securely mounted in a manner to offer support and protection;

to prevent the driver's knee or legs from striking any part of the vehicle or components.

PAINTING and SIGNWRITING:

All vehicles are to be presented for racing in a good condition.

NUMBERS:

Car number to be allocated by the Victorian Speedway Council.

Numbers 1, 2 and 3 reserved for VSC State Title placegetters.

Allocated numbers to be painted on both sides of the top wing and both rear corners of the body (on tail).

Registered number and prefix are to be a contrasting colour and clear of any signwriting, etc. Number will be 300mm minimum height x 75mm minimum width.

Driver's name to be painted on the vehicle.

LICENCING:

Only VSC licenced persons may participate as a driver.

INSURANCE:

Proof of approved speedway accident coverage is compulsory for drivers.

Ambulance membership is compulsory for drivers.

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

TEK SCREWS:

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

Operating one way communicator is to be presented at scrutineering.

Seat belt mounting brackets (anchor points) must be on roll cage and subframe or substantial barwork, not on sheet metal.

See "Installation of Restraint System".

See "Adjustment of Driver Restraints".

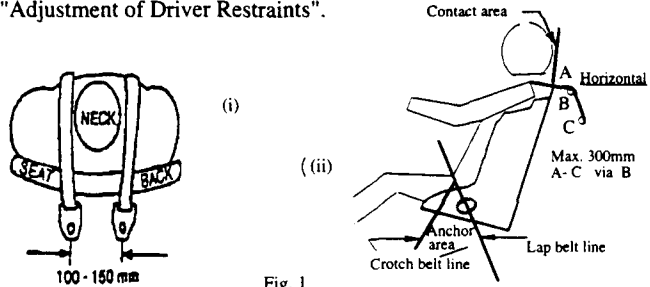


Fig. 1

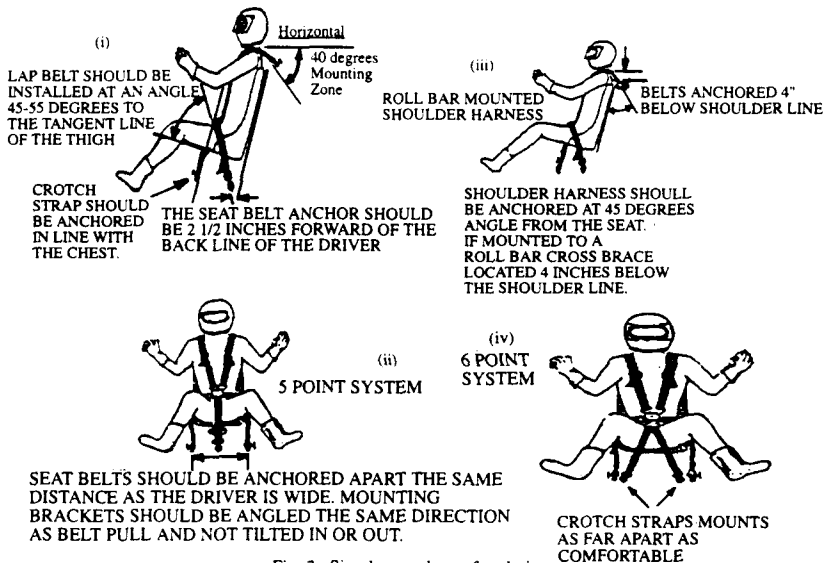


Fig. 2 Simple seat shown for clarity

SUPPLEMENTARY REGULATIONS

Amendment to Racing Rules & Regulations 12.1

White Line Start - In rolling start events, a white line to be placed between the exit of turn 4 and the starters box to indicate the "start line". The driver on Pole will bring the field to the start line at a consistent pace as required to keep the field in formation. All cars are to maintain formation until the race commences. If the pole or outside pole driver is deemed to have jumped the start they will be returned to their original grid position one time only, any further jumped start by that driver will incur a ROF. The Chief Steward is empowered to penalise any driver violating these rules.

Amendment to Racing Rules & Regulations 12.7

When a race is put under caution, the race will be slowed by the yellow light or flag. The drivers will retain their positions, or go to a position as directed by the steward. The yellow light will be turned off or the yellow flag taken down when the steward is satisfied that the track is clear. The race will be re-started in single file.

Lapped cars will remain in their positions at a restart and will not be put to the rear of the field.

The Primary cause of the incident (if still running) will be placed ROF.

Any driver being the primary cause in two yellow flags being displayed will be disqualified from that event (heat or final) and not be re-started for that event.

Amendment to Racing Rules & Regulations 12.8

Cone Restarts - At any single file re-start; restarts will take place between turn 3 and a cone placed on the front straight, the race leader must be the first car to receive the green flag and all cars must pass the cone on the outside in their proper order.

The Chief Steward is empowered to penalise any driver violating these rules (ROF)

Amendment to Racing Rules & Regulations 12.42

When a car has passed under the chequered flag, it must stop racing and complete a slow down lap at a reasonable speed, before leaving the circuit. In the event of a yellow or red flag being shown immediately after the chequered flag has been displayed the race is officially declared with positions being declared as per previous lap, exception driver/s causing the yellow or red flag to be displayed may be declared non-finishers or penalised.

Amendment to Racing Rules & Regulations 12.23

Any driver who unfairly gains a position from another driver during a race will lose positions gained, plus two further positions.

Red Light Stoppages -- In the event of a red light during a race, Crewmembers are NOT permitted to work on cars either on the track or infield.

Finals - All finals will be 20 Laps. Exceptions: State Titles, Safety Reasons or low car numbers, if laps decreased it would be at the discretion of the Steward after consultation with hosting club Official, drivers to be notified prior to the commencement of the final. During a race The Steward may also declare a race complete as per VSC Racing Rules & Regulations book (12.44).

Track Packing - If required by the track, is compulsory, the penalty, without legitimate reason, will be to start ROF in heats.

Weight Rule - if a car is found to be under weight, the driver will loose any points earned and be disqualified from that event, should the car/driver not meet the minimum weight in the next race then he/she will receive a harsher penalty.

VSC SPRINTCAR 2016-2019 CLASS SPECIFICATIONS

1. GENERAL

- (a) Design and Construction – All phases of design and construction of any car are subject to the approval of the Technical Committee. The Technical Committee may exclude any car, design or construction, which they deem to be dangerous.
- (b) The Chief Scrutineer and Machine Examiner have the right to exclude any vehicle from any event if the vehicle is in an unsafe condition or does not comply with these specifications and order the vehicle be brought to a proper condition before being presented for scrutineering.
- (c) Cars to be constructed of only top grade materials and built to a professional standard with welding and method of attachment of all parts and components entirely safe and trackworthy. All steel tubing or section shall not be coated or plated material before welding. No welds to be covered by synthetic filling. The use of carbon fibre in Sprintcar construction is not permitted.
- (d) The following components must have grade 8 bolts and locknuts, lock wires or split pins; steering arms bolted to spindles, pan hard rods, all steering components and lower birdcage bolts. Method of retaining pitman arm to steering cross shaft to be used.
- (e) Any existing vehicle not complying with the following specifications may be accepted at the discretion of the Technical Committee.
- (f) Front and rear axle assemblies, steering components etc must meet with the approval of the Technical Committee.
- (g) Rear engine, front wheel drive and four-wheel drive cars not permitted.
- (h) No mirrors, radio or 2-way communication equipment is permitted on any Sprintcar or driver. Official chief steward to driver one way communicator radio system is mandatory.
- (i) NO Titanium components permitted.
- (j) NO Carbon Fibre components permitted with the exception of panels.

2. WHEEL BASE:

Wheelbase, Maximum 2450 mm, Minimum 2100 mm.

3. TRACK:

Track, shall be 1600 mm maximum.

4. WEIGHT RULES AND PROCEDURES

(a) Minimum weight of car and driver at any time not to be less than 680 kg (1500 lb)

(b) Random weigh in at any time during the program including after the feature finish.

(c) Only a maximum of two bolt on ballasts permitted, to a maximum of 11.3kg (25lbs), it must be encased in steel or aluminium weldment, bolted one each side (LH & RH sides) to the front of rear engine plate only and secured by a minimum of 2 x 1/2 high tensile bolts with self-locking nuts and 1 1/2 washers. Ballast must be painted white with car number on ballast.

Any car losing ballast during an event will automatically incur loss of points and disqualification from that event.

(d) Penalties- cars found to be under weight shall incur loss of points and disqualification from that event. A further Infringement maybe issued by chief steward as per Racing Rules & Regulation book

5. CHASSIS CONSTRUCTION:

(a) Chassis must be constructed from steel tubing not car chassis rail.

(b) Chassis of space frame type to be a minimum of two rails each side 1 1/4" (32mm) by 12 gauge or 1 1/2"(38mm) by 14 gauge round tubing. Rectangular hollow section, square hollow section or channel section of similar strength may be used.

6. ROLL CAGE

- (a) Rear roll bar minimum size 38 mm O.D by 3.2 mm w.t. low carbon steel or black pipe (not galvanized)
- (b) Front roll bar minimum size 35 mm O.D by 3.2 mm w.t. low carbon steel or black pipe (not galvanized)
- (c) All other members' minimum size 32 mm O.D by 3.2 mm wall (not galvanized)
- (d) Chromemoly. Steel tubing roll cages S.A.E. 4130 seamless tubing minimum 35 mm O.D by 2.4 mm (0.095+/- 0.005") Alternative -531 Reynolds (CHS) tube.
- (e) Cockpit opening at least 32,250 sq mm (500sq in) located behind engine compartment and measured on a plane parallel to ground and level with uppermost part of body or windscreen. None of the cage structure may encroach upon an imaginary 20" (500 mm) cylinder extending upward from the cockpit opening.
- (f) Minimum clearance between the topside of rollcage (not padding) and the drivers helmet to be 75mm when driver seated in race car and measured from a straight edge placed across left to right on the roll cage to top of helmet. Cars failing to meet this specification must be fitted with a halo welded to roll cage at a minimum of 6 points.
- (g) Any attachments must first have approval of local Technical Committee.
- (h) Minimum mean radius for bends used in roll cage to be 150 mm.
- (i) It is compulsory that any new cars include the cage as part of the frame.
- (j) The rear roll bar must be braced in the form of a crucifix or an inverted "V". The "V" to extend from the top centre behind the drivers head down the sides as far as practicable.
- (k) If the roll cage has an opening greater than 32,250 sq mm (500 sq in) a centre bar may be required. Centre bar not recommended if less than 32,250 sq mm and is not to be fitted to new cars.
- (l) No oil coolers are to be mounted on the roll cage.

7. NERF BARS

Design (refer to illustrations)

- (a) Nerf bars must be of acceptable design with no uncovered upright pipes or horns. As long as the upright pipe or horn does not protrude one inch or 25mm past the rear most point of the rear nerf without a sharp point, it is acceptable
- (b) Single rail front nerf bar or optional double rail acceptable. Double rail front nerf maximum tube size 25.4mm dia x 2.1mm WT. Maximum height of double rails 155mm top to bottom. Front nerf bar not to extend more than 230mm past the front edge of the tyre or cross torsion bar tubes but must extend past the front edge of the tyre.
- (c) No other single nerf bar is permitted
- (d) "Shorty" style nerf bars are permitted.
- (e) Front and rear nerf bars to follow bodyline.
- (f) Rear nerf bar shall comply with the approved design as per diagram. Rear nerf bars are mandatory at all times, hence no rear nerf, no race.
- (g) All nerf bars to be kept to as small a size as possible.
- (h) No sharp or protruding corners permitted.
- (i) **Protection Height** Centres of front and rear nerf bars to be approx. 450 mm from the ground level. Front and rear nerfs must offer protection at a height of 450 mm.
- (j) The side nerfing bars must be fitted and to extend out at the front to approximately the centre of front tyre to no further out at the rear than the outside of the back tyre and no further in than 152mm from the outside edge of rear tyre. The side nerfing bars shall have 3 mounting points and shall have a maximum of 3 bars in its construction. The front mount shall be between the number 1 cylinder exhaust port and the rear of the engine block. Bumpers and Nerf Bars maximum size 27mm O.D. x 3mm W.T. and mounting to be a minimum 5mm bolt or pin.

8. FRONT AXLE

- (a) Size – Tube front axle to be a minimum of 44.45 mm (1 ¾") to a maximum of 63.45 (2 ½") with a minimum of 0.095" wall thickness and eyes must wrapped as far as possible.
- (b) King Pins - To be approved automotive design

- To be a minimum of $\frac{3}{4}$ " (19.05 mm) diameter
- Hollow kingpins permitted providing they have a minimum wall thickness of 3.3 mm (0.130")

9. REAR AXLE

- (a) All cars must use a locked differential
- (b) An approved type live axle must be used (ie quickchange).

10. SUSPENSION

- (a) Front and rear suspension may be of any type.
- (b) No cockpit adjustable torsion or torsion bar stop implement allowed.
- (c) Shock absorbers must be incorporated to operate on each wheel.
Conventional standard style oil filled adjustable shock absorbers permitted.
- (d) No coil or shock absorber to be adjustable from the cockpit.
- (e) IT IS HIGHLY RECOMMENDED that both front torsion bars/tubes are fitted with moose type plugs or similar retaining devices that will retain stops or bars on the car in the event the stops or arms become loose.

12. DRIVE SHAFT

Torque tube – Strap or safety loop compulsory on all cars. A safety hoop, when fitted, is to be mounted on the bottom chassis rail with the brackets angled slightly forward so as not to interfere with the submarine belt. The hoop shall be a minimum of 300mm high and 150mm wide with the tube being 25mm dia by 1.5mm wall thickness. The hoop shall be attached with 5mm nuts and bolts.

13. STEERING

- (a) Any safe form.
- (b) Position of steering box- must be mounted as far away from driver's knees as practical and be adequately padded.
- (c) Turns lock to lock- maximum of two Minimum of three quarters.

- (d) All steering and drag links, hiems joints / rod ends and tie rods to be steel only. All steering components must use minimum grade 8 bolts and locknuts, lock wires or split pins.
- (e) All steering pitman arms are to be outside the cockpit.
- (f) Quick release steering wheel Mandatory. Steering wheel to be of an approved metal design.
- (g) All main steering rods (main drag link) to have a safety strap attached to the chassis.

14. BRAKES

- (a) Brakes must operate on both back wheels at least. Right rear brake optional
- (b) All braking systems must operate from the left hand side and to be foot operated (combined hand and foot pedal allowed)
- (c) Type - Hydraulic only. In board brake disc to be no larger than the side plate of diff centre.

15. WHEELS

1. Size

Maximum of 16 inches (400mm) and minimum of 12 inches (300mm) diameter

2. Type

- (a) Approved full magnesium alloy type may be used.
- (b) Approved split rims (alloy) with heat treated alloy and magnesium alloy centres may be used.
- (c) Dual wheels, steel rims and/or steel wheel centres not permitted on any car.
- (d) All imported wheels must have proof of manufacture.
- (e) All balancing lugs must be securely fastened.
- (f) Fabricated and or split rim wheels must have the specific approval of the Technical Committee.
- (g) Alloy wheels – One-piece proprietary wheels conforming to Australian specifications to date have been accepted, and are still to be kept under close scrutiny. Custom built composite wheels must meet the approval of the Technical Committee, but

as a guide, the extruded centre plate must be a minimum thickness of 12 to 13 mm (1/2") 6016T6 attached to the hub by at least 5 lug nuts. Spun rims to be attached with (6mm) 1/4" high tensile bolts secured with locking nuts having centre distance no more than 64mm (2 1/2").

Cast centres CP, AP, BP, 6061 T6 must be at least 19mm (3/4") thick at the hub and in case of the spoke type to be no less than 9 to 10 mm (3/8") thick at any section.

The Technical Committee will, if necessary, revoke any wheel from competition if failure is due to any inadequacy.

- (h) Any recognized wheel cover accepted providing they are not fixed with protruding devices.

3. Attachment

- a) Front wheels to be secured by no less than three steel studs or bolts of no less than 5/8" (15.8mm) diameter or five steel studs or bolts no less than 3/8" (9.5mm) diameter. These studs or bolts to be grade 8 high tensile type.
- b) Rear wheel studs to be of high tensile proprietary design of minimum size 1/2" (12.7mm) National fine thread. Minimum of 5 studs required.
- c) Wheel nuts shall comply with approved design
- d) Any approved type of "knock on" hub, provided the "knock on" screw is counter direction to the wheel rotation may be used.
- e) Where "knock on" hubs are used a minimum of three drive pins for each front hub to be used of 5/8" dia with 1/2" thread and a minimum of six drive pins for each rear hub and will be a minimum of 5/8" dia with 1/2" thread. Pins to be grade 8.

The use of spline centered wheels is permitted for use without the use of drive pins with "knock on" hubs.

4. Tyres

All cars must use tyres that are in good condition.

5. Hubs

Front and rear hubs and housings must not extend beyond outer rim.

16. FUEL SYSTEM

1. Design and construction

- a) The smallest size tank possible should be used.
- b) An FBI type breather or a similar manufacture one-way valve to be used.
- c) Fuel tank caps must be of leak proof, screw, aircraft or approved design. (Not tapered thread)
- d) Plastic fuel filters banned.

2. Fuel Lines

- a) All cars must be fitted with approved flexible tubing.
- b) Approved flexible connection to fuel pump with screwed connector must be used.

3. Fuel Tap

All cars must have a tap or taps in the fuel line in easy reach of driver with easy external access and prominently marked ON – OFF. The fuel tap/s must effectively stop the flow of fuel from the tank to the pump and filter and will be mounted on the right hand side of the cockpit. External access taps must be clearly sign written to show location

4. Fuel

Race officials may check fuel at any time. Alcohol fuel only permitted – Maximum specific gravity of methanol 0.802.

Gaseous Fuels not permitted.

“Nitro” The introduction into the combustion chamber/s of nitro fuels and/or additives, either in solid, liquid or gaseous form (eg. nitrous oxide) by any means is expressly forbidden.

Fuel type to be clearly marked on panel adjacent to filler cap and at kill switch.

5. Fuel Bladder

- a) Approved fuel bladders mandatory in all tanks without exception.
- b) Fuel bladders will be completely surrounded by a container to rigidly support the fuel bladder and provide additional protection.
- c) The fuel containers must be constructed of non-combustible resins or plastics.
- d) The manufacture of fibreglass fuel bladder containers must provide certified documents that those materials will not support combustion.
- e) Fuel tank vent must have a check valve.

16. BODY

1. Design of Body

- a) All cars to have a suitably padded upholstered cockpit. All sharp protruding objects to be suitably padded.
- b) All sprintcars to contain a nose, bonnet, cockpit side panels and complete fuel cell.
- (c) The side panel must extend from the front firewall to at least the front edge of the seat and be no higher than the top edge of the firewall.
- d) Body panels fitted to the left hand side of car must leave enough room to allow driver to exit car without removing the panel
- e) Fuel Bladders incorporating fuel bladder housing may constitute a tail providing a tail type hump is professionally fitted.
- f) Limitations of rear most side panels to conform to a template located by the cars rear axle.

- g) The driver's right side panel opening must be a minimum of 255mm vertical opening at any point and a minimum 530mm horizontal at any point.

2. Bonnet attachment

All cars must use a quick release method of bonnet attachment eg: Dzus fasteners.(Not screws or nuts and bolts.)

3. **Ignition, Fuel Pump Switch(es)**

All cars must have switches for ignition, fuel pump, etc fitted in a prominent position marked ON – OFF in a contrasting colour.

4. **Fire wall**

All cars must incorporate a fully protective firewall between the engine and driving compartments.

5. **Battery**

Motorcycle battery must be mounted firmly and in a safe position forward of engine plate. Battery clamp to be connected with a minimum two (2) 6 mm rods/bolts or heavy duty clamps/ not hose clamps. Attached to chassis in a minimum 2 places.

Car type battery must be mounted firmly and in a safe position relative to fuel tank. Battery to be mounted in a steel angle frame that covers four (4) sides of the battery, top and bottom. Angle to be a minimum 25mm x 25mm x 3mm steel. Frames to be connected with a minimum two (2) 8 mm rods/bolts, recommended four (4). attached to steel framework inside chassis.

Care to be taken to avoid possibility of shorting.

Where battery leads pass through a thin metal firewall etc the leads must pass through a rubber grommet or hose to prevent chafing of battery leads. Blue triangle 75mm x 75mm x 75mm to indicate battery position. Only sealed type battery permitted. Gel recommended.

6. **Floor**

a) All cars must have a floor under the driver's feet extending to the firewall and to the front edge of the seat.

b) A bar to be fitted under driver's feet or in close proximity.

17. **ENGINES**

359 cubic inches iron engine to be reviewed at end of 2016/17 season.

1. **Engines may be of any automotive type in any stage of tune to the following specification.**

- (a) Engines are only permitted in standard configuration, which means the original design concept.
- (b) After market cast iron blocks and heads permitted.
- (c) Cast iron block and heads only allowed.
- (d) Head ports and combustion chambers may be modified.
- (e) Maximum 359 cubic inches absolute capacity. **To be reviewed end of 2016/17 season.**
- (f) Flat top pistons only in V8 engines.
- (g) Roller cams not permitted in non LS series engines.
- (h) Dry Sumps not permitted.
- (i) One 4-barrel carburettor of any size permitted.
- (j) No forced induction on V8 engines.
- (k) Titanium crankshafts or conrods not allowed.
- (l) No overhead camshaft designs allowed on V8 engines.
- (m) **GM CT525 OR ANY LS BASED ENGINE EXCEPT LS7**
CT525 6.2L or LS technical specifications, all EOM parts unless listed below.
 - Block - Only OEM blocks permitted, face deck only and rebore no machining internally or externally (as cast condition). Maximum bore 4.085" Maximum stroke 3.622"
 - Crank - Must be an OEM crankshaft maximum stroke 3.622", must be of stock standard appearance no knife edging, under cutting, removing or counter balances etc.
 - Rods - Standard OEM conrods or the only aftermarket rods to be used are Scat, Compstar or Eagle. OEM 6.2L Part no 12617570, Compstar Part no CAL-CSC-6125DS2A2AH or Eagle brand choice of three P/N EARS6100.I3D or EARS6100.M3D or P/N EARS6125.03D.
 - Pistons - Hypereutectic (flat top) or any aftermarket flat top piston can be used. Pistons - May protrude the deck by 0.015" maximum. Maximum bore size 4.085 inches.

- Cylinder heads – Only OEM cylinder heads permitted minimum height 119.5mm from standard rocker cover gasket face to cylinder head sealing face. No machining, porting, grinding, or fettling of cylinder head (as cast) other than head gasket sealing face. Valve angle 15 degrees plus or minus 0.5degree. Head Gasket - 0.040" minimum thickness.
- Valves - Intake 2.170 maximum. Exhaust Valve 1.600 maximum.
- Valve Seat - May be re-cut and the port blended on seat up to 12mm in the port, no further grinding or machining after 20mm from combustion chamber side of valve seat insert (from top of insert 20mm maximum).
- Valve Springs - not controlled. Non tech item.
- Rockers – Standard OEM rockers with a 1.7 maximum ratio for both intake and exhausts must be used. Trunion bearings can be replaced but must retain original GM rocker.
- Lifters - hydraulic only.
- Push Rods - Not controlled. Non tech item.
- Manifold Intake – Standard OEM 6.2L Part number 25534401 for rectangular port no porting (as cast condition). Minimum height from the throttle body mount face to plenum floor internally must be a minimum of 120mm. LS1 and LS2 (cathedral port) engines to use standard Victor Junior manifold with no modifications (as cast condition).

- Injection Holes - To be drilled at cast boss (eight places). Manifold to be drilled to take mechanical injectors. Example: Kinsler 460 short nozzle 1 inch long.
- Throttle body-Induction - Only one AUS FLOW 525, four barrel throttle body (4150 bolt pattern). Maximum butterfly size 1.75" Must be fitted as supplied without modification, 1.5" maximum spacer can be used under throttle body. Only one 1mm gasket to be used
- Reluctor Wheel - 24 tooth (LS1-2) and 58 tooth (LS3).
- Ignition - Coil packs only (eight) original concept and location
- Ignition Control Box - GM MSD only part number 19171130 or MSD6012, or MSD6010 for 24 tooth reluctor wheel LS1 no modifications.
- RPM - 6900 maximum limit.
- Timing - fix timing i.e. 26 degrees total advance recommended. No "Programmable on the fly" electronic ignition, GM MSD box will be checked and sealed with VSA sealing tape and number recorded in log book.
- Camshaft -Maximum 0.310 inches cam lobe lift or .525 inch's intake and exhaust valve lift. Camshaft may be drilled and tapped for spud to drive fuel and power steering pumps.
- Cam Chain - Not controlled. Non tech item. Recommended to replace with double row e.g. roll master.

- Cam timing - Not controlled. Non tech item.
- Fuel - Methanol only.
- Fuel Pump - Mechanical only (cam driven recommended).
- Exhaust Headers - Scheonfeld only, part number SHD-1024LV-LS1
- Mufflers - Not controlled. Non tech item.
- Water Pumps - Aftermarket water pumps can be used but must be mounted in the original position. Crank Shaft driven water pumps will not be permitted.
- Harmonic Balancer –AT1 harmonic balancer recommended
- Alternator - Not compulsory but recommended.
- Sump –Wet sump only, recommended capacity to be increased to a minimum 8 litres of oil. Alloy or steel sump permitted, sump not to hang below lower chassis rails

Non Technical Items - Bolts, gaskets, filters and bearings that have no performance gain can be used (no titanium to be used).

Engines come sealed from GM Performance and must have original seal intact and a secondary seal will be fitted by a VSC Technical Personal. Seal will have to be fitted to two cylinder head bolts in the side of the head that mounts the head to the block (front of engine). **No seal, no race.**

GM MSD Ignition Box must be checked and sealed with VSA sealing tape and number recorded in log book, maximum 6900 RPM. Timing chips not controlled but recommended ignition timing set at 26 degrees total advance.

Breathers may be fitted to the left hand rocker cover.

If it's not in the rule book, it's not allowed.

If a specification not stated ask the VSC technical personal for clarification.

[1.] Engine sealing may only be done by VSC appointed representative. Engines may be checked at any time per VSC technical committee direction.

[2.] Sealed engines need not be rechecked unless specified by VSC technical committee or VSC policy

[3.] When engines are checked, it will be to VSC specifications.

2. Throttle Springs / Linkages

(a) Throttle linkage system to be fitted with 2 independent return springs.

One to the butterfly shaft the second spring to be attached at the first major linkage.

(b) A half stirrup type toe clip must be fitted to the accelerator pedal to enable manual closing of the throttle.

(c) Marine or earth moving equipment flexible cable permitted as approved by the Technical Committee.

(d) All induction tubes to be fitted with a suitable means to stop foreign bodies from entering and jamming the throttle open.

(e) All external air cleaners are to be fitted with a device to prevent the air cleaner from being detached from the car.

18. Cooling System

(a) Radiator hoses to be canvas reinforced type.

(b) Hose clamps to be screw up type only.

(c) Radiator caps to be covered by either the nose section or bonnet.

(d) All pressurized systems to have a manual pressure relief tap in cooling system to relieve pressure before loosening or removing the radiator cap. Tap to be fitted with hose to direct steam on to the ground.

(e) Fan guard must be fitted to cars that do not have a fully enclosed bonnet and fan is still visible.

19. Exhaust system

- (a) Exhaust pipe or pipes to extend to a minimum length of halfway along cockpit side, but not extend past rear nerf bars and to be parallel to the chassis and designed in such a way as to deflect exhaust gases away from the driver and fuel tank area.
- (b) All mufflers to be secured to the chassis or side nerf bar.
- (c) Noise limits to comply with Promoters or clubs requirements.

20. Starter Motor

Use of starter motor is optional.

21. Traction Control

- (a) No form of electronic traction control is permitted
- (b) Any ignition system may be seized for inspection at any time.
- (c) Tel-Tac, V-Tac electronic components or other RPM recording devices may be subject to inspection for traction control.

22. AEROFOILS

1. Construction

- (a) To be of approved design and construction. No flammable material to be used.
- (b) Aerofoils are restricted to one overhead wing and one front wing. Overhead wing compulsory.

2. Attachment

- (a) Attachment of the top wing to be at four points. Front mounting to be 6mm locking pin or "R" clip, not split pin. Approved design clamp mounts allowed, eg, Maxim, Eagle. Rear mounting bolts and locking nut of 8mm on slip coupling
- (b) Over head wing mountings are to be designed so that a driver is not endangered in the event of a breakage.
- (c) Over head runners to be a minimum of 38mm x 38mm x 4.5mm thick angle or 50mm x 10mm flat aluminium strip and to be fixed at each end with 9.5mm diam minimum high tensile bolts.
- (d) Suspension mounted wings not permitted.
- (e) Side wings of any description not permitted.
- (f) Mechanical wing sliders and cockpit adjustable wings permitted.

3. **Size**

- (a) Side of overhead wing must not protrude past the outer edge of the rear wheels and width of the plane area is 1.524 metres (60"0 and the area of the plane shall be 25 sq ft.
- (b) The overall width (extremity to extremity) of a 1.524 metre (5ft x 5ft) wide plane area wing shall not exceed 1.587 metres (62.5")
- (c) Overhead wings to have two (2) side panels 762 mm (30") deep maximum by 1.829 metres (6ft) long maximum – one each side of wing.
- d) Side panels to be mounted at 90 degrees to the surface area of the top wing.
- (e) Front wing width not to exceed the inside width of the front tyres, be a maximum of one (1) metre long including side panels and to be mounted low on the body line of the vehicle so as not to impair vision and to be adequately protected by nerf bars.
- (f) Wicker bill – no more than 50mm high and no extensions of the 25 sq ft surface area of the wings

25. **DIRECTION OF RACING**

Direction of racing will be in an anti-clockwise direction.

26. Specification current until 30th June 2019

27. **ENGINE INSPECTIONS:**

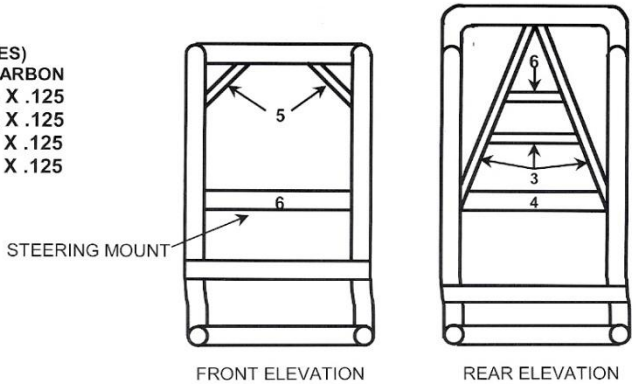
Any competitor may have their motors inspected at any time, engine inspection to be in accordance with V.S.C Technical Committee direction. Only V.S.C. Inc registered seals to be recognised.

All engines to have provision for sealing of engine at race meeting (i.e.: sump, timing cover and heads to block). LS series must be sealed

COPYRIGHT: All rights reserved. No part of this book, including cover, specifications and drawings maybe reproduced or transmitted in any form, by any means (electronic, photocopying, recording or otherwise) without the prior written permission of the Victorian Speedway Council.

MINMUM SIZES (INCHES)

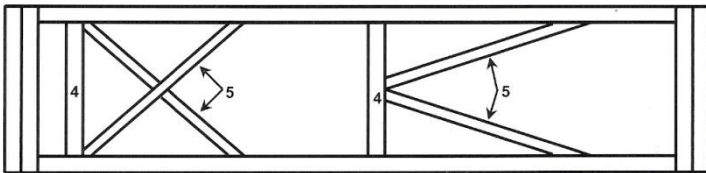
CHROME MOLY	LOW CARBON
3. $1\frac{1}{4}$ X .065	$1\frac{1}{4}$ X .125
4. $1\frac{3}{8}$ X .065	$1\frac{3}{8}$ X .125
5. 1 X .049	1 X .125
6. 1 X .065	1 X .125



CHASSIS SPECIFICATIONS (2003)

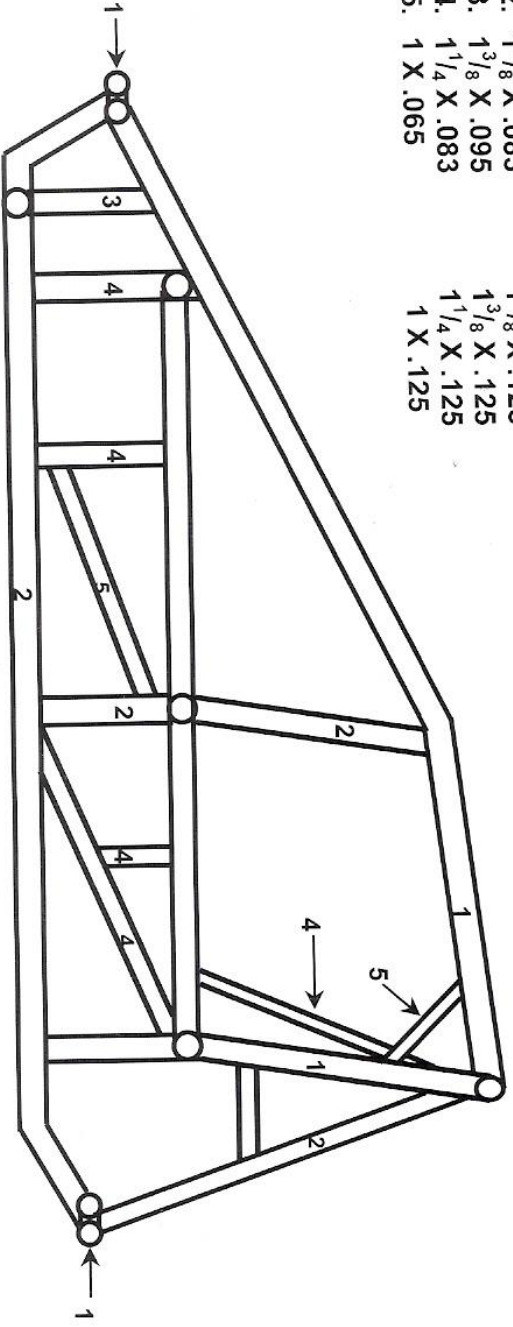
MINMUM SIZES (INCHES)

CHROME MOLY	LOW CARBON
4. $1\frac{1}{4}$ X .083	$1\frac{1}{4}$ X .125
5. 1 X .065	1 X .125



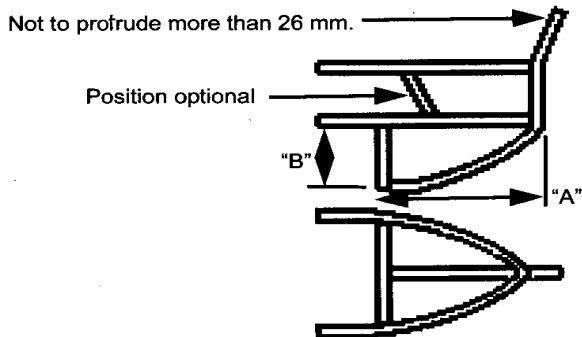
CHASSIS SPECIFICATIONS (1991)

MINIMUM SIZES (INCHES)	
CHROME MOLY	LOW CARBON
1. 1 1/2 X .095	1 1/2 X .125
2. 1 3/8 X .083	1 3/8 X .125
3. 1 3/8 X .095	1 3/8 X .125
4. 1 1/4 X .083	1 1/4 X .125
5. 1 X .065	1 X .125



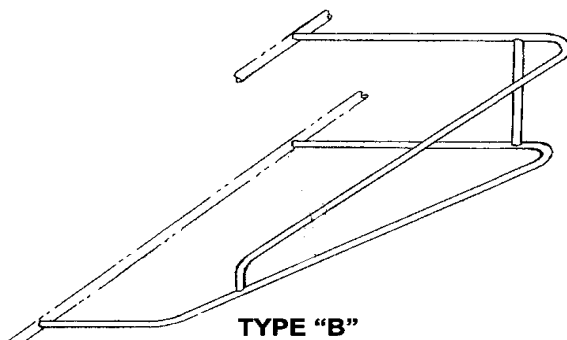
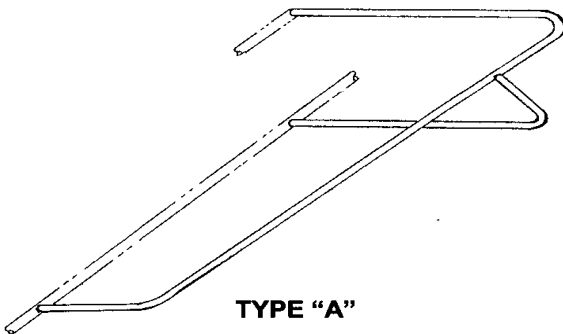
SIDE ELEVATION

CHASSIS SPECIFICATIONS (1991)



NOTE:

1. Distance "A": The basket bar must cover minimum 50% of fuel tank.
2. Distance "B": Rear nerf basket be maximum 50 mm clearance between tank and basket.
3. Rear nerf must extend at least 80 mm behind the tank.
4. Rear nerf basket optional but if fitted must comply with dimensions pictured.

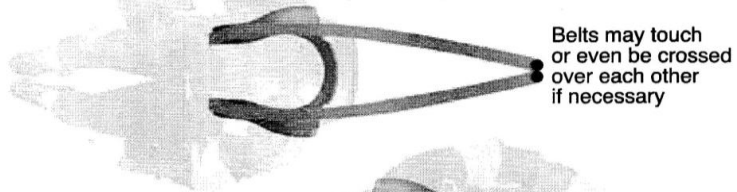


SIDE NERF - APPROVED DESIGN

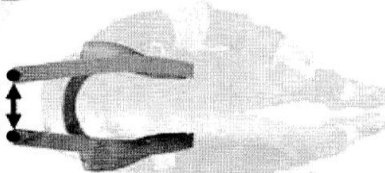
SEAT BELT MOUNTING FOR HANS DEVICES

Belt Mounting

- If the mounting points for the belts are far behind the seat, the belt mounts should be very close together



3-4" (75-100mm) distance between inner edges is typical



- If the mounting points are close to the seat, the width between the inner edges of the belts should be equal to or 1" less than the width of the HANS collar

- HANS works with any 2" or 3" shoulder belts. 3" belts may wrap up HANS Device collar as shown below.



- Mount shoulder belts 1-2" (25-50mm) below horizontal.

