

2019-24

AUSTRALIAN GRAND PRIX MIDGET SPECIFICATIONS



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NSW & Victorian GP Midget
Racing Association Inc.

1/7/2019

**SPECIFICATIONS FOR AUSTRALIAN GRAND PRIX MIDGETS.
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THESE SPECIFICATIONS UPDATE ALL PREVIOUS
AUSTRALIAN GRAND PRIX MIDGET ASSOCIATION
SPECIFICATIONS FOR GRAND PRIX MIDGETS.
(Note these will be locked in for the next 5 years.)

These Specifications cover the design and dimensions of the vehicles to be known and raced as Grand Prix Midgets under the control of the Australian Grand Prix Midget Racing Association, which were approved at the Annual General Meeting of the 27th of February, 1983 to be effective from the 1st January 1985 and incorporating amendments approved up to A.G.M. of 2002. Re-amended 31st July 2019 and now updated following Victorian A.G.M. on 22/6/2019 & NSW A.G.M on 6/7/2019

Note:-

The safety standard of any Race Car, Equipment or Apparel, is a joint responsibility of the Car Owner and Driver. Any safety check carried out by a VGPMRA. Scrutineer does not guarantee that the Race Car is without fault and does not absolve the Owner and Driver of this joint responsibility.

Definition of **GRAND PRIX MIDGET:-** A land vehicle propelled by its own means running on four wheels, not in line, which must normally be in contact with the ground and of which the front two must effect the steering and the rear two the propulsion and limited in engine as specified in these specifications. The engine is to be located in the rear of the vehicle behind the driver. The vehicle is to be of open wheeler design (e.g. Formula One style.)

1. GENERAL DIMENSIONS.

a) **Wheel Base:**

To be measured from centre of axle to centre at stub axle height.

Maximum: 2000mm

Minimum: 1475mm

a) **Track:**

To be measured from centre of tyre at axle height.

Maximum: 1325mm

Minimum: 965mm

b) **Overall Length:**

Of the vehicle will not exceed 3350mm (11 ft).

c) **Wheels:**

Maximum rim width 280mm. Wheel size 13inch.

d) **Tyres:**

No restriction to pattern. Maximum tyre size to be 82cm Hoosier or 26inch American Racer tyres. Any other tyre manufacturer must fall within these guidelines for maximum tyre circumference.

e) **Total Weight:**

Maximum net weight with maximum oil and fuel load shall not exceed 480 kgs. Minimum net limit will be 320kgs.

2. ENGINE

a) **Motorcycle Engines: (Only to be used.)**

Maximum capacity - 1200cc + 2% (1224cc).

Minimum capacity - 640cc.

b) **Super or Turbo Charging:**

Maximum capacity of 750cc + 5% of reciprocating piston engine to be determined by swept cylinder volume multiplied by the number of cylinders.

3. TRANSMISSION/DRIVE

a) **Final Drive: -**

May be chain, shaft or belt driven. All exposed chains must be fitted with a protective shield.

b) **Clutch: -**

Each car must be equipped with a clutch, which positively disengages the engine from the final drive. The clutch must be of type, which permits the car to compete in standing start events. And may be foot or hand operated.

c) **Gearbox:**

All cars must be equipped with a gearbox which is hand operated through a lever and rod. No foot operated gearboxes allowed. The gearbox must have neutral position, which enables the car to be pushed whilst the clutch is not engaged. The gear lever must be constructed in such a manner as not to be a danger to the driver

4. STEERING AND SUSPENSION.

- a) Steering gear must be securely mounted. Steering wheel play must be to a minimum. A flexible steel or aluminium alloy steering wheel must be incorporated-plastic-coated wheel must have a steel cross member and full circle outer ring under the plastic coating. Rigid or wired spoke wheels not permitted. All steering wheels must be circular, semi-circular or elliptical with continuous outer rim.
- b) Steering boxes are optional.
- c) Steering boxes must be sealed to prevent foreign matter from entry to mechanism.
- d) Steering wheel flange must be welded, splined, keyed or bossed to steering shaft. Wheel must be bolted or riveted by approved manufacturer.
- e) Steering shaft minimum size to be 20mm x 1.6mm seamless cold drawn tube or 13mm solid steel.
- f) Steering rack to be bottom or overhead mounted only.
- g) All G.P. Midgets to be fitted with a quick release steering wheel.

5. BRAKES.

Cars must be fitted with one or more hydraulic breaking system in good working order, foot operated and to be operating on all a minimum of three wheels. Any vehicle employing a cast iron disc brake must incorporate a shield capable of preventing shattered disc brake material from being thrown into the path of the following car.

6. ACCELERATOR.

Must be foot operated and have positive acting return spring attached directly to the carburettor or fuel injection linkage. The spring fitted inside the carburettors will not be acceptable as a substitute for the above. A positive stop or override prevention must be used to prevent linkage from passing over centre and sticking in the open position. A pedal return spring must be attached.

7. IGNITION.

Self-starters must be fitted to all G.P. Midgets, and capable of starting the engine. If found not to be working at a race meeting. Driver/Owner will have 2 meeting to fix it. Each car must have an ignition switch or magneto cut off switch in good working order located on the left hand side of the cockpit, within easy reach of the driver in an un-obstructed position. ON - OFF. Instructions to be written on the outside of the bodywork within close proximity to the switch. (E.g. SWITCH INSIDE PUSH OFF.) This switch must cut off all fuel pumps and ignition. (Switch must not be between steering wheel and front of car.)

8. FUEL SYSTEMS.

- a) All fuel lines must be suitable for methanol, rigid lines not allowed. Fuel Tap Optional
- b) Fuel tanks must be securely mounted to the chassis.
- c) Fuel tanks must be isolated from the driver, battery and all electrical components.
- d) Fuel tanks must be fitted with lock type or screw cap. The breather or cap must be constructed in such a manner so as to stop fuel escaping in the event of a collision or rollover.
- e) No soft solder allowed on fuel tanks, fuel lines or fittings.
- f) Only methanol fuel permitted.

9. OIL SYSTEM.

- a) All oil lines must be Aust Body approved high quality material.
- b) All oil lines must be secured with quality fittings and clamps.
- c) All oil tanks, coolers and filters to be securely mounted to the satisfaction of scrutineers.

10. BODY.

- a) All cars must be fitted with a sturdy cowl and nosepiece extending to the rear of the driver's seat, allowing easy access for the driver. Tail or rear body section over the motor mechanism is optional. The body should be of neat appearance and kept in good order. Cockpit to be free of all sharp edges. Fibreglass or aluminium to be utilised in body construction.
- b) All cars must have an external under pan or tray turned up at the front or internal floor pan, made of steel or aluminium alloy, extending from the front bulkhead to the rear firewall. Minimum thickness where aluminium alloy is fitted 1.6mm and steel 1.2mm. Must be securely fastened (if pop rivets are used must be min 5mm size).
- c) Front and rear bulkheads must be a minimum 3mm steel or aluminium in front of driver's feet and behind seat.
- d) Internal cockpit skins are recommended.

11. WINGS.

- a) **Rear Wing:** - The aerofoils, no higher than the highest point of the roll cage. No further rearward than the rearmost point of the car and not to exceed past the outside of the rear tyre. The wing height to be a maximum of 1500mm measured from the ground to the top of the side. The side plates of the aerofoil are to be no more than a maximum of 300mm above the highest point of the roll cage. The side plate to be no bigger in area than 0.8 square metres and that the side plate must not protrude any further forward than the rear arch of the roll cage.

- b) **Front Wings:** Not to exceed height of top wishbone pick up point on front chassis or the height of the front tyre, whichever is the highest and not to extend past approx. centre of tyre, and must be secured by safety chains or similar restraints.
- c) **Wing Tabs:** Not to exceed 20% of aerofoil area and must be separated from the main aerofoil.

12. CHASSIS & ROLL CAGE SPECIFICATIONS (for all new built chassis from 1/7/2019)

All New Frames to be made from round tube only.

NOTE:-All metal sizes below are minimum tube sizes		
	Mild Steel	Chromoly
Frame & Cage Tubing	1 ¼ " (31.75mm) x 0.125" (3.175mm)	1 ¼ " (31.75mm) x 0.095" (2.41mm)
Bottom Rail	1 ¼ " (31.75mm) x 0.095" (2.41mm)	1 ¼ " (31.75mm) x 0.083" (2.1mm)
Frame, Cage Bracing & Torsion Bar Bracing	1 ¼ " (31.75mm) x 0.083" (2.1mm)	1 ¼ " (31.75mm) x 0.065" (1.65mm)
Bracing & Drivers Intrusion Bar	1" (25.4mm) x 0.083" (2.1mm)	1" (25.4mm) x 0.065" (1.65mm)
Rear Bumper Bar	1" (25.4mm) x 0.065" (1.65mm)	1" (25.4mm) x 0.065" (1.65mm)
Nerf & Front Bumper Bar	7/8" (22.2mm) x 0.065" (1.65mm)	7/8" (22.2mm) x 0.065" (1.65mm)
Chassis/Cage Braces & Gussets	¾ " (19.05mm) x 0.065" (1.65mm)	¾ " (19.05mm) x 0.065" (1.65mm)
Panhard Bar Brace	1 ½" (28.6mm) x 0.065" (1.65mm)	1 ½" (28.6mm) x 0.065" (1.65mm)

13. WELDING OF CHASSIS & ROLL CAGE - INSPECTION

- a) Weld fillet faces to be flat or show some raised reinforcement.
- b) Concave weld fillets are not allowed.
- c) Welding is subject to visual inspection before paint (refer point (e) below)
- d) Considering adequate fillet size and profile & competent process
- e) The inspection to be undertaken by a person who is either fully qualified or deemed experienced & approved by Club Executive Committee (if not fully qualified, but deemed experienced by the Exec Committee, then must also be a Club Scrutineer).

14. CHASSIS.

Before any new chassis construction a set of detail drawings of the chassis design along with types and sizes of material to be used in the construction must be submitted both state's technical committees for approval before starting construction. Any major changes to chassis construction must meet scrutineers and technical committee's approval. An engineer's certificate to validate the strength and safety should accompany any alterations to the above methods of constructions of roll cages. **No holes allowed in the chassis.**

Refer chassis diagrams for recommended method of construction of space frame and roll cage.

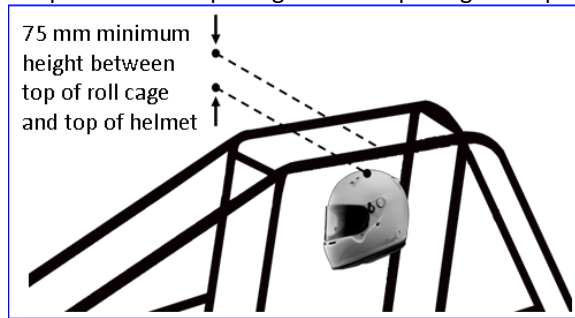
Note: see rule 20 regarding inspections.

15. ROLL CAGES

- a) **Roll Cage:** The roll cage to be constructed from round tubular steel. The use of high carbon steel tube or similarly water or steam is not allowed in the cage or bracing. **No holes allowed in the Roll Cage.**
- b) **Rear Arch:** The rear arch member to be splayed at the top more than the measurement at the mounting point to the chassis. The rear arch to be braced at least two thirds the distance up the arch and minimum one third of the height back or forward along the chassis and must not be mounted in an unsupported span. Cross bracing of the rear arch must be of a triangulated style.
- c) **Head Restraint:** Must be included in these constructions if a high back seat is not used. This is to prevent a driver's head protruding backwards through the rear arch.
- d) **Side Rails:** Side rails of the cage will each be one piece construction mounted to a suitable point along the bend of the rear arch and front mounted to the chassis at a point no closer the rear arch than the drivers' hands on the steering wheel in a normal straight forward position. The side rails to be not narrower than the width of the top chassis rail. Cross bracing between chassis rails must be straight. Top inside corners of the cage must be gusseted.
- e) **Protection Bars:** Must be fitted to each side of the roll cage to prevent a car entering the cockpit area. Suggested height between shoulder and elbow.
- f) **Height:** The drivers helmet, when seated correctly in the car, must be a minimum clearance of 50mm (all new cars and cages 75mm) below a straight edge placed on the rear arch member and the front cross brace of the roll cage or straight edge placed left to right across the top side of the roll cage to the top of the helmet. (Refer to diagram below) **Cars failing to meet this specification must be fitted with a halo.** Notwithstanding an interpretation of these specification, the individual owner/driver must ensure that in constructing a roll cage that whilst seated correctly in the vehicle with the

cage fitted that his helmet does not come in contact in any way with the top framework of the cage.

- g) **Finish:** Cage finish must be paint. Chrome plating or similar plating is not permissible.



16. **NERFING BARS.**

Cars must be equipped with suitable nerfing bars fitted in from front of the rear wheels. They must project to at least the centre of the tyre and no closer than 25mm. From the leading edge of the tyre at axle height designed to prevent a wheel climbing over another car's wheel. All bars to be free of sharp edges. Nerfing bars may be incorporated in side box as long as above applies. Nerfing bars attached direct to the chassis must extend forward from the rear wheel parallel with chassis no more than 300mm. Construction is to be such that a wheel cannot be trapped within this nerfing bar. Forward mounting of this nerfing bar is to be attached approximately rear of cockpit bulkhead. Nerfing bars to be separate from radius bars.

17. **BUMPER BARS.**

a) **Front Bumper**

- ❖ Must not be open ended.
- ❖ No sharp edges.
- ❖ Sound construction.
- ❖ Height not to be higher than leading edge of nose and not lower than the bottom of lower chassis rail.
- ❖ No wider than the centre of the tyres in the straight-ahead position.

b) **Rear Bumper (Mandatory).**

- ❖ Must be securely mounted.
- ❖ No higher than the upper chassis rail, no lower than the bottom chassis rail. No narrower than the bottom chassis rail.

18. **EXHAUST PIPES.**

Cars must have exhaust pipes, which extend beyond and away from the cockpit. Exhaust pipes must not extend beyond the rear of the bumper bar and the end of the pipe must be cut square. Exhaust pipes must be secured to the chassis with horizontal or elevated clamp other than that of the motor, and be angled away from the following driver.

19. **MUFFLERS.**

All cars must be equipped with a silencing device, if so required by the Promoters. To a level nominated by the promoter (95 DBA MAXIMUM)

20. **NUMBERS.**

All cars must have their numbers on the nose cowl and on both sides in a prominent position for the view of the officials and spectators. Numbers to be 175mm high x 125mm wide and a 13mm cross-section (minimum size). Recommended is white on a black background or at least high contrasting colour. Additional numbers to be displayed on inside of left hand side of wing in contrasting colour to be readable from outside the track as well as a rear number of 100mm in height visible to the following driver.

21. **INSPECTION.**

- a) New cars must be inspected at two stages prior to attending a race meeting, the first to be made by the appointed scrutineer when the cars chassis is un-painted and suspension, running gear and wheels etc. Second stage is when the car has been finished and the car is in racing condition. All modifications requested by the appointed scrutineer to be carried out before the car is taken to a race meeting.
- b) Prior to the commencement of each speedway season, all cars, both old and new will be examined for track worthiness. Cars that satisfactorily pass this examination will be given a logbook. The scrutineer can revoke this logbook. The faulty machine will be withdrawn from racing until suitable adjustments are made and approved by the scrutineer.
- c) The scrutineer has the right to reject any machine, request any adjustments he/she may think necessary and reject any crash helmets he/she may think unsafe. This decision is final and may only be contested through the technical committee.
- d) All cars involved in a major incident must be inspected by scrutineer before being allowed to compete again.

22. LOG BOOKS.

- a) Log books are not transferable and are incorporated into the rule book.
- b) Log books must be with the vehicle at all times.
- c) Drivers not in possession of a logbook at inspection prior to any race meeting will be liable to a fine or disqualification from racing at that race meeting.
- d) Log books will be renewed when required.
- e) Loss of log book without reasonable explanation will incur a \$20 fine.

23. GENERAL.

All bolts and nuts and component parts on each machine, suspension, chassis, steering and running gear must be secured with either lock nut, lock washers, split pins, loctite or nylock nuts and must have at least one full thread showing through the nut. (Grade 8 bolts recommended.)

- a) **Batteries:-** All batteries to be securely fitted and their position identified by blue triangle 100mm x 100mm x 100mm
- b) **Debris Screen:-** Debris Screen to have no larger than 50mm squares or vertical bars no greater than 50mm apart to be constructed of metal only and fasten to the bonnet side of cage and securely fasten and to cover 2/3rds of the cockpit opening Material minimum 3mm

SAFETY EQUIPMENT.

24. SAFETY HARNESS.

Cars must be fitted with an approved quick release type safety harness (not leather) with a minimum of (5) point location of full harness including crotch strap. Belts must be attached directly to the chassis on suitable re-enforced mounting in such a manner that all fittings are in a direct line of the pull of the belt. Under no circumstances will bolts be inserted directly through webbing. The quick release catch should be able to be released when loaded, that is if the car is upside down and the drivers weight is pulling the catch. Single buckle harness only - mechanical action type clips only. Magnetic type catches or fold over type not permitted. The quick release catch not to have plastic covering or plastic depress button. **All safety harnesses must comply with manufacturer expiry dates.**

25. SAFETY EQUIPMENT AND PROTECTIVE CLOTHING

Refer to Speedway Australia Race Rules and Regulations Hand book for all up to date for requirements for safety equipment. Section 15: Safety Apparel AA, SSA & A Open Wheel

15.1 Race Suit.

15.2 Boots.

15.3 Arm Restraints: - (Note: All GP Midget drivers must wear arm restraints whilst racing. The arm restraint must prevent the arms of the driver leaving the car, or protruding beyond the top of the roll cage.)

15.4 Balaclavas.

15.5 Gloves.

15.6 Underwear.

15.7 Helmets: - (Note: Drivers in all categories must wear full faced helmets with a visor that must be closed whilst competing (no goggles). Helmets can be subject to inspection at each event by the Technical and/or medical representative. However, if helmet is misused, neglected, or damaged, it may be rejected and impounded by Scrutineer or Technical Committee at any time, and rendered it unserviceable before returning it to driver.)

15.6 Head and Neck Restraint.

Note re Visors/Glasses: - Approved face protection must be worn at all times on the racetrack. Visors or spectacles, if worn, must be of a non-splinter able material. Sunglasses are not allowed.

26. ROLL CAGE NETS

To be optional in all cars.

27. ONE WAY COMMUNICATORS

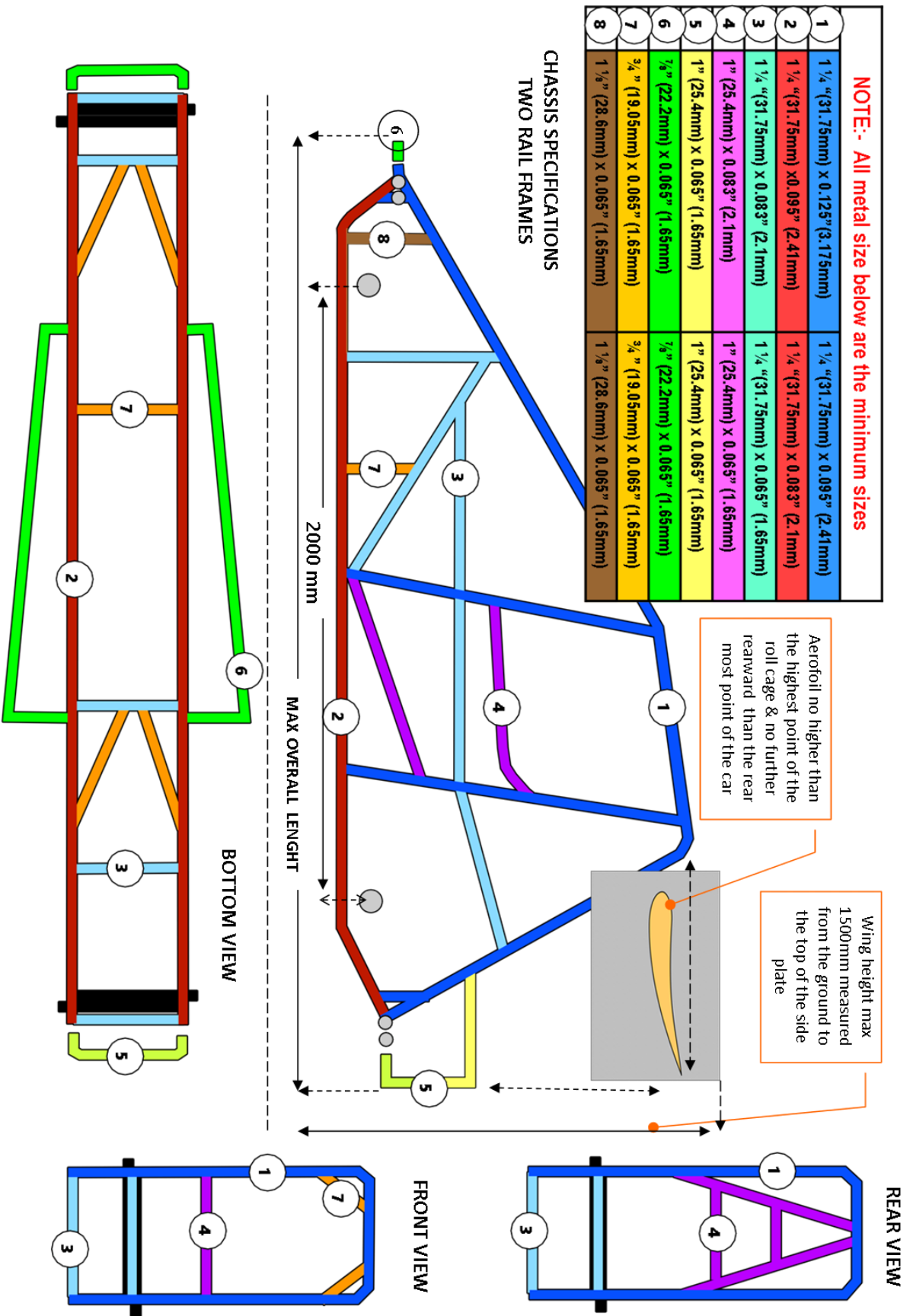
Speedway Australia approved race receivers' mandatory at all race meetings.

28. FIRE EXTINGUISHERS.

All drivers to have a fire extinguisher that must be in full view near the driver's pits.(E.g. near toolbox or back of trailer) Speedway Australia approved extinguishers only. (2kg)

29. (CHASSIS DIAGRAM)

(Two Rail Frame)



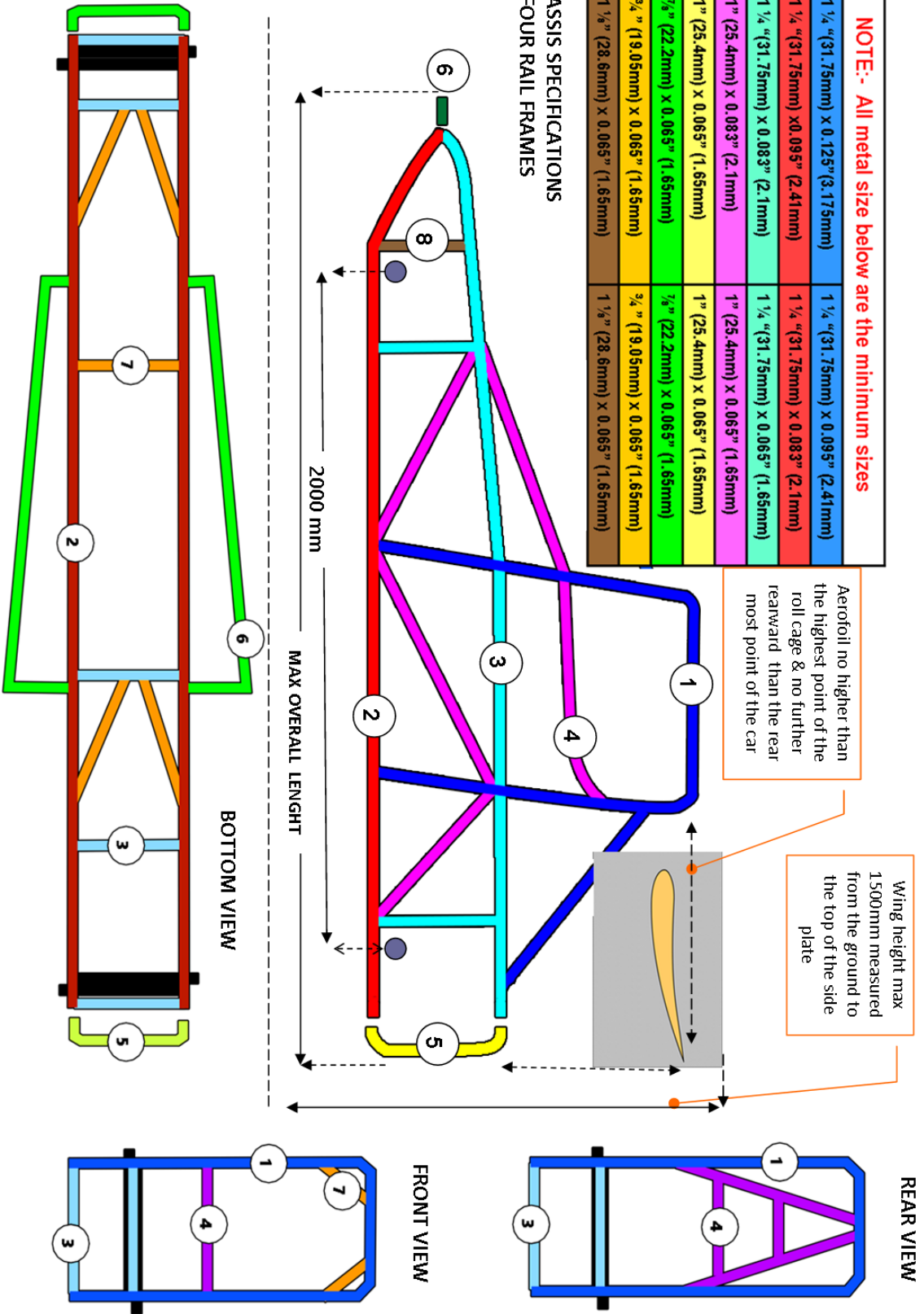
30. **(CHASSIS DIAGRAM)**

(Four Rail Frame)

NOTE:- All metal size below are the minimum sizes

1	1 1/4" (31.75mm) x 0.125" (3.175mm)	1 1/4" (31.75mm) x 0.095" (2.41mm)
2	1 1/4" (31.75mm) x 0.095" (2.41mm)	1 1/4" (31.75mm) x 0.083" (2.1mm)
3	1 1/4" (31.75mm) x 0.083" (2.1mm)	1 1/4" (31.75mm) x 0.065" (1.65mm)
4	1" (25.4mm) x 0.083" (2.1mm)	1" (25.4mm) x 0.065" (1.65mm)
5	1" (25.4mm) x 0.065" (1.65mm)	1" (25.4mm) x 0.065" (1.65mm)
6	7/8" (22.2mm) x 0.065" (1.65mm)	7/8" (22.2mm) x 0.065" (1.65mm)
7	3/4" (19.05mm) x 0.065" (1.65mm)	3/4" (19.05mm) x 0.065" (1.65mm)
8	1 1/8" (28.6mm) x 0.065" (1.65mm)	1 1/8" (28.6mm) x 0.065" (1.65mm)

**CHASSIS SPECIFICATIONS
FOUR RAIL FRAMES**



RULES OF CONDUCT

DRIVERS' CODE OF CONDUCT

- Always comply with the rules.
- Competitors are responsible for their own conduct as well as the conduct of any person associated with them, such as pit crew, vehicle owners and sponsors.
- Most stewards have volunteered their services for smooth, efficient and fair conduct of the race meeting.
- Avoid arguing with a steward – if you disagree with the ruling, quietly check with the official on how the decision was reached.
- Control your temper – verbal and physical abuse of any official or other competitors, and deliberately distracting or provoking others is not acceptable or permissible behaviour.
- Treat all competitors as you would like to be treated – do not interfere with, bully or take advantage of any other participant.
- Avoid the use of coarse or derogatory language.
- When in the public eye, always be dressed appropriately, speak to the public respectfully, if requested always be willing to sign an autograph.
- If an incident occurs on the track, do not abuse your racing apparel, eg: throe helmet, steering wheel, etc., if able stay with your car, make sure your car is in neutral so that it can be easily moved and if able make sure your fuel is turned off.
- Bad behaviour at any Event or official function will be dealt with severely.
- Any penalties will be decided on by the either NSWGPMRA or VGPMRA Committees.

OFFICIALS' CODE OF CONDUCT

- Be impartial, consistent and objective at all times.
- Understand the purpose of the rules of competition.
- Be co-operative and understanding in the interpretation and application of rules or penalties.
- Make a personal commitment to keep informed of sound officiating principles and rule updates.
- Ensure behaviour is consistent with the principles of good sporting behaviour.
- Condemn unsporting behaviour and promote respect for all competitors.
- Ensure the spirit of competition is maintained.
- Avoid the use of derogatory language or gender or race.
- Refrain from any form of sexual harassment towards officials and competitors.
- Encourage understanding of and access to knowledge of all areas of officiating.
- Be a positive role model in behaviour and personal appearance.