

## CHAPTER EIGHTEEN – Sidecar (Road)

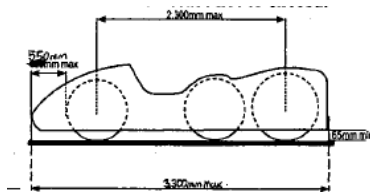
- 18.1 Unless otherwise stated 'outfit' 'machine' 'sidecar' shall be deemed to be names of the racing machine.
- 18.2 **Classes:** see Appendix A.
- 18.2a **Miniature:** see Chapter 16 for details pertaining to this class.
- 18.3 **Fuel:** see 10.21b
- 18.3a **Formula 2:** Open. A maximum of 30 litres to be carried at any one time on the machine. (Alcohol based fuels will be permitted).
- 18.3b **Formula 1:** Open. A maximum of 45 litres to be carried at any one time on the machine. (Alcohol based fuels will be permitted).
- 18.4 **Chassis Design:**
- 18.4a Three wheels shall be fitted to the machine all of which will be in contact with the track when ridden in a straight line. They shall be known as the Front Wheel, the Rear Wheel and the Side Wheels.
- 18.4b Rear axle centre to front axle centre shall be a minimum of 1300 millimetres and a maximum of 2300 millimetres.
- 18.4c The sidecar wheel shall be between the rear wheel axle and mid-point of the wheelbase.
- 18.4d **Wheel Track:**  
This shall be defined as the distance between the centreline of the side wheel and the centreline of the rear wheel. This shall be a minimum of 800 millimetres and a maximum of 1150 millimetres.
- 18.4e The front and rear wheels shall be no more than 75 millimetres out of alignment measured at the centrelines of both wheels.
- 18.4f The front, rear and side wheel rim diameters shall be between 120 millimetres and 490 millimetres.
- 18.4g The maximum width of front, rear and side tyres shall be 254 millimetres. Scramble or Knobby tyres shall not be permitted.

- 18.4h The machine shall be steered by the front wheel only. The design of the steering mechanism shall be optional.
- 18.4i Handlebars shall be the only means of the rider steering the machine.
- 18.4j The driver's position, regardless of whether or not a driving seat is fitted, must be such that the driver's feet are positioned behind the knees when looking in the driving direction, and the driver must be positioned in line with the front and rear wheels. This is further defined such that the pivot point of the handlebars must be positioned within the track of the front wheel when the wheel is pointed in the straight ahead position. The track of the front wheel is defined for the purposes of this clause to mean the width of the front tyre for the entire length of the machine and that the track of the front wheel has the same centreline as the front wheel itself.
- 18.5 **Drive:**  
The machine shall be driven by the rear wheel only.
- 18.6 **Brakes:**  
Front and rear wheels shall have a minimum of one each.
- 18.6a Sidecars shall be fitted with at least two efficient brakes operation on at least two of the wheels, with at least two separate operational circuits irrespective of their method of operation. If one system fails the other system shall work efficiently. If all braking is done by the foot pedal using a pivoting balance bar operating 2 master cylinders, there are two options to ensure one system should work if one fails;  
1; Both master cylinders must be able to travel either full stroke or a minimum of 25mm unimpeded without binding when being operated either individually or as a pair when operated in the normal fashion i.e the foot pedal is pushed.  
2; The pivoting balance bar must have its pivoting movement restricted to a maximum of 4mm either side of centre, 8mm in total measured at the M/C centreline so if one M/C fails it can only move 4mm before the other one starts to move. Foot pedals must have a minimum of 100mm unimpeded travel measured at foot pad.
- 18.6b A Sidecar wheel brake shall not be compulsory, although if fitted must be activated by the rear brake system.
- 18.6c Only ferrous brakes disc's are allowed.
- 18.6d Any machine using a hydraulic type brake master cylinder must have a brake pedal return stop fitted so that the brake pedal linkage does not rely on the cylinder circlip to act as a stop.

- 18.6e Each master cylinder shall have its own reservoir.
- 18.6f Any welds on brake systems parts including caliper mounts, torque rods, brake Pedals or levers or any other load bearing components must be left "as welded" no grinding or polishing of welds is permitted.

18.7 **Basic Dimensions:**

- 18.7a Overall length shall be no more than 3300 millimetres.
- 18.7b The engine must be set in the chassis at 90 degrees to an imaginary line drawn between the centres of the front and back wheel.  
The centre of the engine must not exceed 160mm left or right of this imaginary line. The engine may not be fitted in front of the wheel.  
Measurements of sidecars not to exceed



- 18.7c Overall width shall be no more than 1700 millimetres.
- 18.7d No part of the construction shall protrude more than 100 millimetres outward from the outside face of the side wheel.
- 18.7e No part of the construction shall protrude more than 550 millimetres outward from the centre of the rear wheel.
- 18.7f Only streamlining and its supporting brackets shall protrude in front of the front tyre.
- 18.7g There must be a minimum of 65 millimetres ground clearance when the machine is loaded with the driver and passenger in normal straight ahead racing positions and all sumps and petrol, oil and water tanks, radiators and associated pipes must be adequately protected underneath by at least 1.6mm or 3.0mm guards if they come within 80 millimetres of ground level.
- 18.7h **Allowance for technical design:**  
All sidecars must have a technical sign off from technical steward. A log book indicating the technical certification will be issued to all sidecars and each log book will be registered to the sidecar for which it is issued.  
The log book will remain with the sidecar for the life of the machine. Each log book will be numbered and a metal tag bearing the corresponding number will also be issued. This tag must be permanently affixed to the

sidecar in a position readily available for inspection. The log book must be handed to the machine examiner for sign off prior to an event. Transferring the Log Book or ID Tag to another sidecar is prohibited.

The log book must be current and will be renewed every two years from the date of issue.

This section does not apply to side cars (Buckets) as described in Chapter 16 and does not apply to International Sidecars temporarily competing in NZ.

- 18.7i All sidecars must have a technical sign off from technical steward.  
The design of the under tray on the F1/F2 sidecar comprises of a number of functions.
1. A catch tray for the capacity to catch spilled oil.
  2. It is also an integral part of the design and aero dynamics of the motorcycle.
  3. The tray is used as an integral part of the system to secure and fix the exhaust system to the sidecar.
  4. Given that Carbon Fibre is more than equivalent to steel or alloy and provided the tray totally meets the protection and intent of the rule then carbon fibre be allowed provided it is originally supplied by the manufacturer of the sidecar.
- 18.7j No part of the streamlining shall protrude more than 550 millimetres in front of the front tyre. Any streamlining and its supports must not interfere with the steering of the machine.
- 18.8 **Other Requirements:**
- 18.8a All wheels of the machine must be adequately covered above deck level.
- 18.8b Drive chain or belt guards are required where such drives are not shielded by the streamlining of the machine. Guards must be constructed such that at no time can the rider or passenger come into contact with any transmission parts.
- 18.8c Handles, for either of the crew, shall, if used, be of rigid material mounted in a rigid fashion (for example, tube welded or bolted directly to the chassis). Ropes, straps and other flexible handles shall not be permitted. All open ended tubing must be plugged or capped. Handles mounted directly to the fibreglass constructed streamlining must be mounted with at least a 16 gauge aluminium plate underneath the streamlining which has a minimum width of 50 millimetres and extends at least 25 millimetres beyond the point at which the handle is affixed to the streamlining.

- 18.8d A lanyard type spring-loaded switch must be mounted on the handlebar, handlebar clamp or chassis member, and must be attached to the Drivers wrist or upper body in such a manner as to not inhibit or impede the Drivers movement while competing.

This switch must interrupt the main ignition circuit in addition to cutting power to any fuel / oil pumps fitted to the vehicle in the event that the Driver is thrown from the machine, and must be operated by a suitable cable or extendable wire (like a coiled telephone cable) with a fully extended length of no more than 1 metre .

This switch is in addition to a thumb operated handlebar mounted kill switch, which must be able to be operated easily while both hands are on the handlebars. Both kill switches fitted must operate separately and perform these electrical duties independently of each other

18.9 **Stewardship:**

The Steward of the Meeting in conjunction with the machine examiner may exclude any machine from the competition where the construction of the machine is such that it would endanger other competitors. Exclusion for hazardous machinery may take place even though the machine may meet all other rules covering road racing sidecars.

- 18.10 Exclusion from competing in a meeting will arise if in the opinion of the machine examiner a machine does not meet the specifications set out in sections 18.2 through to 18.8d

18.11 **Sidecar Racing:**

Only one rider and one passenger is permitted to each outfit per race.

18.11a **Oil and Coolant Containment:**

Applies to sidecar four stroke machines, excluding sidecars covered in Chapters 15, 16 and 17.

In the area directly below the engine, the oil containment tray must be constructed to hold, in case of an engine breakdown at least half of the total oil and engine coolant capacity used in the engine (minimum 5 litres). The surrounding edges of the tray must be at least 50mm above the bottom of the tray. The tray should incorporate a maximum of two holes of 25mm in diameter and be closed with rubber plugs These holes must remain closed in dry conditions and only opened when wet race conditions have been declared by the clerk of the course.

Oil lines containing positive pressure, if replaced, must be of metal reinforced construction with swaged or threaded connectors. Oil cooler must not be mounted on or above the body of the sidecar.

The location of the oil tank and oil cooler should be placed in a location where it is least likely to be damaged in an accident.