

NEW ZEALAND SPORTS CAR SERIES

Preamble – ‘Spirit of the Regulations’

These regulations provide for the inclusion of professionally built Sports Racing Cars, as well as encouraging New Zealand constructed cars incorporating innovative designs. The aim of this schedule is to promote competition in sports cars of, or similar to, the types designed, built and raced by such designer/drivers as Bruce McLaren and George Begg.

Definitions

Definitions that apply to these rules are as detailed in the New Zealand MotorSport Manual or as detailed below.

Classification

Cars constructed to the following specifications shall be eligible to compete in the New Zealand Sports Car Series (NZSCS). These rules are to be read in conjunction with Schedule A of the Motorsport Manual.

In line with the spirit of these regulations, competitors are reminded that this class is a comparatively free formula for the construction of two seat sports racing cars. Any vehicle that appears to be in contravention of this aim may bring about revisions to these regulations which could result in such a vehicle being excluded from competition. It is therefore strongly suggested, that it is in the interest when building a vehicle, or looking to import or buy an existing car that their intention is known to either a [Technical Officer](#), or [Committee](#) member of the NZ Sports Car Series, to enable any contentious details to be clarified and approved to ensure the car complies, or will be invited to compete in the series. Innovative design is encouraged.

Membership

Anyone looking to compete or race in this series must be a current financial member of both the NZ Sports Car Series and a MSNZ affiliated club.

We have a close and long standing relationship with the Sports Car Club of NZ (SCCNZ) and would strongly recommend joining it as your MSNZ affiliated club. They provide on going support and host a number of club races, tech nights, gatherings and gymkhana's. Contact is the club secretary Al Martin secretary@sccnz.co.nz.

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RULES

1 Bodywork:

- a) *General* - The body shall cover all mechanical components except for the exhaust and induction systems. Suspension components do not need to be covered.
- b) *Cockpit Opening* - The cockpit area is to be open (in top view, the driver is not obstructed by any bodywork/roof). Any vehicle that does not comply with the above (i.e. has an enclosed cockpit or roof) must apply to be admitted to the series and still comply with the remainder of the rules. Admission by [NZSCS committee](#) discretion¹.
- c) *Open Wheels* - In lieu of a fully enveloping body, all wheels must be covered for at least a total of 1/3 of their circumference where the leading edge must not be behind a vertical line drawn in side view from the wheel centre and the trailing edge must not be ahead of a horizontal line drawn in side view from the wheel centre

2 Wheels & Tyres:

- a) *General* - These are free, provided they comply with the requirements of Schedule A, Article 4.7.
- b) *Spacers* - A single spacer may be used between a wheel and a hub provided it is not more than 25mm thick and the wheel is positively located to the hub by means of spigots or dowels on both sides of the spacer.
- c) *Tyre width* – Free for [Prosport](#) and [Supersport](#) classes but limited to DOT rated tyres of 225mm tread width for [Clubsport](#).

3 Aerodynamics:

- a) *Permitted* - Aerofoils are permitted as detailed in Schedule A.
- b) *Driver Adjustable* - No cockpit driver-adjustable aerodynamic devices are allowed.
- c) *Active Elements* - No active aerodynamic devices are permitted, this includes down force generating fan type systems.
- d) *Not Permitted* - No aerodynamic devices are to be fitted to any unsprung mass.
- e) *Clubsport class* – No aerodynamic aids allowed at all

4 Lighting:

- a) *Rain Light* - At least one operational rearward facing rain light shall be fitted.
- b) *Stop Light* - One rearward facing stop light to be fitted activated automatically on applied brake pressure, no closer than 100mm from the rain light. Light to be fitted at the highest practical point on the vehicle.
- c) *Headlights* – Clubsport class only required to be fitted in OEM position and still function. If lenses are glass, must be fully taped for racing otherwise covered with shatterproof plastic.

¹ Once admitted, no further application required unless body shape alters

5 Chassis:

- a) *Width* – the overall measurement to the widest part of the vehicle shall fall within the range of 1500mm – 2000mm inclusive
- b) *Weight (Prosport & Supersport)* – the vehicle in ready to race trim² with no fuel or driver shall fall within the range of 400kg – 900kg. Cars that fall between 900-1000kg may be admitted by [NZSCS committee](#) discretion. Existing cars that have competed since the start of the 2006/2007 seasons are exempt. All car weights to be verified by a [NZSCS committee](#) member.
- c) *Weight (Clubsport)* - the vehicle in ready to race trim³ with no fuel or driver shall not be less than 560kg for a car powered vehicle and 480kg for a motorcycle powered vehicle. In both cases maximum weight is not to exceed 900kg
- d) *Seating* – the driver shall be seated within the vehicle in such a manner that the whole of their head with helmet fitted in a normal driving position does not infringe the cars longitudinal centre line and still complies with all other rules
- e) *Chassis Structure* – the chassis structure⁴ is to be only constructed from the following materials:
 - i) Steel
 - ii) Aluminium
 - iii) Stainless steel.
- f) *Chassis Panelling* – the chassis structure may be sheathed in any material providing the car still complies with footnote 4 below.
- g) *Rollover Protection* - All vehicles must be fitted with roll protection in accordance with Schedule A.
- h) *Recommended Protection*⁵ - one forward facing tube from your main roll hoop, to provide rollover protection from fences. Side impact protection such as aluminium box/s that will deform before the chassis does, with self-absorbing expanded foam in a containing skin. It is also recommended that the drivers' helmet when seated in normal race position does not protrude above a line drawn between the main roll over hoop and the primary front structural hoop.

6 Engines:

- a) *Motive Power* - For all [classes](#) regardless of induction type, motive power is restricted solely to gasoline fuelled internal combustion based engines. Any proposed exception to this must be approved by the [committee](#).
- b) *Maximum engine capacity*
 - i) Prosport and Clubsport classes - Maximum engine capacity for a naturally aspirated piston engine shall not exceed 2000cc for a car derived engine⁶ and 1200cc⁷/1600cc⁸ for a bike derived engine⁹.
 - ii) Supersport class – No maximum capacity on naturally aspirated or forced induction engines. Must still be OEM based as per footnotes 5 & 6 below.

² Fully presented car on dummy grid with all fluids onboard to enable car to run except fuel

³ Fully presented car on dummy grid with all fluids onboard to enable car to run except fuel

⁴ Defined as the primary structure that the car must be able to be raced with, without any further structural support or stiffening needed

⁵ This is only recommended, not compulsory

⁶ OEM engine as originally fitted to a road going vehicle where production volumes exceeded 1000 units

⁷ Clubsport class only

⁸ Prosport and Supersport classes

⁹ OEM engine as originally fitted to a road going motorbike where production volumes exceeded 1000 units

- iii) Over boring - A 'nominal' 2 litre engine may be over bored by 40 thou (1mm) for rebuild purposes, any capacities below 2 litres are free for modification in terms of bore and stroke alteration.
- c) *Forced induction* - Forced induction is allowed as per the rules governing the [Clubsport](#) and [Supersport](#) class. For forced induction cars only, no cockpit adjustable mechanism that allows the adjustment of boost level whilst racing is allowable.
- d) *Rotary engines* –
 - i) Prosport: Maximum 13B type rotary engines that are not peripheral port and are naturally aspirated.
 - ii) Clubsport: No rotary engines allowed
 - iii) Supersport: Any rotary engine that does not comply with point (i) above or forced induction rotaries.
- e) *Engine Quantity* - Maximum one engine per car
- f) *Self Starting* - The engine must be able to be started by the driver when seated in the normal driving position, by means of an on-board starter and power source. This source of energy must be capable of providing three consecutive starts within two minutes if required.

7 Mufflers:

- a) *General* - Mufflers are to be fitted, in order to comply with the requirements of Schedule A, Article 3.8 or to achieve such other lesser noise levels as may be required by individual circuit owners or local authorities.

8 Transmissions:

- a) *General* - Gearbox and final drive are free.
- b) *Reverse Gear* - Provision of a reverse gear is mandatory and activated by the driver when seated in the normal driving position.

9 Brakes:

- a) *Materials* - Only ferrous based rotors allowed.
- b) *Braking System* - A dual braking system is mandatory, as per MSNZ Schedule A, a separate hand brake is not required.
- c) *Pedal Box Position* - Brake pedals when fully depressed must not protrude forward of the centre line of the front axle unless a suitable crash structure is fitted that has been certified by an appropriate authority¹⁰.

10 Safety Harness:

- a) As per MSNZ Schedule A

11 Log Books:

- a) As per MSNZ Schedule A

¹⁰ Such as FIA certification, or crash test results available, or suitable computer based analysis available that is satisfactory to the Technical Officer of NZSCS

CLASSES:

The regulations are designed to be as free as possible whilst still encouraging close racing. To be eligible the car must comply with one of the following three classes constituting the NZSCS.

1 ProSport Class:

- a) *General* - Engine limited to 2 litre piston and 13B non peripheral port rotary naturally aspirated engines. Must comply with all other rules and subject to the [performance index](#).

2 ClubSport Class:

- a) *General* - For cars that run on DOT approved road tyres and are in road going trim.
- b) *Induction* – Forced induction cars limited to 1600cc supercharged only and existing cars
- c) Must comply with all other rules, including those not specific to this class and subject to the [performance index](#).

3 SuperSport Class:

- a) *General*- For cars which do not comply with the first two categories for any reason, but are still within the [spirit of the regulations](#), comply with all other rules and are within the [performance index](#).
- b) *Induction* - For all forced induction engine cars.
- c) *Acceptance* - The [NZSCS committee](#) also reserve the right to exclude a car from the NZSCS for failure to comply with any of these clauses.

4 Changing classes

- a) *General* – Changing classes during a season will result in points from the class being departed being removed and points in the new class will start from scratch.

5 Eligibility

If a person wishes to compete and their car falls outside of any of these rules, an application can be made to the [Committee](#) for dispensation.

PERFORMANCE INDEX:

1 Description

As the class is intended to promote close racing and engineering innovations, to allow this to foster and therefore encourage other competitors to partake, an 'index of performance' has been created.

2 Criteria

This is primarily to prevent any single car or cars performing above a threshold that reduces the competitiveness of those others competing. This is set at an average¹¹ of a maximum of 2.0%¹² faster than the next slowest competitor across the tracks that the NZSCS competes at. This is monitored by the [NZSCS committee](#).

Should a competitor fall outside of this criteria at any stage and the [NZSCS committee](#) cannot see another car 'filling' the gap¹³, the following procedure will apply:

- a. The driver of the fastest car will be asked to slow to an average lap time below the threshold.
- b. If the driver fails to comply with (a), they may be excluded by the NZSCS organisers.

3 Clubsport Class

The Clubsport class is subject to the following minimum allowable lap times. Any car competing in this class that exceeds this time, and with committee approval, will be transferred to the Prosport class. The committee will review this procedure and the suggested lap times after the first four rounds of the Championship.

Pukekohe	1:09min
Taupo	1:45min
Manfeild	1:19min
Hampton Downs	TBA

4 Examples

Pukekohe: fastest car 59.3 seconds, 2nd fastest 60.9 seconds –
difference is $(60.9-59.3)/59.3 \times 100\% = 2.7\% =$ above threshold - not OK

Pukekohe: fastest car 59.7 seconds, 2nd fastest 60.9 seconds –
difference is $(60.9-59.7)/59.7 \times 100\% = 2.0\% =$ below threshold - OK

Manfeild: fastest car 1:09.3 seconds, 2nd fastest 1:10.5 seconds –
difference is $(70.5-69.3)/69.3 \times 100\% = 1.7\% =$ below threshold – OK

¹¹ Defined as the fastest comparative laps of 75% of entire race, not one single lap

¹² $(2^{\text{nd}} \text{ fastest time} - \text{fastest time})/\text{fastest time} \times 100\%$

¹³ Such as a car under development or driver learning new track and decreasing lap times

Taupo: fastest car 1:30.6 seconds, 2nd fastest 1:33.5 seconds –
 difference is (93.5-90.6)/90.6 x 100% = 3.2% = above threshold – not OK

Table of Current Fastest Laps and Maximum Allowable Difference to 2nd

<i>Track</i>	<i>Current Fast Lap Time</i>	<i>Max difference to 2nd</i>	<i>2nd Fastest Lap Time</i>
Pukekohe	59.6 sec	1.2 sec	60.8 sec
Taupo	1:32.0	1.8 sec	1:33.8 sec
Manfeild	1:09.0	1.4 sec	1:10.4

NZSCS Committee:

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