Warwick and District Sporting Car Club

Queensland Super Sprint State Championship

2021 Improved Production – updated technical regulations

1. CLASS STRUCTURE

Improved production classes will be based on the cubic capacity of each vehicle using the appropriate equivalence factor. This is done to provide a level playing field where vehicles with little modifications can effectively compete with those with more modifications. How to calculate your equivalent capacity is noted in Section 2.1.

2 wheel drive vehicles
0 – 1600 cc
1600 – 2000 cc
2000 – 3000 cc
3000 – 4000 cc
4000 – 5000 cc
5000 cc and over
Juniors 0 – 1600 cc
4 wheel drive vehicles
Modified – all capacities

2. TECHNICAL CRITERIA

All vehicles must be compliant with the criteria noted in this section to be eligible for the QSSSC Improved Production category for 2021. Where a vehicle does not meet the requirements, the competitor must notify the event official when registering for the event so the class can be changed prior to competing.

2.1 ENGINE CAPACITY

The *Effective Capacity* shall be the product of the swept volume of the engine and a multiplication factor dependent on the engine configuration. This volume shall be expressed in cubic centimetres.

The equivalence factors shall be:

Piston engine normally aspirated	**1.00**
Piston engine supercharged	**1.70**
Rotary engine normally aspirated	**1.80**
Rotary engine supercharged	**3.06**
Piston diesel supercharged	**1.50**

Example: I have a car with a 1600 cc piston engine that is fitted with a turbo. After applying the multiplication factor of 1.70 (piston engine supercharged), the Effective Capacity is 2720 cc.

2.2 BLOCK

The engine block must have the same number of cylinders/rotors and the same configuration as was standard or available as a manufacturer's option for that particular model (e.g. in line, horizontally opposed).

The block must be from the same manufacturer (e.g. Ford, GMH, and Nissan) as the original Automobile.

Example: You cannot exchange a straight six with a V6.

2.3 ROTARY ENGINES

A reciprocating engine may be interchanged with a twin rotor rotary engine from the same manufacturer in the following Automobiles: Mazda 1200 coupe, Capella, 808, 929 (pre-1978), 121 (RWD).

A rotary engine may utilise peripheral porting but only in the capacity to which the vehicle was originally fitted.

The rotor housings, intermediate and end plates shall be identifiable as mass produced Mazda items. Only engines identified as 10A, 12A or 13B are permitted. Such engines must not be exclusively from evolution/racing models.

Example: I have a Mazda 808 which is the equivalent to the RX3. The Rx3 ran both the 10A and 12A engine over its lifetime. Therefore, I could not install a 13B peripheral port engine in this vehicle and be compliant with this section, only a 13B bridge port or lesser porting could be accepted.

2.4 SUPERCHARGING

Supercharging or turbo charging is permitted under the following conditions:

A restrictor plate is required unless the vehicle remains in standard trim to that of the production vehicle variant and the original ECU and all components associated with the induction system and remains operable and unmodified. Boost controllers are not permitted on standard trim vehicles.

Where a supercharging system is added to a vehicle, or an original supercharging system has been modified from standard, the following conditions are applicable:

For vehicles utilising a turbo, a restrictor must be fitted that the maximum internal diameter of the air intake into the compressor is to comply with the table below.

A restricting orifice must be fitted to the inlet prior to the supercharging device so that all air used in the combustion process of the engine must pass through the orifice.

Multiple supercharger installations are only permitted when fitted as standard to the vehicle. The original number and type of device shall be retained.

Example: my vehicle was originally fitted with a twin turbo engine. I could not exchange the primary turbo for a Roots type blower and have a secondary turbo, and remain compliant with this section.

Applicable for each automobile regardless of driven wheel type (i.e. 2WD, RWD, 4WD)

Single Supercharging Device	
Maximum restrictor internal diameter (mm)	**Automobile Racing Weight (kg)**
36	up to 1225
37	1226 to 1325
38	1326 to 1425
39	1426 and over
Multiple Supercharging Device – fitted to each device	
Maximum restrictor internal diameter (mm)	**Automobile Racing Weight (kg)**
27	up to 1450
28	1451 and over

2.5 REAR DECK SPOILERS

It is permitted to fit a rear deck spoiler to the boot lid or hatch which complies with the following:

No part of it is further than 125mm from the nearest original body work, it does not exceed the extremity of the side coachwork or bumper.

2.6 REAR WING

A rear wing may be fitted, or be replaced by a wing with following maximum dimensions.

Any longitudinal cross section of the wing, including mounting brackets and any end plates, must be contained within a vertical square 200mm long by 200mm high at any point on its length. The maximum difference in vertical height of the wing from its lowest point to its highest, including mounts and any end plates, is 200mm.

2.7 WHEELS AND TYRES

Wheels are free subject to the following:

Capacity class (cc)	Wheel and Tyre Size					
	Pre '86			Post '86		
	Max. Wheel Width	Max. Wheel Diameter (refer Note 1)	Min. Tyre Aspect Ratio (refer Note 2)	Max. Wheel Width	Max. Wheel Diameter	Min. Tyre Aspect Ratio
3001-6000	8"	15"	50	9"	No Limit	No Limit
0 - 3000	7"	15"	50	8"	No Limit	No Limit

NOTE 1: The maximum wheel diameter for an automobile fitted with a piston engine of 6 or more cylinders is 16"

NOTE 2: For Automobiles with a piston engine of six (6) or more cylinders the minimum aspect ratio is 45%

2.8 WHEEL ARCH FLARES

It is permitted to add wheel arch flares, provided that the increase in the total width of the coachwork is less than 100mm, as measured above the corresponding wheel centrelines. No part of the flare is permitted to extend further than 200mm from the original wheel arch opening. The operation of any door must not be affected.

2.9 WHEEL TRACK

The track dimension is free save that the upper part of the tyre, down to the flange over the wheel hub centre must be within the perimeter of the Automobile when viewed vertically from above.

2.10 SUSPENSION

The vehicle must be fitted with the same type of bushing that was fitted standard. Modern elastomer bushings may be substituted for original rubber bushings.

Rose joint bushings are not permitted unless fitted by the manufacturer.

QSSSC – Improved production

Approved Tyre List – Speed Events

Acceptable production car tyres containing E mark or D.O.T or AS standard markings or

Manufacturer	**Tyre**
Achilles	123S
Bridgestone	RE 540S, RE55
Continental	Conti Competition C1, Conti Force Contact ZR 19 (front and rear variants)
DMACK	DMT-RC
Dunlop	Formula R (D83J, D84J, D93J, D01J, DZ02G, DZ03G), Formula 901, Formula W10,
	SP Super Sport Race
Federal	595 RSR, 595 RSR-R, FZ201, FZ202 R Spec
Hoosier	Street TD, Hoosier T.D.R., Speedster, D.O.T. Radial H20, Tarmac Rally
Hankook	Ventus TDZ221, RS-3
Kumho	Ecsta V700, V70A
Michelin	Pilot Sport Cup, TB15
MRF	ZTD2, ZTW2, ZST, ZTR, ZTTc
Nankang	AR1
Ohtsu Falken	Azenis, Azenis RT215
Pirelli	P Zero C, P Zero Corsa
Silverstone	FTZ Sport Type RR, S575, S585
Toyo	Proxes RA-1, Proxes R888, Trampion R881
Yokohama	A021R, A032R, A038R, A039R, A048R, A050

Acceptable tyres not containing E mark or D.O.T or AS standard markings

Avon	ACB10 Semi slick compound cross-ply
American Racer	M28 Compound 704