

2020 GP-P1 TECHNICAL REGULATIONS

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1 DEFINITIONS

1.1 GP-PROTOTYPE 1 CAR:

An automobile designed solely for speed races on circuits or closed courses.

1.2 AUTOMOBILE:

A land vehicle running on at least four non-aligned complete wheels, of which at least two are used for steering and at least two for propulsion.

1.3 3. LAND VEHICLE:

A locomotive device propelled by its own means, moving constantly taking real support on the earth's surface, of which the propulsion and steering are under the control of a driver aboard the vehicle.

1.4 BODYWORK:

All entirely sprung parts of the car in contact with the external air stream, except the rollover structures and the parts definitely associated with the mechanical functioning of the engine, transmission and running gear. Airboxes and radiators are considered to be part of the bodywork.

1.5 WHEELS:

Flange and rim. Complete wheel: Flange, rim and tyre.

1.6 AUTOMOBILE MAKE:

In the case of GP racing cars, an automobile make is a complete car. When the car manufacturer fits an engine which it does not manufacture, the car shall be considered a hybrid and the name of the engine manufacturer shall be associated with that of the car manufacturer. The name of the car manufacturer must always precede that of the engine manufacturer. Should a hybrid car win the Championship Title, Cup or Trophy, this will be awarded to the manufacturer of the car.

1.7 EVENT:

An event shall consist of official practice and the race.

1.8 WEIGHT:

Is the weight of the car without the driver at all times during the event.

1.9 RACING WEIGHT:

Is the weight of the car in running order with the driver aboard and all fuel tanks full.

1.10 CUBIC CAPACITY:

The volume swept in the cylinders of the engine by the movement of the pistons. This volume shall be expressed in cubic centimetres. In calculating engine cubic capacity, the number Pi shall be 3.1416.

1.11 SUPERCHARGING:

Increasing the weight of the charge of the fuel/air mixture in the combustion chamber (over the weight induced by normal atmospheric pressure, ram effect and dynamic effects in the intake and/or exhaust system) by any means

whatsoever ever. The injection of fuel under pressure is not considered to be supercharging.

1.12 COCKPIT:

The volume which accommodates the driver.

1.13 SPRUNG SUSPENSION:

The means whereby all complete wheels are suspended from the body/chassis unit by a sprung medium.

1.14 SURVIVAL CELL:

A continuous closed structure containing all fuel tanks and the cockpit.

1.15 ON BOARD CAMERA

A television camera, including all wiring, power supply and live transmission unit, temporarily mounted on a car.

1.16 BALLAST BOX

A box measuring 38mm x 72mm x 160mm and weighing 5kg, temporarily mounted on a car in lieu of an on board camera.

2 REGULATIONS

1. Role of F1T:

The following technical regulations for Formula 1 cars are issued by F1T.

2. Publication dates for amendments:

Each year in October, F1T will publish all changes made to these regulations. All such changes will take effect on the third 1st January following their publication unless otherwise agreed between F1T and all GP-Prototype recognised constructors, in which case the changes will take effect on the date agreed.

3. Dangerous construction:

If an automobile is deemed to be dangerous, it may be excluded by the Stewards of the Meeting.

4. Compliance with the regulations:

Automobiles must comply with these regulations in their entirety at all times during an event.

5. Measurements:

All measurements must be made while the car is stationary on a flat horizontal surface, or as provided in Article 89 of the F1 Sporting regulations.

6. Duty of competitor:

It is the duty of each competitor to satisfy the scrutineers and the Stewards of the Meeting that his automobile complies with these regulations in their entirety at all times during an event.

3 BODYWORK AND DIMENSIONS

1. Width:

The overall width of the car including complete wheels shall not exceed 200cm, with the steering wheels in the straight ahead position.

2. Width ahead of the front wheel centre line:

The bodywork ahead of the front wheel centre line is limited to a maximum width of 140cm. Nevertheless, any part of the bodywork ahead of the front wheel centre line exceeding an overall width of 110cm must not extend above the height of the front wheel rims with the driver aboard seated normally and irrespective of the fuel load.

3. Width and shape between the front and rear wheels:

The maximum width of the bodywork behind the centre line of the front wheels and in front of the centre line of the rear wheels is 140cm.

Between the rear edge of the complete front wheels and the front edge of the complete rear wheels all sprung parts of the car visible from directly beneath the car must lie on one plane. All these parts must produce a uniform, solid, hard, rigid (no degree of freedom in relation to the body/chassis unit), impervious surface, under all circumstances. The periphery of the surface formed by these parts may be curved upwards with a maximum radius of 5cm.

To help overcome any possible manufacturing problems, a tolerance of +/- 5mm is permissible across this surface.

No part of the bodywork in front of the rear wheel centre line and extending above the height of the rear complete wheels may project beyond 50cm each side of the longitudinal axis of the car.

4. Width behind the rear wheel centre line:

Bodywork behind the centre line of the rear wheels must not exceed 100cm in width.

5. Overhangs:

No part of the car shall be more than 50cm behind the centre line of the rear wheels or more than 120cm in front of the centre line of the front wheels.

Furthermore, no part of the bodywork more than 20cm from the longitudinal centre line of the car may be more than 90cm in front of the front wheel centre line.

The centre line of any wheel shall be deemed to half way between two straight edges, perpendicular to the surface on which the car is standing, placed against opposite sides of the complete wheel at the centre of the tyre tread.

6. Height:

Except for the rollover structures, no part of the car can be higher than 100cm from the ground. However, any part of the rollover structures more than 100cm from the ground must not be shaped to have a significant aerodynamic influence on the performance of the car.

Furthermore, any part of the car behind the centre line of the rear wheels must not be more than 95cm from the ground.

All height measurements will be taken with the car in normal racing

trim with the driver aboard seated normally.

7. Aerodynamic influence:

Any specific part of the car influencing its aerodynamic performance:

- Must comply with the rules relating to its bodywork
- Must be rigidly secured to the entirely sprung part of the car (rigidly secured means not having any degree of freedom).
- Must remain immobile in relation to the sprung part of the car.

Any device or construction that is designed to bridge the gap between the sprung part of the car and the ground is prohibited under all circumstances.

No part having an aerodynamic influence and no part of the bodywork may under any circumstances be located below the geometrical plane generated by the flat surface described in Article 3.3.

No part of the bodywork in front of the rear edge of the complete front wheels and more than 25cm from the longitudinal centre line of the car may be closer than 40mm to the geometrical plane referred to in Article 3.3.

8. Roll hoop access:

The second rollover structure must be designed to provide a clearly visible unobstructed opening in order that a strap whose section measures 6cm x 3cm can pass through it to lift the car.

4 WEIGHT

4.1 MINIMUM WEIGHT

The racing weight of the car must not be less than 600kg any time during the event.

4.2 BALLAST

Ballast can be used provided it is secured in such a way that tools are required for its removal. It must be possible to fix seals if deemed necessary by the scrutineers.

4.3 ADDING DURING THE RACE:

The adding to the car during the race of any liquid, or other material whatsoever or the replacement during the race of any part of the car with another which is to a different specification is forbidden.

5 PROPULSION SYSTEM

5.1 AMOUNT OF ENERGY

The stored amount of energy onboard of the car must not exceed 4.2 GJ at any time during the event.

5.2 RELEASED POWER

The power released from the propulsion system to the gearbox must not exceed 735 kW at any time during the event.

5.3 TORQUE CONTROL

The amount of torque delivered by the propulsion system must be direct relationship to the input by the accelerator. This relationship must remain constant at any time the car is in motion and must not be changeable by the driver.

5.4 STARTING THE ENGINE

The engine must be started with a onboard system by the driver without any outside assistance anytime during the event.

6 TRANSMISSION TO THE WHEELS

1. Four wheel drive:
Four wheel drive cars are forbidden.
2. Gear changing:
Notwithstanding Article 1.3, semi-automatic gearboxes driven by automatic control are permitted and may, for the purpose of changing a gear ratio only, momentarily take control of the propulsion system away from the driver.
3. Gear ratios:
 - 3.1. The minimum number of forward gear ratios is 4.
 - 3.2. The maximum number of forward gear ratios is 7.
4. Reverse gear:
All cars must have a reverse gear which, at any time during the event, can be selected while the engine is running and used by the driver when seated normally.
5. Propulsion:
Traction control is forbidden.

7 SUSPENSION AND STEERING

7.1 SPRUNG SUSPENSION:

Cars must be fitted with sprung suspension.

The springing mechanism must not consist solely of bolts located through flexible bushes or mountings.

There must be movement of the wheels to give suspension travel in excess of any flexibility in the attachments.

7.2 CHROMIUM PLATING:

Chromium plating of any steel suspension components over 45 tons/in² (725N/mm²) tensile strength is forbidden.

7.3 SUSPENSION GEOMETRY

Suspension geometry must remain fixed at all times.

7.4 STEERING:

Four wheel steering is not permitted.

Power steering systems which do anything other than reduce the physical effort required to steer the car are not permitted.

8 BRAKES

8.1 SEPARATE CIRCUITS

All cars must have a brake system which has two separate circuits, one for the front and one for the rear wheels, operated by the same pedal. This system must be designed so that if the leakage or failure occurs in one circuit, the pedal shall still operate the brakes on at least two wheels. The pressure in each circuit must be the same at any point inside the circuit.

8.2 AIR DUCTS

Air ducts for the purpose of cooling the front brakes shall not protrude beyond:

- A plane parallel to the ground situated at a distance of 140mm above the horizontal centre line of the wheel.
- A plane parallel to the ground situated at a distance of 140mm below the horizontal centre line of the wheel.
- A vertical plane parallel to the inner face of the rim and displaced from it by 120mm toward the centre line of the car.

Each section perpendicular to the center line of the duct in the above mentioned volume must have only one closed section with one continuous line.

Furthermore, when viewed from the side the ducts must not protrude forwards beyond the periphery of the tyre or backwards beyond the wheel rim.

8.3 BRAKE PRESSURE MODULATION

Anti lock brakes are forbidden.

9 WHEELS AND TYRES

9.1 LOCATION:

Wheels must be external to the bodywork in plan view, with the rear aerodynamic device removed.

9.2 2. DIMENSIONS:

Maximum complete wheel width: 15 inches.

Maximum complete wheel diameter: 26 inches.

These measurements are to be taken horizontally at axle height.

9.3 NUMBER OF WHEELS

The number of wheels is fixed at four.

9.4 WHEEL MATERIAL

All wheels must be made from a homogeneous aluminium alloy.