

CHALLENGE FORMULA RENAULT 2.0

2010

TECHNICAL REGULATIONS

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CONTENTS

- Art. 1 – DEFINITIONS
- Art. 2 – REGULATIONS
- Art. 3 – BODYWORK AND DIMENSIONS
- Art. 4 – WEIGHTS
- Art. 5 – ENGINE
- Art. 6 – FUEL TANK AND FUEL LINES
- Art. 7 – LUBRICATION SYSTEM
- Art. 8 – STARTING
- Art. 9 – TRANSMISSION
- Art. 10 – SUSPENSIONS
- Art. 11 – BRAKES
- Art. 12 – WHEELS AND TYRES
- Art. 13 – SAFETY
- Art. 14 – ROLLOVER STRUCTURE

CHALLENGE FORMULA RENAULT 2.0 ITALY

Whatever is not expressly specified:

in these Regulations;

in maintenance Manuals editions 2006 and 2009, submitted to all Competitors entrant in Challenge Formula Renault 2010;

in Nomenclatures editions 2006 and 2009 and

in contingent Technical Bulletins released by RENAULT SPORT and FASTLANE PROMOTION during the season 2010

IS FORBIDDEN

ARTICLE 1 – DEFINITIONS

– FORMULA RENAULT 2.0 CAR

Automobile designed solely for speed races on circuit or closed courses. The term Formula RENAULT 2.0 is a trademark.

– AUTOMOBILE

Land vehicle, propelled by its own means, running on at least four wheels of which two are for steering and at least two for propulsion.

– LAND VEHICLE

A locomotive device, moving by constantly taking real support on the earth's surface and 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 structure and the parts definitely associated with the mechanical functioning of the engine, transmission and running gear.

Radiators are considered to be integral part of the bodywork.

– WHEEL

Wheel: flange and rim;

Complete wheel: flange, rim and tyre

The wheel vertical axis is perpendicular to the ground, seen from the side, passing through the wheel rotation centre and lying on running surface middle plane.

– EVENT

An event will comprise practice (qualifying) timed or not, and race/rac

– WEIGHT

Is weight of the car, except fuel and driver weight, at all times during the event.

– RACING WEIGHT

Is the weight of the car in running order during an event with the driver aboard and the fuel remaining in the tank.

- MAIN STRUCTURE

The fully sprung structure of the vehicle to which the suspensions loads are transmitted, extending longitudinally from the foremost front suspension fixing on chassis to the rearmost rear suspension fixing.

1.10 - COCKPIT

The volume which accommodates the driver.

– SURVIVAL CELL

A structure containing the fuel tank and the cockpit

– TELEMETRY

The transmission of data between a moving car on track and any point external and independent from the car position.

– COCKPIT PADDING

Non structural elements placed within the cockpit for the purpose of improving driver comfort and safety. All such material must be quickly removable without the use of tools.

ARTICLE 2 – REGULATIONS

2.1 – ROLE OF THE ASN/C.S.A.I. AND RENAULT SPORT

Technical Regulations for Formula Renault 2.0 cars are drawn by RENAULT SPORT and FAST LANE PROMOTION in agreement with the A.S.N.

2.2. - COMING INTO EFFECT OF CHANGES

FAST LANE PROMOTION, in agreement with the A:S:N:, will publish the changes to this Regulations by means of technical circulars; only changes made for safety reasons may come into force without notice.

2.3 – PERMANENT COMPLIANCE WITH REGULATIONS

Vehicles must comply with this Regulations in their entirety at all times during the event, free practice in its context included.

2.4 – MEASUREMENTS

All outline (geometric) measurements must be made while the car is stationary on a flat, horizontal and resistant surface.

2.5 – TECHNICAL PASSPORT

Scrutineers appointed by Fast Lane Promotion and by C.S.A.I. for Challenge Formula RENAULT 2.0.Italia 2010 will draw a technical passport at the time of preliminary scrutineering which will take place on the occasion of the first participation of a vehicle to an event.

This passport will remain at the disposal of scrutineers and could be made available to Competitor on demand.

2.6 – PRINCIPLE OF TECHNICAL REGULATIONS

The technical regulations are as follows: particulars component FORMULA RENAULT 2.0 CARS are gathered in a document named "Nomenclature", delivered to each competitor, and are divided in three categories.

Category A: No modification allowed. Particulars of this category must remain in their original position and perform functions set for them at the origin.

Category B: Particulars of category "A" which are the object of specific prescriptions. Only modifications provided for in the Regulations or in FORMULA RENAULT 2.0 nomenclature, edition 2009, are allowed.

Category C: Particulars considered free on condition that their original function is not disrupted, that no other function is added and that they remain in the same position of the original particular which they replace. Their presence is mandatory. Modified particulars are admitted subject to Fast Lane Promotion appointed Scrutineers approval.

Bolts: Except engine, transmission, suspension and steering bolts, all bolts are free on condition that:
 their original diameter is retained;
 the original pitch and thread are retained;
 the quality of steel, equal or higher than the original bolt, is retained. Other materials are forbidden (i.e. titanium).

Originality: all parts which constitute the bodywork, wings, roll bar and some particulars of engine equipment are marked and show a double adhesive hologram with Tatuus and Renault Sport marks; the absence of marks (holograms) is considered a TECHNICAL NON CONFORMITY.

All marked parts subject to varnishing or to any processing, must however maintain visible the original TATUUS and RENAULT SPORT marks.

The marks (holograms) integrity is full responsibility of Competitors.

ARTICLE 3 – BODYWORK AND DIMENSIONS

3.1 – WHEEL CENTRAL AXIS

The hubs axis for overhangs measurement is specified as follows:

“line joining the intersection of each wheel rotation axis with tyre running surface middle plane”. This line is defined as follows: projecting vertically the foremost and rearmost points of the complete wheel to the ground at the level of running surface middle plane and fixing on the ground the middle point of these projections. These operations will be carried out for the right wheel and for the left wheel; the line joining the two middle points will be the hub axis projection on the ground.

3.2 – HEIGHT MEASUREMENT

All the height measurements will be carried out with the car in normal racing conditions with the driver aboard.

3.3 – BODYWORK BEHIND THE FRONT TANGENT TO THE COMPLETE REAR WHEELS

Mandatory utilization of wing profiles for Formula RENAULT 2.0

3.4 – AERODYNAMIC EFFECTS

The addition of elements which, also as a consequence, may result affecting aerodynamic are not allowed.

3.5 – WHEELBASE AND TRACK

Wheelbase and track (front and rear) must remain in the range of values allowed by the use of suspension original components..

3.6 – AERODYNAMIC DEVICES

Rear spoilers:
mandatory use of original spoilers for Formula RENAULT 2.0;
maximum height from the ground 90 cm.

ARTICLE 4 – WEIGHTS

4.1.1 – MINIMUM WEIGHT

Car weight must not be less than 490 kg. This weight is intended with the car ready to race, with empty fuel tank, any other intervention, modification or addition excluded.

4.1.2 – RACING WEIGHT

The minimum weight during the race (driver included) is 563 kg.

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 made with solid single blocks and it must be possible to fix seals on the ballast. If a car needs ballast to reach its regulation weight, BY OBLIGATION it must be declared by the competitor and the ballast must be sealed by Scrutineers appointed for Challenge Formula RENAULT 2.0 Italia 2010.

The competitor is responsible for seals conditions and presence.

Each ballast nor sealed will be considered a technical non conformity.

4.3 – ADDING DURING THE RACE OR QUALIFYING

The adding to the car during the race or qualifying of any liquid or other material whatsoever or the replacement of any element of the car with another heavier is forbidden.

4.4 – WEIGHT CHECK

At his first participation, each driver will be weighted with race apparel and with helmet. This weight will be recorded by the Scrutineer and counted in addition to car weight to get racing weight value. Driver weight will be valid for the whole championship, being understood that the driver has the right to ask, during pre race checks, a new check of his weight. This operation could be required only during pre race checks activities.

The weight may be checked at any time during the event, without the driver aboard and with the quantity of liquids remaining in the tanks (it's understood that adding oil, other fluids or extinguishing products before the weighting is forbidden).

ARTICLE 5 – ENGINE

5.1 – ENGINE

RENAULT SPORT type F4R FRS

Capacity: 1998 cm³

Competitors are required to notify the number of the engine used to scrutineers during pre race scrutineering.

Engine replacement during an event is forbidden, if not for manifest technical reasons (defects, breakages or performances loss). If this need will arise, Competitor should notify Scrutineers in due time; they will assess the objective situation also according to evidence provided by data acquisition and, heard the motor mechanic opinion, could give permission for engine replacement.

The list of engines used by competitors will be posted up on championship information notice board.

5.2 – RENAULT SPORT F4R FRS ENGINE PREPARATION

Formula RENAULT 2.0 engine F4R FRS is delivered sealed.

Every engine repair, overhaul or preparation must be exclusively carried out by LRM Motors organisation officially appointed by Fast Lane Promotion.

Any engine not sealed by the afore mentioned organisation or of unknown origin could not be used in any case within Challenge Formula RENAULT 2.0 Italia 2010.

Each engine not sealed by the afore mentioned organisation or if one or more seals are missing or are not original, will be considered a NON CONFORMITY.

Within the Challenge Formula RENAULT 2.0 Italia 2010, Fast Lane Promotion will authorize for single races the use of engines prepared and sealed by ORECA organisation and by other engineering organisations officially recognized by Renault Sport Technologies.

5.3 – ELECTRONIC CONTROL UNIT

The use of Formula Renault 2.0 engine management electronic control unit is mandatory.
Seals missing on the box will be considered a technical non conformity.

As from second race cars control units of the first ten Drivers in Challenge general standings will be object of a drawing which will be carried out as follows:

The Scrutineer, during pre race scrutineering, will withdraw the afore mentioned control units and, after a drawing, will redistribute random to Drivers.

The use of received control unit on the cars will be mandatory for the whole duration of the event. Not abiding by this rule will be considered a technical non conformity.

Competitors will be accountable for the received control unit. They should hand back in good working order, otherwise the original control unit will be given to the owner of the damaged one.

The Scrutineer will hand back Control units to respective owners at the end of last race parc fermé.

Fast Lane Promotion reserves the right to extend this rule to further cars at its choice.

5.4 – EXHAUST SYSTEM

The use of Formula Renault 2.0 original exhaust system is mandatory.

The catalytic converter must be in working order.

The measurement will be taken according to N:S: 9 Art. 10,1 methodology and the maximum noise limit provided for N.S. 9 Art. 10 should be respected.

5.5 – RADIO EQUIPMENT AND TELEMETRY

During qualifying and races the use of a radio system between the driver and the pits and vice versa is allowed.

All telemetry systems and their electric equipments are forbidden.

5.6 – DATA ACQUISITION

Three types of data acquisition systems are allowed

8 channels system

13 channels system

EVO 3 PRO 15 channels system

Only AIM acquisition systems are allowed.

The data acquisition system used on the car will allow Scrutineers to copy all data stored in the system.

ARTICLE 6 – FUEL TANK AND FUEL LINES

6.1 – FUEL TANK

The use of Formula Renault 2.0 fuel tank is mandatory.

Note about FIA Regulations:

“All rubber bladders shall be printed with a code indicating the name of the manufacturer, the specification to which the tank has been manufactured and the date of manufacture.

No rubber bladders shall be used more than 5 years after the date of manufacture, unless recertified by the manufacturer for a period of 2 years maximum.”

6.2 – FITTINGS AND PIPING

The use of Formula Renault 2.0 fittings and piping is mandatory.

6.2.1 No fuel lines may pass through the cockpit.

6.2.2 All lines must be fitted in such a way that any leakage cannot result in the accumulation of fluid in the cockpit.

6.2.3 Every car part containing fuel shall not be placed more than 55 cm from the vehicle longitudinal axis.

6.2.4 The fitting of the kit made up by the self sealing valve STAUBLI RMI 09.3655 and RMI 09.7655 is mandatory.

6.3 – REFUELLING

6.3.1 Refuelling during qualifying and race is forbidden.

6.3.2 Refuelling on the starting grid is forbidden.

6.3.3 Any storage of fuel at a temperature of 10°C below the ambient temperature is forbidden.

6.3.4 The use of any specific device, whether on board or not, to decrease the temperature of the fuel below the ambient temperature is forbidden.

ARTICLE 7 – LUBRICATION SYSTEM

7.1 – LUBRICANT

The use of the following lubricant type is recommended:

Engine oil: ELF HTX 822

Any mixture with additives is forbidden.

7.2 – CATCH TANK

Lubrication system includes an external breather which must vent in the original catch tank.

7.3 – OIL REPLENISHMENT

No oil replenishment is allowed during the race

ARTICLE 8 – STARTING

8.1 – STARTER

An electric starter, with energy source aboard the car and controlled by the driver seated aboard is mandatory

8.2 – STARTING THE ENGINE

Engine can be started both on the grid and in the pits with the help of an external battery connected to a socket adjusted to that end. It is mandatory that such socket is fitted behind the rear wheels axis in such a way that the operator, to execute the connection, is located behind the vehicle.

8.3 – BATTERY

Only the following battery types are allowed.

Yuasa ref.: 77 11 152 420

Déka ref.: 77 11 154 321

Position: the original.

Fastening: the original.

Positive pole insulation is mandatory.

ARTICLE 9 – TRANSMISSION

9.1 – GEAR CHANGE TYPE

The use of RENAULT SPORT Formula Renault 2.0 gear change is mandatory.

Gears must be those listed in Formula Renault 2.0 maintenance Manual, Edition 2009.

(Three gears set are available: short, medium and long; to mix gears of one set with those of another is forbidden).

9.2 – REVERSE GEAR

All cars must have a reverse gear which, at any time during the event, can be selected by the driver when normally seated with the engine running.

9.3 – TRACTION CONTROL

The use of an automatic traction control system is forbidden

9.4 – GEAR CHANGE REPAIRS

Gear change repairs must conform to the rules of Formula RENAULT 2.0 repair Manual, Edition 2009, issued to all drivers at the moment of their entry to Challenge Formula Renault 2.0 Italia 2010.

9.5 – DIFFERENTIAL

The use of Formula Renault 2.0 original clutch ramps and disks is mandatory; no modifications are allowed.

ARTICLE 10 – SUSPENSIONS

SUSPENSION ELEMENTS CHROMIUM PLATING

Chromium plating of suspension steel elements is forbidden.

ARTICLE 11 – BRAKES

The use of Formula RENAULT 2.0 braking system original components is mandatory.

11.1 – AIR INTAKE

The fitting of devices for front and rear brakes cooling (pipes, vents, fans etc.) is forbidden.

ARTICLE 12 – WHEELS AND TYRES

Wheels must be the RENAULT SPORT Formula RENAULT 2.0.

12.1 – DIMENSIONS

Front wheels width:	8" (inches)
Rear wheels width:	10" (inches)
Diameter:	13" (inches)

Adding any aerodynamic element or for air extraction is forbidden.

12.2 – TYRES

The fitting of MICHELIN tyres with the following characteristics is mandatory:

Front: 16 x 53 x 13	Slicks fr2.0 (dry track)
Rear: 23 x 57 x 13	Rain P220 (wet track)

Thermal covers etc.; the use of thermal covers and of any other means with the purpose of altering or maintaining tyres temperature is forbidden.

Any activity of alteration, modification or remodelling of tyre tread and any other kind of tyres processing with the purpose of improving or altering their performances is forbidden.

12.3 – OVERPRESSURE VALVE

The fitting of overpressure valves on the wheels is forbidden.

ARTICLE 13 – SAFETY

13.1 – FIRE EXTINGUISHER

The use of the fire extinguisher originally provided for Formula RENAULT 2.0 is mandatory.

13.1.1 The following information must be clearly visible on each fire extinguisher:

Capacity

Type of extinguishant

Weight or volume of extinguishant

Date the container must be checked which must be no more than two years after the date of filling or of the last check.

13.1.2 Each pressure vessel must be duly protected and must be situated within the survival cell. In any case its fasteners must be able to withstand a 25" g deceleration.

All extinguishing equipment must withstand fire.

13.1.3 The driver must be able to trigger the extinguishing system manually when seated normally with his safety belts fastened and the steering wheel in place.

Furthermore, a means of triggering from the outside must be combined with the circuit breaker switch. It must be marked with the letter "E" in red inside white circle of at least 10 cm.

13.1.4 The system must work in any position, even when the car is inverted.

13.1.5 All extinguisher nozzles must be suitable for the extinguishant and be installed in such a way that they are not directly pointed at the driver.

13.2 – MASTER SWITCH

The use of the device originally provided for Formula RENAULT 2.0 is mandatory.

The driver, when seated normally with safety belts fastened and the steering wheel in place, must be able to cut off all the electrical circuits and stop the engine by means of a spark proof circuit breaker switch that is capable of being activated from the outside by means of an external handle, clearly marked, capable of being operated from a distance by the rescue team with a hook.

This handle must be situated at the base of the main safety structure on the right end side and marked by a symbol showing a red spark in a white edged blue triangle with sides of at least 10 cm.

13.3 – REAR RED LIGHT

The use of the rear red light originally provided for Formula RENAULT 2.0 is mandatory.

All cars must have a red light, in working order throughout the event, which:

is placed on the car rear in the position indicated by RENAULT SPORT;
is clearly visible from the rear of the car;
can be switched on by the driver when seated normally on the car.

13.4 – SAFETY WIRE FOR WHEEL RETENTION

See Art. 5.7 – N.S. 8 (Manufacturer Technical Bulletin will follow)

ARTICLE 14 – ROLLOVER STRUCTURE

14.1 – ROLLOVER STRUCTURE HEIGHT

Must be high enough so that a line plotted from the top of the first structure to the top of the second will pass over the driver helmet when seated normally, wearing the helmet and with safety belts fastened.

Furthermore the structure highest point must be at least 5 cm over the driver helmet when seated normally with safety belts fastened.

In case of a driver who, for his frame, does not come under above prescription, it is mandatory to report to Renault Sport.

14.2 – SURVIVAL CELL

Any repair to the survival cell or to the frontal protection must be carried out according to the manufacturer specifications at a repair centre approved by the manufacturer.

Competitors must declare, in writing, all repairs carried on the survival cell and on frontal protection to Scrutineers. They will write down such repairs on technical passport.

14.3 – HEAD AND NECK PROTECTION

Driver must be equipped with a correctly attached HANS® device homologated according FIA standard 8858-2002. Such device must be matched to a compatible helmet. Both the device and the compatible helmet must be chosen among those listed in FIA technical list n. 29 (Ref.: Annex L Chap. III Art. 1.2 of International Sporting Code)

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