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Renault Sports Racer (RSR)

1. Definitions

- SCCA refers to the Sports Car Club of America, Inc.
- SCCA Enterprises, Englewood, Colorado, is the manufacturer of the Renault Spec Racer®.
- Dyno refers to a dynamometer device used for measuring horsepower and torque.
- Spec Racer is a registered trademark of the Sports Car Club of America.
- CCR refers to the NASA *Club Codes and Regulations*.
- PBS refers to PBS Engineering.
- The symbol " preceded by a number, in the context of a measurement, refers to American inches.

2. Purpose and Intent

The intent of these rules is to allow drivers to compete in a low cost, highly competitive, professional racing series. This is a "spec" series, meaning that all vehicles will be prepared to the same exact specifications. Any competitor that tries to gain an unfair mechanical advantage shall be in violation of the intent and spirit of this series. It is the intent of NASA to promote this as a drivers series. The competitors shall make themselves available, periodically, to the fans while at the race track. Therefore, the drivers and teams must display exemplary and professional conduct at all times. Pit crewmembers must be wearing matching uniforms. Driving suits or professional, clean, presentable clothing is required for all personal appearances. Drivers may earn up to three free race days per season, by making personal appearances at malls, stores, shows, etc. Drivers must have prior approval from the NASA office before making their special appearances outside of the normal track weekends, to be eligible for credit.

3. Car Eligibility

Any one seat sports racing car that meets these requirements and was originally produced by SCCA Enterprises using a Renault 1.7 Litre engine is eligible (i.e. Sports Renault® & Spec Racer®). Alternatively, Ford powered Spec Racers (SRF) produced (or converted) by SCCA Enterprises are eligible for competition in this series providing that the cars conform to the current year rules for that class, published by the Sports Car Club of America. The SRF cars are allowed, and encouraged to use the Yokohama spec tires, listed in the 1998 rule book.

4. General Rules

All rules and regulations found in the NASA *Club Codes Regulations* (CCR) apply, unless superseded by this publication. Safety is everyone's responsibility. Anyone that violates a safety rule, or fails to report a dangerous situation shall be sanctioned by fines and / or suspension.

5. Disclaimer

These rules do not guarantee, or imply, that injuries or death will not occur. If there are any questions or problems with these regulations it is the reader's responsibility to contact the National Auto Sport Association (NASA) office immediately.

6. Rule Adherence

These rules must be strictly followed, and they will be strictly enforced. Conformance to these rules is the driver's responsibility. The following rules are not guidelines for this class but an actual listing of allowed or required modifications. Only modifications that are specified by these rules will be allowed. No other part(s) or components may be modified, removed, or disabled. The addition of unspecified parts (i.e. extra washers, wheel spacers, etc.) is not permitted. If there are any "questionable" or "gray" area modifications, the competitor should contact the NASA office for clarification before competition.

7. Chassis Dyno

Cars may be ordered by the Chief Scrutineer to go to the chassis dyno for certification. Any car deemed to have too much horsepower and/or torque may be torn down for inspection. It is expected that cars may be checked on the dyno at random regardless of the finishing position.

8. Replacement Parts

All replacement parts must be OEM parts or the exact equivalent meeting OEM specifications. Since some of the cars in the series may require parts that have become obsolete, the **Series Administrator may authorize a substitute part. It is the competitor's responsibility to obtain written permission from the Series Administrator before using a substitute part. The Series Administrator must obtain written approval from the NASA National Office Technical Coordinator before a substitute part can be approved for use.** The term "OEM specification" means matching the original part found on the car as produced or assembled by SCCA Enterprises.

9. Allowed Modifications

The following items may be modified or replaced, so long as not to violate the "Purpose and Intent" section, any safety rules, or any rule(s) found in the CCR. And, providing that the modification/replacement(s) perform the same function: Driver's seat & padding, shift knob, gauges, steering wheel, steering shaft bracket, rollcage padding, pedals and pedal placement (brake, gas, and clutch), radiator cooling fan(s), and fasteners (except noted by the "Fasteners section"). Mirrors may be replaced with any other mirrors in the original location and the glass portion must be at least 14.5 square inches per mirror. Any gaskets may be used providing that they serve the original function. The head gasket must meet OEM specifications for size, thickness, material, and functionality. Screen mesh may be added anywhere on the car to protect parts from rock damage. The screen mesh must be no finer than one eighth inch, and serve no other purpose, or be installed in any manner that violates any other rule in this publication, or violates any rule found *the Club Codes and Regulations*.

10. Fasteners

Fasteners are unrestricted provided that they serve the same function. Welds are not considered fasteners for the purposes of this section. Any fastener that is modified or replaced by another that could change the performance of the vehicle is not allowed. Any fastener that is in contact with the inducted air and/or fuel mixture may not be modified (i.e. throttle butterfly plate mounting screws).

11. Aspiration / Carburetion

All inducted air must pass through the air filter element. The air filter element may be replaced with any other air filter element of the same size as the original spec part. NASA part #P1 (Russ Raceglass) Air Duct is permitted, or an exact duplicate of part #P1 may be fabricated. Carburetors and carburetion methods can not be modified in any way. No modifications may be made to any part of the carburetor (unless specified by these rules). Main jets may be changed. Air correctors may be changed. Optionally, the SCCA Enterprise supplied rubber seal, part number 1390004 may be used and installed between the air filter housing and the carburetor. Extra throttle return springs are allowed and recommended. The throttle linkage from the pedal to the exterior of the carburetor may be modified provided that the modification is approved before use by the Chief Scrutineer. The floats may be adjusted, but not modified. No hoses may be added to duct air into or near the air intake. The approved carburetor and intake manifold combination is restricted to the carburetor and manifold as originally supplied by SCCA Enterprises or optionally a spec carburetor and manifold supplied by the spec supplier may be used.

12. Body General

No portion of the body may be modified (except as where these rules allow) and must maintain the spec appearance. All vehicles must look good at 50 miles per hour from a distance of 50 feet (50/50 rule). No body damage or primer is allowed. Competitors may be given some latitude for damage sustained during the event, provided that they have made a reasonable attempt at repairs and no primer has been applied. No extra holes are allowed, unless specified by these

regulations or a NASA supplemental publication. All body panels must be securely fastened at all times while on track. The driver is reminded that the car / driver combination must still meet the minimum weight even if body panels are lost on track. Any mirrors may be mounted on the outside the body.

13. Front Section / Body Work

The "front section" is defined as the section from the front of the car to the dashboard, and shall have a length measured along the centerline of 62" (inches) (+/- 0.5"), and a width measured over the front axles of 64.5" (+/- 0.5"). The front section of the bodywork must weigh at least 35 pounds, but not more than 57 pounds. The front section of the car must be 21.25" (+/- 0.25") high when sitting on the ground (off of the car) and measured with a straightedge across the top of the fenders at the centerline of the front axles.

14. Center Section / Body Work

The "center section" is defined as the section from the dashboard to the rear firewall. The center section of the body shall weigh at least 25 pounds. The driver's compartment opening length measured on the centerline shall be 37.25" (+/- 0.25"). The height of the side pod shall be 19" (+/- 0.25") measured from the floor of the side pod up to the top edge along a line created by the centerline of the wheels.

15. Rear Section / Body Work

The "rear section" is defined as the section from the rear firewall to the rear of the car and shall have a length measured at the centerline of 43.25" (+/- 0.25"), and a width measured over the rear axles of 65.50"- 68.0". The rear section must be 16.125" (+/- 0.5") when sitting on the ground off of the car, measured from the ground to the top of the rear lip. The inner openings in the rear of the body shall have dimensions of 18.5" by 1", and the outer openings shall have dimensions of 9.87" by 1". The rear section shall weigh at least 30 pounds.

16. Interior

The interior must remain unaltered, except that holes may be cut into the dashboard (only) to accommodate gauges. All unused holes must be covered with sheet metal and painted to match. The interior must be in good appearance. The driver's headrest may be modified as long as it meets the regulations found in the CCR. **It is very strongly recommended that extra padding be added to the headrest.** An additional floor pan (box shaped), for added foot protection may be added in the pedal area provided that it is well constructed and made from 16 gauge steel and the dimensions are no more than 27.9" by 21.6" by 1.25" (sides). Optionally, the pedal divider may be removed.

17. Body Paint

Any paint scheme is allowed. Bodies should be painted to convey a professional looking series. No wild paint schemes such as chrome, camouflage, etc. are allowed. The intent of the series is to appear presentable for television coverage, much as other televised racing series. Wheels may be painted any matching or complimentary color. Chrome wheels are prohibited.

18. Paint, general

All parts of the vehicles may be painted any color. However heat treatments and coatings are not allowed. Powder coating the chassis and cage is specifically allowed. The exhaust system may be plated externally or coated externally. No painting or coating of internal drive train parts is allowed, including but not limited, to the internal parts of the block, heads, transmission, differential, axle housing, etc.

19. Decals

Each vehicle is required to have certain sponsor decals to be eligible to participate in the racing program. Any other decals may be applied so long as they are not conflicting with any series sponsor. A total of four NASA decals, one on the front, one on each side, and one on the rear is required.

20. Car Numbers

Car numbers on each side must conform to the rules listed in the CCR. There are no required number background panels. **The font must be plain and of a highly contrasting color.** The numbers, and / or backgrounds, may be outlined by a border.

21. Identifying Marks

The driver's name shall appear, legibly, on the outside of the bodywork next to the driver's seat. The size and font must be clearly readable from at least 20 feet from the vehicle when parked. The class marking of "RSR" shall appear in 4" high letters next to the lower edge of the car number.

22. Weights (parts/overall)

No lightening of any parts is permitted. All vehicles must meet the specified minimum weight, wet, with the driver, as raced or qualified. Vehicles shall weigh a minimum of 1580 pounds during qualifying and races. All teams are reminded that minimum weight must be met even if the car loses body sections or other parts during a qualifying or race.

23. Ballast

No ballast may be added anywhere on the vehicle unless by an approved method, in an approved location, using solid lead or solid steel. Stock SCCA-indicated ballast location and fastening devices are approved. No on-board ballast adjustment devices are allowed. All ballast must be securely fastened at all times while on track. All ballast must be in block form and weigh at least 5 pounds. Each ballast block shall be marked with the corresponding vehicle number appearing in a contrasting color. Any lost ballast while on the race track or in the pit lane may result in disqualification and /or ejection from the series.

24. Air Ducting

Air ducts for brake cooling may be added to the front and rear brakes provided that they are installed in a safe manner and serve no other purpose. No unauthorized holes may be cut anywhere to accommodate brake cooling ducts. Cooling ducts for the driver may be added. Cool suits, and the associated equipment, are allowed.

25. Tires / Rims

Spec tires are required, and must be purchased through the approved vendor. Rims must be any rim originally supplied, or updated for the Renault powered Spec Racers, by SCCA Enterprises. Rims shall not be modified (except to add one valve stem) or lightened, however, wheel weights may be added for balancing. Front rim specifications are 5.5" wide by 13" in diameter. Rear rim specifications are 7.0" wide by 13" in diameter. Tires shall not be "soaked" or "softened" by the use of any treatments, chemicals, or other methods.

26. Communications / Data Collection

All two way radio transmitters are legal so long as they only transmit a voice signal. No electronic data transmission devices are allowed. Electronic equipment used for the sole purpose of collecting lap times is permitted. All data acquisition is subject to the rules listed the NASA *Club Codes and Regulations*.

27. Fuels / Fluids / Grease

Fuel restrictions apply as per the NASA *Club Codes and Regulations* (CCR). Any engine or transmission oils may be used. Fuel lines may be replaced and/or rerouted using any other fuel lines, including metal and/or steel braided. All fuel lines are must be no larger than 3/8 inches, inside diameter. Any electric fuel pump may be installed. Pressure relief return lines may be installed between the fuel pump and the fuel tank. Any fuel or oil lines that pass through the driver's compartment must be metal or steel braided. All fuel and oil lines must be securely fastened and safely routed. Any oil filter may be used so long as it meets OEM specifications and must remain in the stock location. Any grease may be used. Any brake fluid may be used. Radiator coolant must conform to the NASA CCR. SRF cars may request an exception to the coolant regulations].

28. Ride Height

Ride height is 2.75" minimum (tolerance 0.125"), measured from the frame to the ground at the front and rear axle lines. Ride height shall be measured as raced or qualified, but without the driver.

29. Ignition / Electrical

Any spark plugs, cap, rotor, and/or wires may be used. The distributor may not be modified in any way. Ignition timing may not be changed. Any initial timing setting is allowed. All wiring may be changed, added, removed, or modified in anyway, so long as its serves no other purpose than to carry electrical current. No modifications to the coil or ignition boxes are allowed. The addition of any ignition devices is not permitted.

30. Alternators

The alternator must be OEM or an aftermarket equivalent OEM type, mounted to the engine, and function as originally intended. Only the OEM pulley may be used. In this section, "OEM" means as originally equipped when purchased from SCCA Enterprises.

31. Pulleys

All pulleys must be stock OEM as originally provided by SCCA enterprises (both Ford and Renault) and have the following measurements (Renaults): Water Pump 3.75 inches, Alternator 2.5", Crankshaft 5.375".

32. Lights

Every car must be equipped with at least one functioning brake light that is activated automatically whenever the brakes are applied. Additionally, each car shall have at least one "rain light" and shall make use of it during wet track conditions. Both the rain light(s) and the brake light(s) must be red, mounted on the rear of the car, and must face rearward. Headlights or forward facing lights (for night events) are permitted without restriction, unless other specified by event supplemental regulations.

33. Battery

Batteries must be mounted safely in the spec location. Batteries may be replaced with any type U1. Battery cables and terminal ends may be replaced. All positive battery cables shall have no visible wire(s) showing at any point. The hot terminals on the starter and battery shall be covered with a material that does not conduct current at less than 18V.

34. Radiator

Radiators, mounting brackets, and location may not be modified, however necessary repairs are allowed. Radiators may be replaced with any other radiator meeting OEM specifications. Optionally, a screen mesh may be installed to protect the radiator from stone damage. An optional air baffle supplied by SCCA Enterprises (part number 1380891) may be installed as per the supplier's instructions. All radiators must have a catch tank of at least one liter, for overflow. Radiator cooling fans are unrestricted provided that they serve no other function. Absolutely no ethylene glycol based anti-freeze is allowed at anytime while on track. Products such as Redline Water-Wetter are allowed.

35. Transaxle / Halfshafts

Transmissions must be standard OEM Renault 4-speed transaxles. Transaxles may not be modified in any way except that they may be fitted with PBS shift forks and/or the optional 4 gear ratio of 0.93:1. A shift limiting assembly supplied by SCCA Enterprises part number 1380869 may be installed per the supplier's instructions. Halfshafts shall not be modified or lightened, however, they may be balanced. The U-joints may be replaced with any other U-joints, so long as they serve their original function and meet OEM specifications.

36. Clutch / Pressure Plate / Flywheel

Any clutch master and slave combinations meeting OEM specifications may be used so long as they mount in the same place. Any replacement clutch lines may be used. Any Renault 1.7L OEM replacement clutch disk may be used

provided that it weighs at least 1.8 pounds. Any Renault 1.7L OEM replacement pressure plate weighing at least 7.5 pounds may be used. The flywheel must be stock or OEM specifications. Flywheels shall not be modified or lightened, however they may be resurfaced the minimum amount needed to correct for wear. The flywheel may be balanced. Under no circumstances shall the flywheel and ring gear combination weigh less than 14 pounds.

37. Exhaust Systems

The exhaust header, and provided muffler, may be repaired to match the original configuration, however they can not be modified in any way. The Supertrapp® muffler must contain exactly 12 plates for use with the SCCA Enterprise supplied motor, and exactly 20 plates are required for use with the Rebello and PBS built spec engine. Some variance in exhaust configuration may be allowed by the Race Director for certain special events. It is the competitor's responsibility to check with the Race Director for these variations. All exhaust systems must meet the rules found in the *Club Codes and Regulations (CCR)*.

38. Fire Extinguishers and Systems

A fire system, meeting the requirements of the NASA *Club Codes and Regulations (CCR)* is required, and must be properly installed. All cars must have their fire systems inspected by a qualified technician and produce a certificate of inspection before the car's log book can be stamped for annual inspection.

39. Brakes

All brake pads are specified on the spec part sheet. These pads are mandatory. Steel and steel braided brake lines are permitted. An on-board brake bias adjuster valve may be installed. The caps of the master cylinders may be sealed with a diaphragm type seal.

40. Suspension

Adjustments may be made to adjustable parts. Absolutely no modifications may be made to any suspension parts unless specified by these rules. For lubrication purposes an optional "Zirk" type fitting may be installed on the upper control arm. The adjustable lower suspension stud may be replaced with any other providing that it is mounted in the same location and serves the same purpose as the original. It is recommended that the replacement suspension stud be purchased from SCCA enterprises.

41. Shocks/ Springs

No modifications may be made to the spec bump stop. However, a "slit" may be cut into the spec bump stop to allow removal of the shock absorber. The spec front springs shall have a spring rate of 185 – 195 lbs. / inch and shall have a wire diameter of 0.39 inches. The rear spec springs shall have a spring rate of 265 – 275 lbs. / inch, and shall have a wire diameter of 0.42 inches

42. Sway Bar

Sway bars may be disconnected but not removed. The front and rear sway bar diameter is 0.56".

43. Steering

For the purposes of eliminating "bump steer," the steering rack may be shimmed using SCCA Enterprise supplied shims part numbers 1380286 or 1380287. Alternatively, the exact equivalent shims may be produced and used.

44. Chassis

"Bottoming out" may be a problem on some the tracks. Therefore it is recommended that rubbing blocks be installed to the underside of the frame. The block may be made out of any solid material and can be no larger than 1.5" by 2" inches by 1". Alternatively, steel plates no larger than 1.5" by 8" by 0.125" may be used. Additionally, a steel plate may be

welded to the frame below the rear shock towers and can be no larger than 1.5" by 14" by 0.125". All bolt-on blocks must be securely fastened with at least two steel bolts, and may be welded to the frame. In any circumstance, there will be extremely harsh penalties for any driver that loses a block or plate on the race course or pit lane.

45. Rubbing Strips

Rubbing strips may be installed on the underside of the body provided that they are identical to SCCA Enterprise part number 1380557LH (&RH) and must be made from 0.06 inches aluminum stock and are no larger than 2.5 inches by 3 inches by 72 inches.

46. Optional Body Work

An air scoop kit may be purchased or fabricated provided that it is identical to SCCA Enterprise part number F0130000 and installed to exact specification as provided by the instructions that come with the original kit.

47. Nose Pans

Nose pan may be replaced provided that they are identical the original SCCA Enterprise part number 1380448 and must be made of aluminum stock measuring 0.04 inches-0.06 inches in thickness.

48. Floor Pans

Floor pans may be repaired or replaced to OEM specifications only. SCCA Enterprise floor pan part number 1380434 shall be used or a replacement may be manufactured using 0.06" thick aluminum stock.

49. Engine

There are only three legal engine configurations for the series. The original SCCA Enterprise manufactured Renault 1.7L motor, the Rebello Racing Engines rebuilt 1.7L motor (RSR), the PBS Engineering rebuilt 1.7L motor (WSR), and the SCCA Enterprise supplied Ford motor. If using the Ford motor, the entire car must meet all of the current year rules for the Spec Racer Ford published by SCCA except the spec tire can be changed to the 1998 SCCA approved Yokohama). In any case no modifications can be made unless specified by these rules. No porting, polishing, or matching may be performed.

50. Camshaft / Timing

Camshafts shall not be modified in any way. The camshaft must remain strictly as provided by SCCA Enterprises, PBS Engineering, or Rebello Racing. Cam timing shall be set so that the timing marks line up. For the SCCA Enterprise engines: The intake valves shall open at 4 degrees BTDC, and close at 40 degrees ABDC. The exhaust valves shall open a 40 degrees BBDC and close 4 degrees ATDC. Sprockets, keys, and keyway way shall not be modified from their original configuration as supplied by the spec engine builder; this applies to all engine configurations.

51. Belts / Hoses

Any alternator belt and radiator hoses may be used provided that they meet OEM or replacement specifications. The timing belt must be Gates part number 5130XS or purchased from, or approved by, the spec engine builder. In any case, the replacement belt shall not alter original cam timing in any way. A timing belt guard may be installed using the Renault timing belt guard mounting points.

52. Rod Ends

All rod ends may be replaced to function as originally intended.

53. Non-compliance/Cheating

Cheating and non-compliance will not be welcome and will be subject to harsh penalties. At first offense, there will be a two race disqualification for the previous two races. At second offense, there will be a loss of half of the season points, a

two race suspension, and disqualification from the race. At third offense, there will be a loss of all season points and a four race suspension. The fourth offense will result in permanent ejection from the series.

After the third offense, the driver will be placed on probation for two years. While on probation, the driver's prizes will be withheld until the end of each season. If a driver completes a two year probation period successfully, he/she will be reinstated. In addition, loss of all season points shall be accompanied by a mandatory order to return all prizes, prize money, and trophies. In any case, a disqualification or suspension will result in zero points that can not be dropped.