

# 2011 NORTHWEST REGION SCCA

## RADIAL SEDAN (RS) CLASS RULES

### 1. PURPOSE:

Radial Sedan is intended to provide a class for cars that exceed the preparation limits in the applicable Conference Production or SCCA Improved Touring specifications but still meet all safety regulations of the GCR. It is also intended as a showcase of current trends in performance. Be sure to read beyond this paragraph to ensure your complete understanding of the RS rules.

### 2. ELIGIBILITY:

Radial Sedan cars must be (or have been):

1. Marketed to the public in the USA as a unit.
2. Marketed in sufficient volume so that the vehicle's specifications are standard.
3. Able to seat (4) average size adults as sold to the public. Those cars that are not able to seat (4) average size adults may also compete. But must carry a weight penalty of 200 lbs over the minimum weights specified in Section 4. IT cars are an exception to the above per section **5.C.XII** of these rules. Competitors must provide factory a service manual (or industry substitute) for their cars.

### 3. SAFETY REQUIREMENTS:

All Radial Sedan cars must meet the same minimum safety requirements as Improved Touring cars as provided in the GCR section 9.4 SCCA GT legal cages. **Fuel cells and fire systems are allowed and encouraged.**

### 4. OFFICIAL WEIGHTS:

All cars will be weighed as raced, with driver. The weight for each car shall be:

- A. All Piston engine, pushrod, two-valve per cylinder cars will weigh at least **.90** pounds for each cubic centimeter of engine displacement as raced plus 180 lbs. For example, a 2000 cc two-valve per cylinder pushrod piston engine powered car must weigh at least **1980** pounds.
- B. All piston engines, overhead cam, two-valves per cylinder cars will weigh at least **.95** for each cubic centimeter of engine displacement as raced plus 180 lbs. For example, a 2000 cc two valve per cylinder piston engine powered car must weigh at least **2080** pounds.
- C. All piston engine cars with multiple valves per cylinder (>2) will weigh at least **1.0** pounds for each cubic centimeter of engine displacement as 2 raced plus 180 lbs. For example, a 2000 cc four valve per cylinder piston engine powered car must weigh at least **2180** pounds.
- D. All piston engine cars with multiple valves per cylinder (>2) and variable valve timing will weigh at least **1.2** pounds for each cubic centimeter of engine displacement as raced plus 180 lbs. For example, a 2000 cc four valve per cylinder piston engine powered car must weigh at least **2540** pounds.
- E. All rotary engine cars must weigh at least **.85** pounds for IT prep. and **.95** for EP prep for each cubic centimeter of engine displacement as raced plus 180 lbs. Rotary engines will be prepared only to IT or EP specifications. Engine displacement shall be as follows:

**IT Legal 12A = 2292 cc's = 2128**

**IT legal 13B = 2616 cc's = 2402**

**E Production Legal 12A = 2292 cc's = 2357**

**E production Legal 13B = 2616 cc's = 2665**

- Street port does not allow water jacket modification.
- Bridge porting: will not be allowed
- Peripheral Porting will not be allowed

- F. Ballast may be added to all cars as required to meet minimum weight, provided it is securely mounted within the bodywork and serves no other purpose. **(Per GCR 9.3.8 Ballast)**

### 5. MODIFICATIONS:

- A. **Bodywork:** In keeping with the stock nature of this class, all cars shall maintain their stock appearance & dimensions.
  - I. Fiberglass or carbon-fiber, hood and trunk panels and bumpers are permitted, they must retain the stock appearance & approximate dimensions Pre 1975 cars may use a small fiberglass fender flare for the purpose of tire clearance only, they must retain the stock appearance & approximate dimensions (two inch tolerance allowed at any point)

- II. Front air dams are permitted provided they do not protrude more than 1.5 inches from the outline when viewed from above, not including bumper or bumper mounts. Also, no part of the car except the 3 exhaust and suspension may be lower than the lowest part of the wheel rim.
- III. Bumpers may be removed.
- IV. Interiors may be "gutted" including removal of the passenger seat, removing door windows and window mechanisms.
- V. All windows may be replaced with any material specified as acceptable in the SCCA GT regulations.
- VI. Batteries may be relocated, but must be securely mounted in a containment box to protect the driver if the battery is in the driver's compartment. Racing (gel) batteries are permitted.
- VII. **A touring type wing maybe be added as long as it's located within the width of the rear fenders and is no higher than 6 inches below the roof line. On wagon back vehicles a touring wing no higher than 3 inches from the roof may be used. No other aero devices shall be used.**

#### **B. Chassis, Tires, Brakes, Wheels**

- I. An IT or GT legal roll cage must be installed. Standard suspension pick up points must be used. However, the original unibody and/or chassis around suspension pick up points may be reinforced, and camber/caster adjustment may be added. Suspension bushing material is free.
- II. Springs, shocks and sway bars are free. All other suspension components must be standard, however, they may be reinforced.
- III. Any DOT- or MOT-approved tires may be used (as per IT, racing tires, recapped, or regrooved tires are prohibited).
- IV. Any production car brake system components (calipers, master cylinders, brake rotors, etc.), which can be bolted on without modification, may be used. In addition, dual master cylinder systems and brake biasing devices may be added. Any brake lining material may be used. Water-cooled or fan cooled brakes are not permitted. Racing calipers and rotor/hat assemblies may also be used, However those cars racing with any non-production car brake system components must increase the minimum weight from Section 4 by 100 pounds.
- V. **Any road/racing wheels may be used (as per IT, tire tread may not protrude beyond fender opening when viewed from the top perpendicular to the ground). Wheel and tire combination must fit under stock unmodified fender except as outlined by these rules for pre-1975 vehicles. A tolerance of 2 inches from specified standard track is permitted front and rear.**

#### **C. Engine and Drive train**

- I. The engine and drive train must have been available with the body style as raced. It is permitted to machine the components of the 4 engine, however, no material or mechanical extension may be added to any part. **Forced induction is not allowed.**
- II. All cars may use up to (3) automotive carburetors and associated manifolds that can be purchased over the counter as a bolt on modification. Original carburetors or fuel injection systems and manifolds can be modified, however, no material may be added to a stock manifold, carburetor body or fuel injection throttle body.
- III. The exhaust system is free, but must include a muffler, and must end aft of the driver and within 3 inches of the outside perimeter of the bodywork as viewed from above. Sound pressure limits are defined in the Supplemental Regulations for each event.
- IV. Ignition systems are free.
- V. Oil sump and oil pickup may be modified to increase oil capacity and to prevent surge. Oil pump may be substituted or modified, An oil cooler may be added provided it is contained within the body work and not visible from outside the car. Breathers, air filters, and oil filters are free. All emission control devices may be removed. Catch tanks must be utilized for the oil breather.
- VI. Any radiator, which will fit in the standard location and not altar the appearance of the car, may be used. Fans and/or fan blades can be modified or removed.
- VII. Fuel pumps and fuel filters are free, but they must be separated from the driver/passenger compartment by a metal bulkhead.
- VIII. Gear ratios are free provided the transmission and differential housings are retained and not modified. Differentials may be modified to produce a locking or limited slip action.
- IX. Heater may be removed.
- X. Clutch and flywheel are free.
- XI. Any engine modification that is legal according to the Improved Touring, Conference Production, or SCCA Production class rules is also legal in RS.
- XII. All Cars wishing to compete in their legal SCCA GCR recognized IT or Conference Production 2 or 3 configuration shall be allowed to compete at the legal weight specified for that car per their rules.
- XIII. All cars will be required to display their declared weight in the driver side quarter window.