SWSCA 4 CYLINDER RULES: Updated 2023

# DISCLAIMER

The rules and / or regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum requirements for such events. These rules shall govern the conditions of all events, and by participating in these events, participants are deemed to have complied with all of these rules.

NO EXPRESSED OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM PUBLICATION OF OR COMPIANCE WITH, THESE RULES. They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to a participant, spectator or official.

Any interpretation or deviation of these rules is left to the discretion of the officials. Their decision is final.

## 1. INTENT

SWSCA officials will attempt to maintain a competitive field of cars while controlling the costs associated with fielding a car. Competitors will be discouraged from investing in any non-safety related items. Situations may arise where the intent rule is referenced. The division is open to any driver that meets the criteria set out by the SWSCA.

## 2. BODY/BUMPERS

2.1. All glass, headlights and taillights must be removed except for the windshield.

 2.2. **Dashes and plastics MUST be removed.**

 2.3. Driver’s door must be welded and/or bolted shut.

 Holes between driver’s door bars must be covered with a metal plate.

 2.4. Passenger door must be welded and/or bolted shut.

 2.5. Inner panels stay metal.

 2.6. Window openings may not be closed. Rear vent windows can be closed.

2.7. All cars must begin each race with a complete body (hood, doors, fenders, trunk etc.) unless damaged in practice and / or Ok’d by officials.

2.8. Stock front and rear bumpers must remain or be replaced by a maximum 2” (in any direction) pipe or tubing. Replacement bumpers must be welded to stock mounts and must remain at least 2” inside existing body or extend a maximum of 6” from the centre of the stock mount, whichever is the lesser. Sportsman bumpers ARE permitted, however, bumper height can be no lower than 5” from the ground. No body kits. Stock spoilers or a spoiler made only of lexan, the width of the trunk, 4” max height, bolted through the trunk (trunk has to open still), is permitted. **Body MUST maintain stock appearance**. Tech has full authority to park a car if said car is outside of these specifications.

2.9. Tow hooks are required front and rear. They must be attached to any solid structure. Three or four links of chain welded to the bumper mounts is sufficient.

2.10. Cut or heated OEM springs allowed. No lowering kits permitted. No racing springs permitted. Ride height must be no lower than 5 inches on either side, but they don’t have to be the same height on the body, excluding subframe.

2.11 Stock plastic outside mirrors are to be removed and a 5 inch outside mirror is allowed and must be fully mounted inside of the body. One center rear view mirror is allowed, mounted to the windshield or roll cage.

## 3. EXHAUST

3.1. A single stock sized exhaust pipe (maximum 2.5” or have stock bolt bracket for resonator following stock pattern) must be attached to the stock manifold and remain the same size until it exits. Exhaust must point away from the fuel tank.

## 4. FLOOR

4.1. Stock floorboards must remain. All holes must be covered with stock thickness metal and follow original contour.

## 5. GAS TANK

5.1. If original gas tank is ahead of the back-rear wheels, it must remain and be used. It is mandatory that a safety chain be installed under the tank running front to back to catch the tank in case original straps break.

Fuel Cells are allowed, and must be installed to these specifications or you will fail tech: 15 gallon max, If using braided line – 6AN max., Rear firewall must be completely sealed, Oberg check valve OBE-SV-0802 required and closest to cell as possible, Fuel cell foam required, Fuel cell cap tether required, Trunk must open, Hood pins x2 minimum required, 1” x 2” tube recommended, .100th thickness minimum, Plastic cell must be in steel box, Fuel cell breather vent must be vented outside the car. If you are unsure of something, please contact Chris LeBarron.

## 6. ENGINE, DRIVETRAIN AND COMPONENTS

6.1. Engine, transmission (automatic or standard) ECO-Tech 2.2 is included, and rear end must remain stock. No interchanging parts. Casting number must be visible.

6.2. Compression ratio will remain as produced for base model only. Compression when checked on the whistler will be OEM with a tolerance of +/- .2. This will allow for a slight resurfacing of the head. Example would be a 9.0:1 OEM spec may be no more than 9.2 or no less than 8.8.

6.3. The following models with a maximum 2.2 (standard performance) will be allowed:

6.4. Cavalier and Sunfire & up to +2008 Cobalt, 2002-2005 Grand Am, 2003-2006 Saturn Ion, Pontiac Pursuit/G5 2.2 (NO 2.4 allowed and will NOT pass tech – This will be checked), 2002-2004 Oldsmobile Alero, 2002-2005 Cavalier & Sunfire 2.2 and Dodge Neon 2L single overhead cam, Mazda 3 wheel base 103.9" - 2.0l dohc 2005 and Ford Focus wheel base Mark 2 103" 2l dohc 2005. Up to 2011 Honda Civics 1.5L engines: D15B, D15B1, D15B7. 1.6L engines: D16Y6, D16Y7. I-Vtec in 2001-2006.

**If you are planning a build and are not sure if your car is allowed, please contact the track committee before you start.**

Engine 3 or 4 cylinder in-line engines only. Maximum 2.2 litre recommended: double overhead cam. All engine components must be unaltered OEM for year, make and model of car used. Must use OEM crank, rods, valve sizes, stroke, etc. No aftermarket racing heads. No high performance or sport car engines of any kind. No turbo charged, super charged, rotary engines, or engines utilizing variable cam-timing. No unapproved alterations allowed to any engine.

6.5. Stock carburetor/fuel injection system for make and model only. Stock air intake systems. No K&N (or similar) filters. Stock filter must remain, but paper can be hulled.

6.6. Throttle bodies from automatic transmission cars are permitted on manual transmission cars and vice versa.

6.7. All steering components, shocks, struts, etc. must remain stock for vehicle. Wheelbase must remain the same on both sides. No tolerance.

6.8. Camber on all four wheels will be no more than 2.5 degrees (+/-) on front left post-race except right front where 4.0 degrees of negative is allowed.

6.9. Alteration of stock components to achieve this camber reading is allowed.

 6.10. Rear sway bar NOT permitted.

6.11. Starting and charging systems must be operational. Alternators must remain and be operating.

6.12. Must use OEM, unaltered transmission that came in year, make and model of car used. All forward and reverse gears must be operational. Flywheel, flexplate, clutch assembly and torque converter must be unaltered, OEM for year, make and model of car used. Must have one inch inspection hole in bell housing (accessible from top) to inspect clutch and flywheel. No transmission coolers in driver compartment. No mini clutches, couplers, torque dividing final drives, locked differentials or CVT transmissions.

6.13. No aftermarket fuel components (pumps, filters, or injectors). No aftermarket ECM’s, chips, ignition systems or ignition controllers will be allowed. No aftermarket wiring harnesses will be allowed. Race Officials have the right to swap ECM.

6.14. The vehicle OBD II diagnostic connector must be readily accessible, and all terminals must be operating as OEM.

6.15. Stock will be interpreted to mean regular sedan models, not sport, GT, Rally, or any other special edition or performance enhanced models. No alterations of any kind.

6.16. Cars considered by officials to have altered components could be subject to rejection or disqualification based on the decision of officials. Any car that requires bracing or reinforcing to remain in competition may no longer be allowed to compete. Officials have the right to keep altered or illegal parts.

## 7. HOOD

7.1. All insulation to be removed under hood and trunk. Hood Pins are required. Minimum 2 hood pins in front corners required (4 at all corners if hinges are disconnected).

##  8. TRUNK

8.1. Full stock trunk, bracing, and hinges must remain. Rear hatch must remain. It can be bolted shut but must be able to be unbolted if requested by officials to verify complete original remains except for latch and gas shocks. Gas shocks must be removed from hatch. Floor must remain.

Repair of floor OK with stock thickness metal. Must follow original contour. A quick hold-down release for fast trunk entry must be devised.

 8.2 Batteries in driver’s compartment, including trunk, must be boxed in.

## 9. RADIATORS

9.1. Radiators must fit in stock radiator cradle. No antifreeze, Water only.

## 10. TIRES AND WHEELS (THE MIDDLE SET OF NUMBERS ON TIRES CAN BE ANY SIZE, THEY ARE IRRELEVANT)

## All tires must have a tread wear number on the sidewall of no less than 360. Any number that is not readable will be deemed illegal and not raceable.

10.1. Stagger is allowed. You can run up to maximum size of 205/--/15 on the right or the left side. Sizes must be readable. The SWSCA reserves the right to restrict tires with respect to price and availability to all competitors. P rated tires only.

10.2 Steel Wheels are permitted. Newer models that cannot run the tire size above, will run the tire size recommended by the manufacturer as sold on the car when new.

10.3 Stock passenger wheels (unmodified) only. Wheels must be stock size (width, height, and offset) for car. No chemical treating of tires (i.e. Compound Altering/Tire Softening). No shaved tires. Tires will be subject to durometer testing. **Durometer readings under 58 will lead to penalties and/or suspensions. No shaved tires.**

10.4 Racing rims can be used on the right side, no wider than 7” with no more than a 4” offset.

11. BRAKES

 11.1 Car must have stock four-wheel brakes at start of day.

 11.2 All effort must be made during the day to maintain all four-wheel brakes.

 11.3 No air ducts allowed.

12. SAFETY

 12.1 A minimum 5-point harness is mandatory no more than 6 years old. Shoulder belts must be fastened to the roll bar at shoulder height. Drivers are responsible to insure all safety equipment is in good condition and security installed.

 12.2 Driver’s side window net , with quick release from top is mandatory.

 12.3 Helmets must be worn whenever the car/driver are on the racetrack.

 12.4 Full faced helmets are mandatory. Helmets must be SA or SAH, 2015 or newer. No DOT or M rated helmets. Helmets must be free of cracks and must accompany car at time of Tech inspection. Damaged helmets and gear will not be allowed at techs discretion.

 12.5 A SFI head and neck restraint system is MANDATORY.

12.6 A securely mounted, easily removed (quick release) fire extinguisher is required, within easy reach of the driver. It must have a recharge slip dated no earlier than January first of the current year, or an unbroken seal. Bracket securing fire extinguisher to car must be metal type. No plastic brackets allowed.

 12.7 Driver must wear a SFI fire rated driver’s suit.

 12.8 Driver must wear SFI fire rated driver’s gloves.

 12.9 SFI fire rated boots are required.

 12.10 Aluminum racing seat only, as per insurance policy.

13. ROLL BAR

 13.1 A 6-point roll cage made of seamless 1.66” diameter, .095 wall thickness roll bars is required. The roll cage shall consist of 4 vertical upright bars connected at the top of all sides. A shoulder height crossbar must support the rear vertical uprights. Three horizontal bars are required on the left side door area. (These are minimum numbers). A bar at dash height across the front uprights is recommended. Roll cage must run the full width of the frame, rocker panel to rocker panel. Cars with this roll cage are not required to use the exterior doorplate. Driver’s door only inner panel must be cut out to fit roll cage door bars. 1/8th steel plates or other approved method must be used to mount the cage to the body. Pictured below is a 4-point roll cage to give an overall view of what the roll cage should look like when complete.

 **Note: To convert this to a 6 point roll cage, bars must be mounted to the rear edge of the top halo and extend to the rear strut towers.**



14. LISTENING DEVICES

 14.1 No two way communications, listen only.

15. TECHNICAL/OTHER

 15.1 We endeavour to make the rules as explicit as we can. If it doesn’t say you are permitted to do something, then you are not permitted to do it.

 15.2 Any car is subject to be claimed by an official at the end of the day for inspection.

 15.3 Cheating will result in loss of points for the day.

16. SWSCA Officials have the right to claim any car for inspection at any time. One driver cannot claim another driver’s car. The intent of the rule is to prevent an individual from deliberately increasing the cost to compete.

17. Only the stock glass windshield is permitted except if the car has a full roll cage. In this case Lexan can be used in the place of the glass windshield, providing proof of Lexan can be shown. Lexan windshields may require bracing at the discretion of officials.

18. Added weight or ballast allowed. Weight must be added outside of the drivers compartment, securely fastened and painted white with the car number painted on it. (SWSCA Officials reserve the right to impose a minimum weight requirement rule at any time. Teams will be given adequate time to meet the requirements.

19. Cars must start the race day complete: all brakes, bumpers, hood and body panels must be functional.