



# 2023 4 CYLINDER DIVISION

## R U L E B O O K

THE RULES BELOW ARE THE GENERAL GUIDELINES FOR ALL CARS THAT COMPETE IN THIS DIVISION IN THE 2023 SEASON.

IF THESE RULES DO NOT CLEARLY SAY THAT SOMETHING IS LEGAL, ASSUME THAT IT IS NOT PERMITTED.  
RULES SUBJECT TO CHANGE DUE TO SAFETY CONCERNS, OVERLY COMPETITIVE CARS, OR FUTURE RULES IMPOSED BY THE NJ STATE POLICE.

Please email us with tech questions: [WallStadiumSpeedway@gmail.com](mailto:WallStadiumSpeedway@gmail.com)  
or call Rob Hyer at (732) 824-4507

Note: All changes and additions from 2022 will appear in **red**.

### **REQUIRED SAFETY EQUIPMENT**

- **The installation of a 5 pound fire suppression system is now required in all 4 Cylinder race cars. **EFFECTIVE DATE AUGUST 1, 2023.****
  - **It must at least be manual, can be upgraded to automatic.**
  - **1 nozzle required. Must be pointed into the cockpit (driver.)**
  - **SFI Certification required.**
  - **The bottle date must always be within 2 years of the current date.**  
**Recertification cost approx. \$25 plus shipping.**
  - **Bottle(s) must always be full and charged.**
  - **Visitors and drivers "new" to Wall Stadium (first race of the season) will be granted a 1 race waiver.**
  - **Turkey Derby is excluded.**
- **The use of a HANS DEVICE or Hans-like device is MANDATORY. 5 year expiration.**

- Window net MANDATORY.
- 5-point Harness MANDATORY. SFI 38.1 Belts good for 2 years.
- Full face Helmets are MANDATORY. Must have Snell SA 15 or newer sticker. NO motorcycle M Helmets allowed.
- Driver must wear a one piece fire suit and flame retardant underwear. Both must be in good condition, no rips or holes! SFI 5
- Full containment seat MANDATORY.
- All other New Jersey State Safety Regulations MUST BE STRICTLY ADHERED TO.

## **RULES AND SPECIFICATIONS**

### **GENERAL:**

This is a **PURE STOCK** division intended for inexpensive participation. Abuse of these rules or creative interpretations will not be tolerated. Track officials, as always, have the final decision as to whether or not a car can compete. Wall stadium Speedway management may confiscate illegal parts and components.

The 4-Cylinder Division is all about car choice.

**The 4 Cylinder Division was created as an entry level option and will remain that way.**

**NO racer that runs (or has run) Modified, Sportsman, Legend cars, Factory Stock, Limited Late Model or TQ will be allowed to race in this division during the 2023 points season.**

**4 Cylinder racers may enter races of one of the divisions above as long as 4 Cyl is their main focus.**

**The exception is Turkey Derby.**

### **SECTION A: ENGINES**

- **ENGINE AND COMPONENTS:** Original manufacturer parts for specific make and model. The only modifications allowed to an engine are listed in the following paragraphs. **Any other modifications will be deemed illegal.**
- Engine must be in its original mount and position. **MOTOR SWAP ALLOWED FOR SAME MAKE AND YEAR OF CAR. MUST BE APPROVED BY TECH FIRST.** Solid motor mounts are allowed in its original position.

- No rotary engines. No turbos or super charged engines. No high performance engines or cars. Example: Porsche will not be legal and not intended for this class.
- Any four cylinder piston type engine front or rear wheel drive car. No convertibles, four wheel drive, jeep or truck type vehicle. Maximum wheel base 106 inches.
- No porting and or polishing of heads and or manifold. Head may be resurfaced maximum of 20 thousandths (.020). Head and manifold must be stock. Head port casting must be able to be seen and or felt or it will be considered illegal.
- Pistons must be stock type and profile with stock wrist pin height. No dome or pop-ups.
- Stock fuel delivery system only.
- No aftermarket distributors and or distributor parts. No after market electronic computers and or components in ignition. Ignition must be stock for make of engine. Example: Toyota for Toyota, Ford for Ford. Fuel injection must be stock for vehicle running.
- Electric fuel pumps are allowed and must shut off with ignition switch.
- No aluminum flywheels. No flex plates. Single disc stock style clutch and pressure plate.
- No adjustable cam gears
- ALDL diagnostic connector must be functional
- Computer values for engine computer, (when scanned) must be within stock specs, must have all stock components.
- Compression ratio must be lock vale for specific engine
- Compression pressure must be within stock spec
- Idle must be consistent in RPM

## **ROLL CAGE**

- Roll cage must be welded securely to frame using a six-post design. Vehicles using a uni-body construction must install a 6 inch by 6 inch by ¼ inch thick base plate affixed to outer flooring of the car roll cage and must be welded to the floor of the car.
- Rear roll cage hoop must be 6 inches behind the driver's head and 3 inch minimum above the driver's head. There must be a minimum of 2 horizontal bars connecting front and rear roll cage hoops and be a minimum of 3 inches above the driver's head (seated in car with helmet on). Roll cage must extend from windshield to rear of driver's compartment with a loop at the front and rear. A one inch or better pipe placed at the center of the windshield. Two bars may be added from top of cage to rear of car (not to be attached to bumper). You may also run two bars from dash area to front in line with the frame rails but end 6 inches before front bumper.

- Uni-body cars are allowed frame bracing but no cross bracing.
- Driver side must have three or more horizontal bars in door area, passenger side two or more. A ¼ inch steel plate may be installed from bottom side. Roll cage to be to rocker panel below rear of seat forward.
- All roll cages must be of construction and quality to afford driver maximum protection against injury. Petty bars recommended.
- Nerfing bars are MANDATORY, but not required. Nerfing bars must give the driver maximum protection. All nerfing bars must turn into car at ends. No angle cuts. Bars MUST BE MOUNTED FLUSH against body, NO DEVIATIONS.
- Roll cages must be a minimum of 1 ½ inch OD-.095 wall tubing.
- SFI roll bar padding required.
- Unibody cars – frames can not be twisted to gain Left rear to Right front percentage before the roll cage is installed. YOU WILL BE SCALED.
- A minimum clearance of three inches between the top of the roll cage and the top of the driver's helmet is mandatory.
- ADDITIONAL SUPPORT BARS REQUIRED BY N.J. STATE POLICE: 4" x 4" x 1/4" steel plate mounted to the back of the front strut tower. Also 1 ¾" round tubing connected to the main cage down bar. Roll cage must be secured to the unibody with a 6" x 6" x 1/4" plate.

## **BODY REQUIREMENTS**

- NO shortening allowed. Interior skin may be removed. Opening of wheel well no larger than one inch of stock allowed as desired. Car must not appear as a sheet metal box.
- If roof is removed for roll cage installation, they must be re- attached in stock form and location.
- Trunk and hood lids may also be stripped.
- Hoods must have a 5 inch opening for fire fighting purposes.
- Hoods must be kept in place by secure quick release pins.
- **ALL DOORS MUST BE WELDED SHUT.**

- All glass and lights must be removed. All open exterior holes must be covered after lights are removed.
- No after market spoilers of any type.
- Stock metal only. Reproduction fenders and doors may be used. Must look stock.
- No fiberglass bumpers.
- Both bumpers must be securely fastened to vehicle and welded solid to chassis.
- Bumpers must contain an easy, visible and accessible way to be hooked and towed off the track...**NO SHARP EDGES.**
- **Side body skirts allowed, minimum ground clearance 5" without driver**
- **Rub Rails MUST be flush against body.**
- Cars will be allowed plastic front and rear rubber fascia, 5" minimum ground clearance
- **Hood must be on at all times.**

## **SUSPENSION REQUIREMENTS**

- No racing struts or shocks.
- No cutting of suspension with the exception of top of strut tower. Shifting of strut is permitted as it stays within the original strut tower.
- **No welding strut/spindle together. Strut must be able to be taken out with ease.**
- No steering quickener allowed.
- Camber: **7** degrees maximum allowed.
- Different length spacers allowed with rubber or urethane bushings at sway bar link on right front only.
- Coil springs cannot be cut or bent.
- Chassis cannot be lowered.
- All suspension components must be OEM type or OEM replacement type. Must be approved by tech.
- Springs must be the same side to side.
- No spring rubbers allowed.
- Springs must be identical side to side including width, wire diameter, free height and number of coils.

## **INTERIOR**

- All seat cushions must be removed.
- Rear seat shelf must remain in vehicle.

- The stock floor plan, firewalls, trunk, floor, and wheel wells must be retained.
- No built up interiors of any kind.
- Mirrors allowed. Receivers or scanners required. (467.8125)
- All holes in firewalls and floors must be filled in with at least 20 gauge steel.
- Windshield area must have heavy screen, no chicken wire. Lexan windshields MANDATORY. NO GLASS.
- No plexiglass anywhere on the body.

## **TIRES AND WHEELS**

- Stock or racing wheels.
- Front tires must be the same tire size or within 1/2" of circumference. Rear tires must be the same size or within 1/2" of circumference. Front tires can be different sizes than the rear tires.
- 7" wheels maximum.
- DOT street tires with 280 minimum tread wear.
- Tread width 7" maximum with 1/4 inch tolerance.
- All rims same offset.
- No broken or missing lug nuts. Right side 1" lug nuts recommended.
- No wheel spacers.

## **DRIVE TRAIN**

- Stock transaxle, rear, clutch assembly and flywheel only.
- Stock drive train only.
- Automatics must have working torque converter.

## **AIR CLEANER**

- Any air cleaner system is permitted as long as it is not air induction.
- Air cleaning system must be kept in engine compartment.

## **BRAKES**

- Stock brakes in stock mounting position. All brakes must be working at all times.
- No after market proportioning of valves permitted.

## **BATTERY**

- Battery in driver's compartment shall be secured and shielded to prevent leakage in the event of a turnover.
- Battery shall have a marine style box cover secured to the metal box as to not allow movement of the battery.
- Battery located adjacent to the fuel supply of the vehicle must be secured in a metal box bolted to the frame of the vehicle by at least four 3/8" line bolts and in such a manner to apply maximum pressure against the metal box to the frame.
- Only one (1) 12 volt battery per car.

## **SEAT**

- Full containment seat with opening to allow seat belts to pass through.
- Seat shall be attached to the frame with at least 6 three line 5/16" belts. Two bolts shall be installed at the bottom of the seat not more than three inches from the outside edge and two bolts shall be installed at the two most practical widely spaced points at the top of the seat back.
- Vehicles with metal seats do not require straps, but do require large washers at each bolt.
- Straps must be 1 inch wide and 1/8" thick connecting each set of bolts on seat.
- Seats must be mounted in front of doorpost and to the left side of the drive shaft tunnel.

## **SAFETY BELTS AND HELMET**

- **Quick release type five point harness ONLY.**
- All connections are to be secured at frame.
- Shoulder harness must pass over a round bar located at the driver shoulder height.
- No alterations to manufacturer's design.
- All belts must be in good condition and bear the date and manufacturer name.
- Date of manufacture cannot be more than 2 years.
- Helmets must be Snell 10 or newer rated according to New Jersey State rules.

## **EXHAUST SYSTEM**

- The outlet for the exhaust system shall be outside of the vehicle and extend past the driver's door.
- Exhaust flow must be directed out and away from the driver.
- Mufflers not required.
- No headers. Stock exhaust manifold only.

## **FUEL SYSTEM**

### **Fuel Cell**

An approved fuel cell must be used. Maximum capacity is 22 gallons. Cell must be encased in an approved steel container made of 20-gauge steel. The fuel cell must be mounted in the trunk area and four straps minimum 1/8" X 1" wide steel must secure the cell. The cell must be mounted as far forward as possible and be centered in the car. A 1" maximum vent to the outside of the body at the left rear taillight must be installed.

**A rear bar will be allowed around the fuel cell for additional protection. Bar must be located behind the fuel cell and go from frame rail to frame rail. This bar may additionally be connected to the angled down bars of the roll cage. 1 3/4 x .095 max tubing size.**

### **Fire Wall**

- All vehicles must have a permanent fire wall between the driver, fuel supply and motor.

### **Fuel Pump**

- Aftermarket fuel pump allowed. Stock fuel pressure must be maintained.

### **Fuel Lines**

- Half inch fuel line running under car.
- Fuel shut off within reach of driver-Mandatory.
- Shut off must be clearly marked with a bright and contrasting color.
- Must be steel (fuel lines)

### **Fuel Lines and Pump**

- Fuel pump or fuel line is prohibited in the driver's compartment unless properly shielded. The shielding for fuel lines must consist of steel braided material. Fuel pumps in driver compartment must be properly shielded to prevent leakage in the event of damage or breakage of pump or lines.



- Fuel lines must be more than 3 inches from exhaust unless shielded by metal.
- Fuel shut off mandatory within easy access to the driver, conspicuously marked with bright orange paint and labeled ON/OFF
- Competitor must provide a fuel pressure check point using a standard Schrader valve located in the engine compartment.
- Fuel pressure must be within stock spec
- Ignition Switch: All vehicles must have an ignition switch within easy access to the driver in the drivers compartment and CLEARLY MARKED.

### **WINDOW NET**

Must be used on driver's side.

### **STEERING WHEEL**

Padded center. Quick release pull pin type recommended.

### **WATER OVERFLOW AND RESERVOIRS**

Can not be mounted in driver's compartment.

### **DRIVE SHAFTS**

The drive shaft must be enclosed and secured front and rear by a ¼" wide a rod, or a 1" steel tubing with .06 wall thickness.

### **CLAIMING RULES**

See General Rules.

### **WEIGHT**

Horsepower to Weight Ratios:

120 horsepower	2400 pounds
130 horsepower	2430 pounds
140 horsepower	2470 pounds
150 horsepower	2510 pounds
160 horsepower	2550 pounds
170 horsepower	2600 pounds
180 horsepower	2650 pounds
190 horsepower	2700 pounds
200 horsepower	2750 pounds
210 horsepower	2800 pounds
220 horsepower	2850 pounds

If your horsepower number falls between two numbers:

For horsepower ending in 1 to 4 – use lighter weight option

For horsepower ending in 5 to 9 – use higher weight

Example: 120 – 124 HP weighs 2400lbs, 125 HP – 129 HP weighs 2430lbs

- Minimum weight 2400 pounds.
- All cars will be weighed AFTER the race with driver.
- Added weight must be positioned half way between the front and rear axles (wheel base). If the weight is bolted to the sheet metal part of the floor- then 3" x 3" x 1/4" plates must be on the sheet metal side to act as washers!
- Weights can be adjusted for safety and or competitive dominance at the discretion of the Wall Stadium Speedway Officials.
- Failure to meet minimum weight and or go over scales will be cause for immediate disqualification.
- Left side percentage 53.0 % maximum.
- Horsepower and weight MUST be on the right hood/ fender 3" high.
- WEIGHT PENALTY FOR COMPETITIVE DOMINANCE WILL BE THE ADDITION OF 30 POUNDS AFTER A COMPETITORS SECOND FEATURE WIN AND AN ADDITIONAL THIRTY POUNDS FOR EACH FEATURE WIN THEREAFTER.
- This weight MUST be added HALFWAY between the wheel base and to the right side roll bar floor level. This will help decrease your left side percentage.

**TRACK SCALE AND OFFICIALS DECISIONS ARE FINAL.**

## **TOW HOOKS**

MUST have two tow hooks installed in the front and the rear of the car.

ECM Computers: ALDL diagnostic connector must be functional to check Prom I.D.

## **TRANSPONDER**

Mounted 78 inches from center of front spindle.

The age for participation is 17 with a valid Driver's License.

16 year olds may compete if special permission has been granted by the NJ State Police through Wall Stadium Speedway management. Send your racing resume and request to [wallstadiumspeedway@gmail.com](mailto:wallstadiumspeedway@gmail.com).

\*This process may take up to 6 weeks.\*

If you are a minor age 13-16 and interested in racing at Wall Stadium Speedway, please consider entering our Novice Hornet division or contact Management for details at [wallstadiumspeedway@gmail.com](mailto:wallstadiumspeedway@gmail.com).

**KEEP THEM STOCK!**