



2022 SPORTSMAN CRATE 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 2022 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
or call Rob Hyer at (732) 824-4507

REQUIRED SAFETY EQUIPMENT

- 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.
- Fire Extinguisher MANDATORY. Unused and fully charged at all times.

RULES AND SPECIFICATIONS

All motors sealed before November 2021 must be resealed.
Contact Rob Hyer to make an appointment at (732) 824-4507.

Sportsman Crate division races are open to models of American made, steel bodied, passenger car production sedans.

APPROVED MODELS

Chevrolet:	Cavalier, Monte Carlo
Dodge:	Avenger, Stealth
Ford:	Escort
Plymouth:	Laser, Sundance
Pontiac:	Sunbird, J-2000, Grand Prix

Other models may be selected when available providing they are the same in body configuration.

BODY

- All car bodies must be stock appearing.
- The body at its widest point must not exceed sixty-three inches (63").
- Car bodies must be neat appearing and painted.
- Floor area directly beneath the seat forward to the front engine firewall must be made using a minimum of one-eighth inch (1/8") thick magnetic steel. The remainder of the floor area to the right and rear of the seat must be made from a minimum of twenty-two (22) gauge magnetic steel.
- Outside body panels may be made of twenty-two (22) gauge steel or aluminum .040 steel stock roof.
- Belly pans of any kind are not permitted.
- Sheet metal of twenty-two (22) gauge right of driver must be angled or straight to right side door
- Front nose panel can be aluminum or steel. It must not extend rearward past the rear of the harmonic balancer. Non-adjustable type nose is not to exceed from two inches (2") behind front bumper and no wider than the front of frame.
- No wings on any body parts.
- Stock cars without complete windshields must have the rear of the hood sealed or equipped with a deflector to prevent hot liquids from entering the driver's compartment

TREAD WIDTH

- Wheel width must be maximum eighty-four inches (84"), at bead, at zero toe, at spindle height, front, and rear.

WHEEL BASE

- The minimum wheel base that will be permitted is one hundred seven inches (107") ¼ inch allowance for front end adjustment.

GROUND CLEARANCE

- Two inches (2") minimum ground clearance with driver in car.
- No driver controllable weight jacking devices.

CAR HEIGHT

- The car height, measured along the roof center line at its highest rearward point will be at least forty-two inches (42") high.
- ~~Not more than two and one half inch (2 ½") rake.~~
- Mechanical devices for adjusting the cars height which can be activated by the driver will not be permitted.
- Electrical, pneumatic, hydraulic, remote control, or any other devices which change the handling characteristics or height of the car will not be permitted.

CAR TOTAL WEIGHTS

- Two thousand, six hundred fifty pounds (2,650 lbs.) before the race with driver.
- If a GM sealed Crate Motor, non-rebuilt, may weigh 2,575 pounds.

ADDED WEIGHT

- Any bolt on lead must be painted white with car's number on it. (Ingots only)
- All weight must be located on/or in the frame only.
- No adding weight of any kind after an event.
- Bolted on Ingots must use minimum three-eighths inch (3/8") bolts.

LEFT SIDE WEIGHT

- Left side weight not to exceed fifty eight percent (58.0%) of cars total before or after an event with driver in car.

BRAKES

- Only four (4) wheel hydraulic brakes are allowed.
- They must be in good working order and are subject to official testing prior to competing in any racing event.
- Brake adjusters are allowed at all times.
- No titanium rotors allowed, Must be magnetic steel.
- No radial mount calipers allowed.

FRONT BUMPER

- The front bumper must be the width of the chassis.
- The front bumper position is not to exceed thirty inches (30") from the center of front bumper to the center of front spindle.
- Front bumper must be convex in shape with round corners.
- The center of the front bumper must be mounted at center hub height.
- **No taller than 6 inches top to bottom, 0.95 thickness, 1 1/2" diameter**
- **Top and bottom bars of front bumper must be parallel, may have one diagonal reinforcement bar.**

REAR BUMPER

- Any type bumper will be allowed as long as it is at least three inches (3") in height.
- No longer than seventy inches (70").
- Each end must be capped.
- No bolt heads on outside of bumper.
- The center of the rear bumper must be mounted at center hub height.

CORNER BARS

- Both bars should cover area of twelve (12) and eighteen (18) inches from the ground, and be bolted to the inside of the rear bumper.
- Must not exceed more than two inches (2") of outside tires.

SIDE BARS

- Will not be tied into chassis in more than six (6) places.
- Bottom bar should be near center line of rear axle and front spindle.
- The topside bar must attach to main roll bar and extend to the forward point of bottom bar.
- Must not exceed more than two inches (2") of outside tires.

STEEL TUBING SIZES FOR BUMPERS

- Bars will be no smaller than one and one quarter inches (1 1/4") or larger than one and three quarter inches (1 3/4") of steel tubing.
- Steel tubing thickness will not be less than .083 inches or greater than .095 inches.

ENGINE

CRATE ENGINE 350/350 88958602

The only approved Crate Motor replacement parts are listed below. All other parts must be GM 602 Crate Motor parts.

Rod replacement option Eagle sir 5700bplw
Scat rod replacement option sca 25700p
Pistons p101azusa – std – 20 over
Silvolite 3470hc – std – 20 over
Sealed power h815dcp – std – 20 over

All engines will be subject to post race tear down and inspection upon request of the track officials. Failure to comply will result in immediate disqualification from the race event. In such case the competitor be only permitted to return to competition once the motor in question has been torn down and properly inspected. In addition any violation of these rules will result in an immediate 4 week loss of handicap.

Engines must remain stock as delivered from the manufacturer, no changes.

In the interest of keeping the competitive environment level, effective immediately all sealed crate motors will be required to meet the following specifications:

It is highly recommended that anyone participating in this division obtain a copy of the GM **Circle Track Crate Engine Technical Manual** to become familiar with the parts and procedures that will be allowed when working on this engine. GM part #88958668.

For any part numbers or dimensions not specifically covered in these rules please refer to the above mentioned GM **Circle Track Crate Engine Technical Manual**.

COATINGS

- No coatings of any kind will be allowed.

BLOCK

- Pistons can not be installed 180 degrees from stock orientation. *Front slot can not be installed toward the rear.*
- **Blocks must not be more than 4.020, .20 over stock**
- Block deck height can not be milled more then .005 inches less then stock. 9.020 minimum.
- No deburring or smoothing of the block.
- OEM oil pump only. No shimming of the relief spring.
- OEM timing chain and gears only.
- Pan rail must maintain stock dimensions.
- TWO COMPRESSION AND ONE OIL RING MANDATORY
- Standard tension mandatory.
- **MOTORS CAN NOT SMOKE. IF SMOKE IS PRESENT, CAR CAN NOT RACE. THIS RULE WILL BE STRICTLY ENFORCED.**

If your car smokes, you will get 1 week to fix it for the next race. If you do not fix it you will be parked. Every time after your first warning, if your car smokes you will be parked.

- Top compression ring 1.5 mm, no shims.
Second compression ring 1.5 mm, no shims.
Oil ring 3 piece 3.0 mm, no shims.

HEAD AND VALVES

- Compression ratio can not exceed 9.3 to 1 on any individual cylinder. No margin allowed. Cylinders will not be averaged.
- Cylinder head chamber volume must be 64 cc +/- 1cc.
- Intake ports can not be ported
- Exhaust ports can not be ported.
- No deburring or smoothing of the cylinder head.
- Valve spring pressure must be 80-85 pounds.
- A maximum valve spring shim thickness of .030 will be allowed.
- No valve guide sleeves.
- OEM valve and seat dimensions must be retained.
- Intake valve must have a minimum seat width of .045 inches.
- Exhaust valve must have a minimum seat width of .060 inches.
- Cylinder head gasket surfaces may not be milled more than .005 inches.
- OEM retainers and locks must be used.

CAMSHAFT AND LIFTERS

- Camshaft can not be advanced or retarded from the stock position.
- OEM hydraulic lifters only. Lifters can not be shimmed. Lifter travel must be .080 inches or greater.
- Lift duration and overlap will be checked.
- Advance or retard of camshaft will be checked.

HEADERS

- 1 5/8 TO 1 3/4 ONLY –Step Headers O.K. NO Tri-Headers, Stainless Headers, or Coated Headers. Three (3) inch maximum diameter standard collectors.
 - NO EXHAUST WRAP, NO MERGE COLLECTORS.
 - 4 INTO 1 ONLY, COLLECTOR DIAMETER SAME SIZE BEGINNING TO END. LENGTH OPTIONAL.
 - NO PYRAMIDS, CONES, PLATES OR DEVICES BETWEEN THE 4 PIPES INSIDE THE COLLECTORS
 - **No crank case evacuation systems.**

INTAKE MANIFOLD

- Can not be ported or altered in any way. Box stock.

CARBURETOR

- 650 H.P. CARB HOLLY – Part #80541-1
- Must maintain stock dimensions.
- One inch (1") spacer maximum
- #75 maximum jet size
- No Billet carburetor and or parts
- No jet extensions.

AIR CLEANER

- Any paper filter, minimum 2' high.
- No K & N air filter type assemblies

HOOD

- Hood must be on the car at all times. Any car without a hood for any reason will not be allowed on the race track due to safety concerns.

ENGINE LOCATION

- The engine location must be approved by WSS officials.
- The engine must be mounted between the front rails in front of the driver.
- The center line of the crankshaft when measured to the center of the lower ball joint, left, and right must be within two inches in distance.
- The engine must not be tilted.

ENGINE GROUND CLEARANCE

- The engine ground clearance will be measured (with the driver in the car) at the oil pan.
- A minimum height of two inches from the bottom of the oil pan to the ground must be maintained at all times.

OIL PAN

- Canton Oil Pan – Part #11-102T.
- This is the **only** oil pan option available.
 - NO other oil pans may be used and **MUST BE SEALED BY THE TRACK.**

ALTERNATOR

- The alternator system, if used, must be mounted on the front of the engine.

STARTER

- The starter must be in stock location.

BATTERY

- ONLY 12 Volt Batteries may be used.
- The battery must be located between the frame rails.
- The battery must be located under the hood or floor of the car and be properly covered.
- The battery location must be suitable to WSS officials.

DISTRIBUTOR

- All distributors that came with the engine must be used as supplied and all parts MUST be OEM Stock parts.
- Summit #850001R, Jessel #555-40002, or Speedway Motors # 910-12342 will be acceptable alternatives for the OEM distributor.
- Vacuum advance may be removed.
- Stock type module.
- Mechanical advance may be welded in place.

ELECTRICAL SWITCHES

- All electrical switches must be located on the dash panel or to the right of the driver and visible except the auxiliary ignition on/off button.
- An auxiliary on/off button that will disconnect power to the ignition system must be mounted on the steering wheel within reach of the driver.
- The auxiliary switch must shut off the engine immediately when depressed and the engine must not restart until the button is depressed again.
- A labeled on/off rotary type master switch must be mounted within reach of the driver.
- The switch must be wired to the battery cable in a manner that will cut off all electrical power in the car.

ENGINE COOLING SYSTEM

- The engine cooling system and components must be acceptable to WSS officials.

WATER PUMP

- Only aluminum or cast iron mechanical water pumps in the stock location, turning the same direction of crankshaft rotation will be permitted.
- Coolant flow must be the same direction as the production engine.

FAN

- A standard engine drive fan with a minimum of four blades may be used. Free spin or clutch fans will not be permitted.
- Electric cooling fans will be permitted in place of a standard steel fan on the back side of the radiator only.

- The installation, type, and location of the fan must be acceptable to WSS officials.

DRIVE TRAIN

The drive train systems and components must be acceptable to WSS officials and meet the following minimum requirements:

CLUTCHES AND BELL HOUSING

- Stock single disc clutch only.
- Bell housing must have opening for visual inspection.
- Bell housing must be magnetic steel only.
- O.E.M. steel pressure plate required ten-inch (10") minimum diameter clutch and pressure plate with full face only.
- Pressure plate, flywheel and disk must weigh at least thirty pounds (30 lbs.).
- Steel Flywheels ONLY. NO ALUMINUM allowed.

TRANSMISSION

The transmission must be acceptable to WSS officials and meet the following requirements:

- Only standard production OEM type Muncie or T-10 manual for speed transmissions will be permitted. No Jericho Transmissions permitted.
- High gear Must be 1:1 ratio.
- Only aluminum or cast iron transmission housings will be permitted.
- All transmissions must have the input shaft and its main gear constantly engaged. The assembly must be constantly engaged with the countershaft and its cluster and reverse gears.
- A minimum of two forward and one reverse gear must be in working order.
- Only manual shift linkage will be permitted on the transmission.
- Only fire resistant type shifter boots secured with fasteners will be permitted.
- No straight cut gears.
- No dog type syncros.
- OEM ratios.

DRIVE SHAFT

The driveshaft must be acceptable to WSS officials and meet the following requirements:

- The drive shaft, universal joints, and yokes must be magnetic steel and be similar in design to the standard production type. Only a one piece magnetic steel drive shaft, painted white, will be permitted.
- Two 360 degree solid magnetic steel brackets, without holes or slots, not less than two inches wide and 1/4 inch thick, must be placed around the drive shaft and torque arm and be welded or fastened to the cross member of the car.

REAR AXLE

The rear axle must be acceptable to WSS officials and meet the following requirements:

- Quick change rears must use a minimum 8 3/8 inch ring gear.
- **NO** Titanium axles allowed.
- Locked spool only. NO differentials, lockers, etc.
- Only aluminum or magnesium quick change rear ends with backside cover only. The quick change rear end must have magnetic steel spur gears on the backside, jack shafts and axle tubes will be permitted.
- Only magnetic steel axles and axle housings will be permitted.
- Quick change rears with backside cover only.
- A rear gear ratio between 5:10 and **5:28** will be the only gear ratios allowed.

WHEELS AND LUG BOLTS

The wheels must be acceptable to WSS officials and meet the following requirements:

- *Only 10 inch diameter* five lug reinforced magnetic steel wheels permitted. Wheel size 15" in diameter maximum, 10" width maximum.
- Any offset will be permitted.
- Only solid one piece, heavy duty, 5/8 inch hex lug nuts will be permitted.
- Bead locks will not be permitted.
- Bleeder valves will **not** be permitted.

TIRES

- Wheel width maximum 84" (inches) at bead, at zero toe, at spindle.
- Hoosier 1057 tires purchased **FROM THE TRACK** will be the only acceptable tires.
- Tire Bank rules: 2 tires per week once tire bank is established. See "Tire Rules" posted separately.
- Only Banked Tires must be used for the feature.
- The tire bank belongs to the driver, not the car.
- Tires that, by judgment of WSS officials, have been altered by unauthorized treatment will **not** be permitted and confiscated.

FRAME REQUIREMENTS

- A minimum ground clearance of two inches with the driver must be maintained on any part of the frame.
- All frame components must be made of steel and welded.
- The side rails must be magnetic steel box tubing a minimum of two inches in width by three inches in height and a maximum of three inches by four inches and must have a minimum wall thickness of not less than 1/8 inch.
- The distance from the center line of the drive line to the left side frame rail, measured anywhere along the frame, must be within six inches (eight inches on 1989 and newer models with the frame rail and rail cage extension) of the distance from the center line of the drive line to the right frame rail.

- A minimum width of 34 inches and a maximum 46 inches, measured from the center of the left frame rail to the center of the right frame rail, must be maintained in the driver's compartment.
- The fuel cell reinforcement bar, using a minimum 1 ½ inches seamless magnetic steel tubing, must be installed behind the fuel cell.
- This reinforcement bar must be as wide as the fuel cell and as low to the ground as the fuel cell with a minimum of two uprights from the reinforcement bar to the rear frame cross member, evenly spaced behind the fuel cell.
- An X cross member made of one inch magnetic steel tubing must be installed beneath the fuel cell from corner to corner.
- The X cross member must be welded or bolted to the rear frame rails in a secure manner.
- Two additional support bars, one at each corner of the reinforcement bar, must extend forward and be welded to the rear frame assembly.
- The front sub-frame assembly must be constructed using two inches wide and three inches high magnetic steel tubing a minimum .083 thick.
- A minimum of 27 inches and a maximum of 32 inches, measured from the center of the left frame rail to the center of the right frame rail, must be maintained from the mounting point of the upper A frames forward.
- All sub-frame assembly support bracing must be a minimum .090 inch thick by 1 ¾ inches round magnetic steel tubing.
- The front sub frame bars, left and right, must extend from the roll cage to the sub frame and must have a downward radius bent into the bars before they are welded to the sub-frame.
- The left and right front sub-frame bars must not have any additional braces added between the front roll bar legs and where they attach to the front sub-frame assembly.
- Any frame rejected by WSS officials will not be permitted to compete.
- The rear sub-frame assembly must be constructed using two inches wide and three inches high magnetic steel tubing a minimum .083 inch thick.
- A minimum width of 31 inches and a maximum of 46 inches, measured from the center of the left frame rail to the center of the right frame rail, must be maintained on the rear sub-frame assembly with the exception for suspension and tire clearance.
- All rear sub-frame assemblies must maintain a minimum angle of 18 degrees from the rear axle housing up to the top of the sub-frame rail assembly.

ROLL BARS

- Unless otherwise specified, all roll bars must be made from round magnetic steel seamless tubing 1 ¾ inches by .090 inch thick minimum.
- The roll cage must meet the approval of WSS officials and meet the following minimum requirements:
 - Front and rear hoops should not be angled more than 20 degrees rearward.
 - At least four bars on the left side and three bars on the right side of the roll cage.

- All roll cages must have these bars as listed:
 - Main roll bar
 - Two front roll bars
 - Roof bar
 - Center line roll bar
 - Diagonal main roll bar
 - Dashboard bar
 - Right and left door bars
 - Left side driver head bar
 - Vent bars
 - Rear down bars
 - Front down bars
 - Center windshield bar
 - Vertical support bars
- Vertical support bar must turn down and be welded at the front sub frame.
- All roll bars must be welded and gusseted.
- All roll bars, within the driver's reach, must be padded.
- **A minimum clearance of three inches between the top of the roll cage and the top of the driver's helmet must be maintained.**

These are the general guidelines for all cars that compete in this division. If these rules do not clearly say that something is legal assume that it is not permitted.

If any titanium or carbon fiber part is found on the car, the driver and car owner will be suspended for the remainder of the season.

Anytime parts are changed or there is a problem you must notify an official before making any changes.

NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS. RULES SUBJECT TO CHANGE AT ANY TIME.

****** OVERLY COMPETITIVE CARS ARE SUBJECT TO INSPECTION.**

SWAY BARS

- Only magnetic steel front sway bars will be permitted.
- Rear sway bars will **not** be permitted.
- No driver adjustable sway bars permitted.

SHOCK ABSORBERS

- No Valving/No extra resolution shocks allowed
- Coil over shock absorbers maybe used.
- ~~Any Steering Box allowed.~~
- **NO** Nitrogen filled shocks permitted.
- **NO** adjustable shocks permitted.
- **NO** shradar valves permitted on the shocks.

- **NO** external reservoir shocks permitted.
- **NO shock that the shaft extends by pressure.**
- **Maximum racer net per shock \$225.00**

SPINDLES and WHEEL BEARINGS

The spindle, wheel bearings and hub must be acceptable to WSS officials and meet the following minimum requirements:

- Heavy duty magnetic steel spindles must be used.
- Single front spindle tether is **mandatory**
- Wheel bearings must be magnetic steel, tapered roller bearings and bearing races.
- No ceramic coated bearings, tapered roller bearings and bearing races.
- The bearings, races, and seals must be assembled separately in the hubs.
- Aluminum or magnetic steel hubs will be permitted.

HUBS

- Safety racing hubs with racing five-eighths inch (5/8") studs.
- No ultra lightweight hubs, \$265 racer maximum net cost.
- No oil fill capable hubs.
- Wheel bearing grease only.
- A single spindle tethers **MANDATORY** on left and right front wheels.

STEERING COMPONENTS

The car steering components must be acceptable to WSS officials and meet the following minimum requirements:

- Rack and pinion steering will be permitted.
- All cars must be equipped with a magnetic steel steering shaft.
- The center top of the steering past must be padded with at least two inches of resilient material acceptable to WSS officials.
- A quick-release steering wheel coupling with magnetic steel housing acceptable to WSS officials must be used.
- Only metal steering wheels will be permitted.
- The power steering pump must be mounted and driven off the front of the engine.

BRAKE SYSTEM

- The car braking system and components must be acceptable to WSS officials and meet the following minimum requirements. Holes and/or other modifications in the braking system or components that, in the judgment of WSS officials, have been made with the intent of weight reduction will **not** be permitted.

- Four wheel disc brakes must be used. Only magnetic cast iron or cast steel round rotors will be permitted.
- Brakes must be operational on all four wheels at all times.
- Inboard brakes will **not** be permitted.
- Electronic wheel speed sensors or brake actuators will **not** be permitted.
- Power assisted braking systems will not be permitted.
Only one brake caliper per wheel using only two brake pads per caliper will be permitted.
- Only a single brake bias system which connects to the balance bar of the brake pedal assembly will be permitted. In line brake proportioning systems will **not** be permitted.
- NO titanium rotors.
- No radial mount calipers.

GAS AND LINKAGE

- Must have return tab for foot on gas pedal.
- Three minimum return springs on linkage. One must be in opposing direction.

FUEL

- Only race fuel allowed will be 100% Sunoco Purple. Fuel must be purchased at the track from the authorized fuel distributor-Kelly Race Fuels.
- Receipts must be produced upon request from track officials.
- The only blended fuel allowed will be a mixture of 50% pump gas and 50% Sunoco Purple. Receipts for Sunoco Purple must be produced upon request from track officials.

FUEL SYSTEM

- WSS officials will not permit the use of any previously approved fuel cells, containers, or check valves that appear to be damaged, defective or do not function properly.
- Pressure systems will not be permitted.
- Any concealed pressure type containers, feed lines or actuating mechanism will not be permitted, even if inoperable.
- Icing, Freon type chemicals, or refrigerants must not be used in or near the fuel system.

FUEL CELLS

- Fuel cell bladders must be approved by WSS officials.
- Maximum capacity is 22 gallons.
- Fuel cell must have operational check valves.
- Fuel cells must not be used beyond five years after the date of manufacturer.

FUEL CELL CONTAINER

The fuel cell container must be acceptable to WSS officials and meet the following minimum requirements:

- The fuel cell must be encased in a container of not less than 22 gage magnetic sheet steel.
- Interior sheet metal must allow access to the top of the fuel cell for inspection.
- The fuel cell and fuel cell container must be installed as far forward as possible in the trunk compartment behind the rear axle and maintain a minimum ground clearance of six inches.
- Four, ¼ inch by 1 inch width steel straps, must be mounted two lengthwise and two cross wire on the top of the fuel cell container as close to the fuel filler housing as possible.
- Three ¼ inches by one inch steel straps must go entirely around the fuel cell.

FUEL LINES AND FUEL PUMP

- Electrical devices or electrical connections will not be permitted on the fuel cell, fuel lines, or between the rear of the carburetor fuel line assembly.
- The fuel lines and fuel line connectors must be acceptable to WSS officials and meet the following minimum requirements:
 - Only one fuel line will be permitted from the fuel cell to the fuel pump.
 - A fuel shut off valve, which is easily accessible within the driver's compartment, must be used.
 - The shut off valve must be clearly visible and labeled.
 - Electric fuel pumps will **not** be permitted.