



2016 Traditional Sprint Specifications

Engine Specifications

There are three engines that are legal in this series. All engines are subject to pumping, whistling, and/or tear down by officials at any time.

“B” Mod Engine

1. Block

- A. Any Chevrolet 305, 307, 327, or 350 CI stock iron block that was available in a passenger car or truck. Max overbore - .060”
- B. Any Ford 302 or 351 Windsor stock iron block that was available in a passenger car or truck. Max overbore - .060” No Cleveland, M, or Clevor engines allowed.
- C. Any Chrysler 318, 340, or 360 CI stock iron block that was available in a passenger car or truck. Max overbore – 318 and 360 - .040”. 340 - .060”
- D. No interchange of crankshafts or rods to blocks allowed.
- E. Absolutely no lightening of any kind is allowed. All mounts must remain, fuel pump, motor etc.
- F. Factory 2 or 4 bolt main blocks ONLY (can NOT alter a 2 bolt block to a 4 bolt block). No splayed caps.

2. Crankshaft

- A. Any stock GM production crankshaft allowed.
- B. The following Scat 9000 Series crankshafts are allowed:
 - a. Chevrolet 350 - Scat (Part # 9-10442)
 - b. Ford 351 - Scat (Part # 9-351-3500-5955-2311)
 - c. Chrysler 340,360 - Scat (Part #s 9-340-3580-6123, 9-360-3580-6123)
- C. The following Eagle OEM replacement crankshafts are allowed:
 - a. 103503480
 - b. 102503480CM
 - c. 103523480
- D. The crankshaft stroke must match the block.
- E. No lightening, counterweight knife edging, or counterweight polishing allowed. Balancing is allowed.
- F. Crankshaft flange may be machined to fit rear motor plate and torque ball housing.

Any crankshaft or connecting rod with a part number superseded by the manufacturer is legal as long as the crankshaft or connecting rod with a superseded part number has the same specifications as the legal crankshaft or connecting rod.

3. Connecting Rods

- A. Any stock steel production connecting rod, Scat OEM replacement I-Beam (must say Scat 5.7), Eagle OEM I-Beam PN SIR5700BBLW, or Eagle OEM I-Beam PN SIR5700BPLW is allowed
- B. Chevrolet 5.7" length powdered metal connecting rods are allowed.
- C. The connecting rod length must match the block.
- D. No grinding or polishing allowed. Connecting rod balance pads may be machined to balance rotating and reciprocating mass. One big end and one small end balance pad must remain stock.
- E. No cap screws allowed except on designated Eagle OEM rod. Max 3/8" bolts.

4. Pistons

- A. Any forged, cast, or hypereutectic aluminum piston is allowed.
- B. Engines must not exceed 9.5 to 1 compression ratio. No exceptions!

5. Camshaft

- A. Camshafts and lifters must be hydraulic.
- B. Lifters must collapse a minimum of .100".
- C. Only lifters of engine make can be used.
- D. Lifters must rotate freely and be of magnetic material.
- E. The camshaft must be driven by a timing chain. No belt or gear drives are allowed.
- F. The Camshaft may be drilled for a rear spud.

6. Cylinder Heads

- A. The cylinder head must be a stock cast iron production head. No aftermarket heads are allowed.
- B. Chevrolet 1987-1995 Swirl Port heads are allowed.
- C. Ford 302 GTP heads are allowed for both the 302 & 351W.
- D. No Vortex, Bowtie, SVO, W-2, Magnum, Gen II, or angle plug heads are allowed.
- E. The following Chevrolet casting numbers are not allowed: 040, 041, 186, 187, 291, 370, 414, 432, 461, 461X, 462, 492, 10125320, 10208890, 10239906, 12554290, 14011083, or 14096217.
- F. Porting or polishing of any kind is not allowed.
- G. Angle milled cylinder heads are not allowed.
- H. Carbide cutter relief cuts are allowed below the valve seat, but are not to exceed more than ¼ inch below the top of the valve seat. A small deviation in this specification is allowed due to manufacturing variations in the area below the valve seat area.
- I. Valve springs must be the same diameter of a stock production spring. Tapered or Beehive valve springs are not allowed.
- J. Steel stock type stamped rocker arms only. Roller or roller tipped rocker arms are not allowed.
- K. Stud girdles are not allowed.

7. Intake Manifolds

- A. The following intake manifolds are the only intakes allowed.
 - a. Chevrolet - Weiand (Part# 7546, 7467, or 7547-1).
 - b. Ford – Weiand (Part # 7515, 8023), Professional Products (Part # 54033).
 - c. Chrysler - Weiand (Part# 7545).
- B. Any Midwest Modified spacer is legal.
- C. Porting, polishing, or gasket matching of any kind on an intake manifold is not allowed.
- D. The bottom of the carburetor may be no more than 1-3/8 inches from top of the intake manifold.

8. Oiling System

- A. Wet sump only. The oil pump must be in the oil pan.
- B. A 3/4 inch inspection hole (1 inch highly recommended), must be installed in the side of the oil pan 2 ½ inches down from the pan rail and in line with a journal. Removal of the oil pan may be required if further inspection is necessary.

9. Ignition, Starter & Electronics

- A. All battery-powered ignitions and magnetos are allowed, except where noted. A magneto is highly recommended. External coils are allowed.
- B. No MSD type magnetos are allowed.
- C. Aftermarket crank triggers are not allowed.
- D. Cars must have a clearly marked ON/OFF switch within reach of the driver and visible to officials.
- E. Only one 12V dry cell battery is allowed. The battery must be securely hard mounted and shielded.
- F. An on board starter is allowed.
- G. No electronic monitoring devices capable of storing or transmitting information is allowed, except for a memory tachometer.
- H. No electronic traction control devices are allowed.
- I. Beginning with the 2020 season, all engines are required to use a stock firing order.

10. Exhaust

- A. Any sprint car type header is allowed, except where noted.
- B. One collector per side. Slip, merge or tri-y type headers are not allowed. Mufflers are optional.
- C. Race cars may be required to have a muffler if local track rules require mufflers.
- D. Schoenfeld part number 112535 (11") are mandatory for all tracks that require the use of a muffler.

11. Water Pump & Radiator

- A. Any stock type water pump is allowed.
- B. The radiator must be mounted in front of the engine.

12. Carburetor

- A. A minimum of two (2) return springs must be connected to the throttle.
- B. The throttle pedal must have a toe strap.
- C. A Holley #4412 series 500 CFM 2 bbl carburetor is the only carburetor allowed.
- D. The carburetor may be modified for use with alcohol, but the main body and main body base must remain stock.
- E. Aftermarket metering blocks are allowed.
- F. Aftermarket carburetor main bodies are not allowed.
- G. The choke tower may be removed
- H. A UMSS/NR go/no-go gauge will be used to determine carburetor legality.

13. Fuel

- A. Racing alcohol is the only fuel allowed. The use of gasoline is strictly forbidden.
- B. No nitro or nitrous oxide is allowed.
- C. No oxygenated fuel additives are allowed. Fuel is subject to inspection at any time.

14. Fuel Pump

- A. Mechanical, belt driven, and cam driven fuel pumps are allowed. A cam driven fuel pump is recommended.
- B. Electric fuel pumps are not allowed.

5.3L LS engine

1. Block

- A. Factory production iron blocks are the only blocks allowed. Aluminum blocks are not allowed. Aftermarket and bow-tie blocks are not allowed.
- B. Only industry standard reconditioning of the factory production iron block is allowed.
- C. Boring, honing, line honing deck resurfacing, and lifter bore repair is allowed.
- D. The cylinder bores may be resized a maximum of .060" over stock.
- E. Absolutely no lightening of any kind. All mounts must remain. Grinding or defacing of any factory numbers or markings of any kind is not allowed.
- F. Oversized and roller cam bearings are not allowed.

2. Crankshaft

- A. A stock OEM Chevy crankshaft with a stroke length of 3.622" is the only crankshaft allowed.
- B. No lightening, counterweight knife edging, or counterweight polishing is allowed. Balancing is allowed.
- C. Crankshaft flange may be machined to fit rear motor plate and torque ball housing.
- D. 24 and 58 tooth reluctor wheels are allowed. Make sure your MSD box is the correct one for your reluctor wheel before ordering.

3. Connecting Rods

- A. Chevrolet OEM powdered metal connecting rods with a 6.098" center to center length are the only connecting rods allowed.
- B. Connecting rod bolts may be replaced. Small ends may be bushed and fitted for floating pins. Big ends may be resized to factory specs.
- C. No deburring or polishing is allowed. Connecting rod balance pads may be machined to balance rotating and reciprocating mass. One big end and one small end balance pad must remain stock.

4. Pistons

- A. Any forged, cast, or hypereutectic aluminum piston is allowed.
- B. Engines must not exceed 9.5:1 compression. No exceptions!

5. Cam/Lifters

- A. Only stock GM part number lifters are allowed as a replacement.
- B. Stock or stock style replacement rocker arms only. Roller tip rockers are not allowed.
- C. Rocker arm trunnions may be upgraded to allow more lift if needed. No other rocker arm modifications are allowed.
- D. The push rods must be stock or 5/16" stock replacement style push rods.
- E. The maximum allowable lift at the valve is .600".
- G. The camshaft may be drilled for a rear spud

6. Cylinder Heads

- A. Factory aluminum cylinder heads only. The casting number must end in 862 or 706. All other cylinder heads are illegal.
- B. Only industry standard head reconditioning is allowed. Valves may be replaced, but the replacement valves must have a stock stem diameter, stock length, and a stock head diameter (1.89" intake, 1.55" exhaust). Seats and guides may be replaced.

- C. Carbide cutter relief cuts are allowed below the valve seat, but are not to exceed more than ¼ inch below the top of the valve seat. A small deviation in this specification is allowed due to manufacturing variations in the area below the valve seat area.
- D. Angle milling of the head, intake, or exhaust surfaces is not allowed.
- D. No porting, grinding or polishing of any kind is allowed.
- E. A stock style single Beehive valve spring is the only valve spring allowed.

7. Intake Manifolds

- A. All 5.3 LS engines must use the Edelbrock Victor Jr. part number 29087 intake. It is the ONLY intake allowed.
- B. No modifications to the intake manifold is allowed.
- C. No porting, polishing, or grinding of any kind is allowed.
- D. The bottom of carburetor may be no more than 1-3/8 inches from top of manifold.

8. Oiling System

- A. Wet sump only. The oil pump must be in oil pan.
- B. A 3/4 inch inspection hole (1 inch highly recommended), must be installed in the side of the oil pan 2 ½ inches down from the pan rail and in line with a journal. Removal of the oil pan may be required if further inspection is necessary.

9. Ignition

- A. The MSD #6010 and MSD #6014 ignition controllers are the ONLY controllers allowed.
- B. Stock or stock replacement coil packs are allowed.
- C. No performance coil packs are allowed (i.e., Accel, MSD, etc.).
- D. At this time, no rev limit restrictions will be imposed, but UMSS reserves the right to change this in order to ensure engine parity.
- E. The firing order must remain stock.

10. Exhaust

- A. Any sprint car type header is allowed, except where noted.
- B. One collector per side. Slip, merge or tri-y type headers are not allowed. Mufflers are optional.
- C. Race cars may be required to have a muffler if local track rules require mufflers.
- D. Schoenfeld part number 112535 (11") are mandatory for all tracks that require the use of a muffler.

11. Water Pump & Radiator

- A. Any stock type water pump is allowed.
- B. The radiator must be mounted in front of the engine.

12. Carburetor

- A. A minimum of two (2) return springs must be connected to the throttle.
- B. The throttle pedal must have a toe strap.
- C. A Holley #4412 series 500 CFM 2 bbl carburetor is the only carburetor allowed.
- D. The carburetor may be modified for use with alcohol, but the main body and main body base must remain stock.
- E. Aftermarket metering blocks are allowed.
- F. Aftermarket carburetor main bodies are not allowed.
- G. The choke tower may be removed
- H. A UMSS/NR go/no-go gauge will be used to determine carburetor legality.

13. Fuel

- A. Racing alcohol is the only fuel allowed. The use of gasoline is strictly forbidden.
- B. No nitro or nitrous oxide is allowed.
- C. No oxygenated fuel additives are allowed. Fuel is subject to inspection at any time.

14. Fuel Pump

- A. Mechanical, belt driven, and cam driven fuel pumps are allowed. A cam driven fuel pump is recommended.
- B. Electric fuel pumps are not allowed.

GM 602 Sealed Engine

A sealed GM 602 engine is legal. See the UMSS Technical Director, David L. Anderson, for guidance on competing with the GM 602.

UMSS Engine Sealing Program (This does not apply to Renegade Series until 2021 but is required for UMSS competition)

Upon a driver's request, the UMSS will supply three seals, a certificate that must be completed, signed, and given back to the UMSS, and documentation on how to install the seals. All seals must be correctly installed, and a signed and completed certificate must be turned into the UMSS before competing with the UMSS.

By sealing your engine, you are certifying that your engine is legal and conforms to UMSS rules. If, at any time during the season, your engine needs work and a seal is cut, you must have new seals installed before you will be allowed to compete.

Engines will be randomly inspected for legality during the season. If an engine is inspected at the track, it will be done at no cost to the driver. If a driver prefers to have his/her engine inspected at a shop of the driver's choosing, a tech fee will be imposed. If a sealed engine is found to be nonconforming, the driver will be disqualified for one year, fined \$2,500, and must return all prize money earned during the current season.

Contact David L. Anderson at anderson@sherbte.net if you have any questions, or to order a seal package.

UMSS Dyno Rule

At the discretion of the UMSS/NR President, Race Director or Head Technical Official, any team may be required to dyno their engine at R&R Performance or Perfect Performance. The dyno session will be at the team's expense and must be completed within two weeks of the request.

Car Construction & Chassis Specifications

1. Chassis

- A. Open to any sprint car chassis 1994 to present.
- B. 4130 chrome-moly, tig welded steel frame (1 ½ inch diameter by .095 minimum tube thickness on main frame and cage) only.

- C. Wheelbase: Minimum – 84 inches. Maximum – 96 inches.
- D. No hollow or drilled bolts, fasteners or Heim joints allowed.

2. Body

- A. Conventional sprint car body only. Must be well maintained.
- B. Must have at least one number of contrasting colors on each side of tail tank and on the front nosepiece. Minimum of 15" tall.
- C. Hood can be a multiple piece design and must appear to be one continuous piece.
- D. Conventional side panels only. No bodywork may extend beyond the frame more than 2" in any direction and must be symmetrical.
- E. No aerodynamic devices or wings allowed.
- F. Sun visors are limited to nine (9) inches long and cannot be wider than the cage.
- G. Solid metal firewall required between the engine and the driver.
- H. Solid metal floor pan must extend from the firewall to the front of the driver's seat.

3. Suspension & Steering

- A. All shocks must be constructed of aluminum or steel. No cockpit adjustable shocks or other suspension components allowed. No remote or external canister type shocks allowed. One shock per wheel. May be rebound or compression adjustable on the shock only. No double adjustable shocks allowed. Gas shocks, single adjustable, or nonadjustable are allowed.
- B. Any conventional torsion bar or coil-over suspension is allowed. Combining the two is allowed. No anti sway or zero-roll devices allowed.
- C. Steel straight front axle only. 53" max width.
- D. Front axle tethers are required. The only tethers allowed are
 - a C&R part number 940-10222, available at Speedway Motors
 - b Butler built part number 4922-B-238 single or 4922-A-238 double
- E. A quick release steering wheel is mandatory.
- F. The drag link must be tethered to the frame with nylon webbing of at least 1 inch width.

4. Driveline

- A. Quick-change center sections required.
- B. All drivelines must be broken in the coupler or rear slider.
- C. Driveline must be fully enclosed and contain no more than one U-joint or CV joint and that joint must be at the front of the driveline. No torque arm drivelines allowed. D. Buckley Yokes are allowed.
- E. Driveline safety strap or driveline hoop restraint constructed of .065" steel either welded or bolted to the chassis is mandatory.
- F. Steel or approved aluminum shield covering the flywheel is mandatory when bell housing is inside the cockpit.

5. Rear-End

- A. Any conventional quick change rear-end is allowed.
- B. Maximum 2" offset allowed.

6. Brakes

- A. Must have minimum left front and left inboard rear brake system. All brakes must work at the start of the event. Rear brakes must work at all times. Additional rear brake allowed.
- B. Carbon fiber rotors are not allowed.
- C. No copper or plastic brake lines are allowed.

7. Bumpers

- A. Bumpers and nerf bars must be sprint car type bars, constructed of no less than 1" O.D. and .060" wall thickness, and securely bolted to the chassis with minimum ¼" bolts.
- B. Side nerf bars may have a triangular or 4 point configuration and cannot extend outside rear tires.
- C. The front bumper cannot extend more than 8 inches from the frame or 23 ½ inches from center of front axle to front of front bumper.

8. Wheels

- A. Maximum wheel width: Front 10", Left Rear 15", Right Rear 18".
- B. Bead locks on all wheels are recommended.
- C. Electronic tire bleeders are not allowed

9. Tires

- A. Right Rear: Hoosier Medium. Right rear tire can only be used on right rear of car.
- B. RENEGADE SERIES ONLY- Any Hoosier tire allowed if it is USED. Any car competing with a new RR will only receive start money regardless of finishing spot. This applies to RR only.
- C. Left Rear: Hoosier RC1, Hoosier H12, or Hoosier SC12-98. Left rear tire can only be used on left rear of car. C. Fronts: Any Hoosier.
- D. *WARNING: DO NOT ALTER TIRES* Chemical Treatment of Tires: Hoosier Racing Tire and the UMSS/NR strictly forbids any chemical alteration of the tire carcass and/or tread compound such as tire "soaking" or use of tread "softener." Hoosier Racing Tire and the UMSS/NR strictly forbids the physical defacement (removal, altering or covering) of tire sidewall markings in any manner. Failure to comply with this warning could result in premature or catastrophic tire failure and may result in SERIOUS PERSONAL INJURY OR DEATH.
- E. Absolutely no chemical of any kind may be applied to a tire. This includes tire cleaner. The UMSS/NR reserves the right to confiscate and test any tire at any time. Tires may be tested on a random basis. If your tire is confiscated, your check will be withheld until after testing. Tires may be tested on a random basis at UMSS/NR expense unless the tire is found illegal. UMSS/NR will not reimburse teams for the tire. If found illegal, the team will have all points to that point taken away, penalized \$2,500 and banned for 365 days.
- F. Electronic tire bleeders are not allowed.

10. Weight

- A. Minimum weight is 1500 lbs., including fully suited driver.
- B. You can be weighed at any time during the event.

- C. Any added weight must be in block form or formed to frame, painted white with the car number stamped on it. No weight can be added, moved, or replaced during yellow or red flag conditions.
- D. UMSS/NR officials reserve the right to disqualify any car whose weight mounting procedure or location does not satisfy our specifications (see illustration below).

