



2019 Season Only

Chevrolet 350 Sportsman/Truck Engine Requirements

2019 NLWS Truck Division Competition and Tech Contacts:

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a) Engine must be OEM cast iron V8 production block with cast iron heads. The only approved engine blocks are the following:

Chevrolet: 350

b) The engine block must retain all OEM specifications with the exception of the cylinder overbore and the surfacing of the block deck. Cylinders may be bored a maximum of 0.040" from the standard size.

c) Stock appearing, aftermarket OEM-type magnetic steel main bearing caps are allowed.

d) No splade caps are allowed.

e) Only stock OEM-type engine bearings will be permitted; no roller cam type bearings.

f) The following cylinder block modifications that are not permitted, including, but not limited to: angle-cutting of the decks, grinding, polishing, painting, or coating any internal surface, offset boring, changing dowel pin size or location, installing offset dowel pins.

g) Only normal OEM-type engine balancing is permitted.

Compression

a) Maximum compression is 9.5 to 1.

b) Compression will be checked with the “Whistler.”

Crankshaft

a) Only stock OEM production crankshafts are allowed. The maximum stroke will be 3.495”. The maximum allowable stroke tolerance will be +/- .015”. Regrinding of the rod and main journals to a maximum of 0.030” under standard size is permitted.

b) Chevrolet must use the large journal crank

i) The following are exceptions

ii) may use the following SCAT Crankshafts or Eagle crankshafts:

(1) SCAT One-Piece: Part #9-10526 or Part #435010L

(2) SCAT Two-piece: Part #9-10442 or #435010

(3) Eagle: Part #435034805700

(4) Eagle Part #435334805700

c) The rod journals may be drilled to obtain the minimum crankshaft weight.

d) No machining or polishing of the crankshaft allowed. Standard engine balancing is the only acceptable modification that can be performed on this component. No painting or Teflon coating.

e) Minimum crankshaft weights are: OEM GM 50 lbs.,

f) Aftermarket crankshafts must weigh the manufacturer’s advertised specification.

Harmonic Balancer

Only a stock OEM or exact replacement will be allowed. Chevrolet engines must use a stock 350 balancer or exact replacement, 6 ¾” or 8” diameter, stock weight.

Pistons & Rods

a) Any flat-top three (3) ring aluminum piston is permitted. All three rings must be magnetic steel. No portion of the piston may protrude above the top of the block. The minimum ring thickness is as follows:

i) Compression Rings: 0.43 inches

ii) Oil Ring Assembly: 3.0 mm

b) Only stock type steel rods will be permitted. All aftermarket connecting rods must be steel sportsman rods with a steel pin. Rod length must be stock. All rods must be the same length.

c) Minimum weight for piston, pin, rings, bearing and rod assembly is 1075 grams.

d) Chevrolet must use 5.7 inch rod.

Oil Pan

a) Stock-appearing, steel, aftermarket oil pans are permitted. The only approved aftermarket oil pans

for Chevrolet are:

i) Moroso Part Numbers: 21804, 21807, 21808

ii) Canton Part Numbers: 11-200, 11-200M, 11-200T.

b) An OEM oil pan may be modified to Moroso or Canton specifications.

Engine Oil Specifications

a) Combustion enhancing oils or additives are not permitted.

b) Oil coolers, remote filters, and accumulators may be used. Components must be mounted securely in the engine compartment.

Cylinder Heads

a) Only OEM-type cast iron cylinder heads will be permitted.

b) Approved Cylinder Heads

i) All factory Chevrolet heads must be factory listed for 70CC's or greater. Chevrolet may use the following OEM-replacement aftermarket heads:

(1) WORLD PRODUCT Stock Replacement Series

(2) Bare Casting (Part #043600B and 043610B)

(3) DART (Part #10024361-165CC Runner 67CC Chamber, Part #10021070-165CC Runner

(4) 72CC Chamber, Part # 10024360-165CC Runner 76CC Chamber)

c) Maximum Valve Size permitted is as follows:

i) Maximum Intake 1.94"

ii) Maximum Exhaust 1.50"

d) Head studs are not allowed on any cylinder heads.

e) All cast lines and insignias must be clearly visible and complete.

f) Angle milling, changing the angle of the head gasket surface in relationship to the rest of the head, is not permitted. Additionally altering the position or angle of the valve guide is not permitted. The addition of screw-in studs, guide plates, valve spring seats, option valve seals, Poly-Locks, or jam devices are permitted. The machining of valve guide bosses allowed is for seals only. Coolant return lines are allowed to be placed on the ends of the heads. The following head modifications are not permitted, including, but not limited to: port matching, flow work, grinding, polishing, beading or chemical (acid) milling. No welding or sectioning. No internal modifications of any kind, including painting or Teflon coating. No more than two-intake mounting holes may have HeliCoils. Intake or exhaust manifold mounting holes may not be added or relocated. Holes must take standard intake manifold bolts.

g) Rocker studs must be in stock OEM location and installed at stock OEM angle for engine being used.

No enlarging or relocating of any bolt holes or dowel pin bores. No offset or oversize dowel pins.

Valves

All valves must be identical in appearance and construction as an OEM type valve. Any valve stem with an undercut of 0.015" or more will not be permitted. Steel valves only.

Valve Springs & Retainers

- a) The valve springs' maximum outside diameter must measure no larger than 1.55"
- b) Double springs are permitted.
- c) Only steel valve spring retainers are allowed.

Valve Job

Multi-angle valve jobs are permitted. When cutting the valve seat angles, no stone or grinding marks are permitted above the bottom of the valve guide. All cutting in reference to the valve job must be centered off the centerline of the valve guide. The maximum angle of cutting and grinding on the bowl side of the intake and exhaust seats is 90 degrees. Upon completion of the valve job, the bowl area under the valve seat down to the bottom of the valve guide must still be the same configuration as far as shape and finish as it was from the manufacturer. Surfaces and/or edges where the cutter or stone has touched must not be polished. No hand grinding or polishing is permitted on any part of the head. No work is permitted to take place in the combustion chamber. It must remain as cast from the manufacturer. No modifying, cutting, spot-facing, or milling valve guide bosses in port bowl area.

Camshaft

- a) Only hydraulic camshafts will be permitted. No roller camshafts or lifters are allowed.
- b) Valve lift regulations are as follows:
 - i) Maximum Intake 0.390"
 - ii) Maximum Exhaust 0.410"
- c) Camshaft lift may be measured at the valve, rocker arm, or directly on the camshaft. It may not exceed the gross valve lift divided by the OEM-listed rocker arm ratio. Tolerance for camshafts will be + 0.005"

Timing Chain

- a) Any timing chain and gears will be allowed. Gear drive or belt drive-type timing chains are not permitted.
- b) Degree buttons and offset crank keys will be allowed.

Lifters

Only stock diameter hydraulic lifters will be permitted. No Rhodes or other variable duration lifters.

Hydraulic lifters must be operative and pass a leak down test. A maximum of two lifter bore sleeves (bushings) will be allowed for block repair.

Rocker Arms & Push Rods

- a) Stock rocker arms and aftermarket roller rockers are allowed. The rocker arms must maintain stock 1.5 to 1 ratio.
- b) Guide plates are allowed.
- c) Stud mounted rocker arms only.
- d) Push rods must be magnetic steel and stock diameter. Length may be + or – 0.100” from stock dimension.

Intake Manifold

Only the latest Edelbrock Performer intake, with the Edelbrock-applied American Flag, allowed. A stock, track-supplied intake, including gaskets, must fit the engine. The intake must remain as manufactured. No alterations, adding bolt holes, painting, or coating of the intake will be permitted.

The approved part numbers are as follows:

Chevrolet Edelbrock 2101. Current production manifold.

Note: New London Waterford Speedbowl, at any time, reserves the right to confiscate a competitor’s intake manifold and require them to compete with a stock manifold provided by the Speedbowl. A failure to comply will result in penalties.

Engine Carburetor Spacer

a) One spacer/adaptor, made of solid material, is allowed. Canton Part #85-065, and Canton Part #85-060, are the only spacer/adaptor permitted on 350 Sportsman/Truck engines.

Maximum height of one (1) inch will be permitted.

b) No wedge shape spacers/adaptors will be allowed. Both the top and bottom surfaces must be parallel.

c) Portholes must be vertical to the top and bottom. No modifications of any kind that direct or redirect air flow or allow additional air into the engine permitted. Only one 0.075” thick gasket per side of the spacer will be allowed. The spacer may not be stepped or undercut.

d) No additional openings for air induction will be allowed.

Air Cleaner/Filter

a) Only a round, dry paper, maximum four (4) inch high air filter element is allowed. The air cleaner top and bottom must be solid metal, measuring 12-14”, matching the size of the air filter being used.

The central hole in the air cleaner base may not have a lip of more than one (1) inch, as produced by the manufacturer. Engines using Holley 4412 carburetors may use R2C air cleaner base plate, part #AC10519.

b) Air filter may not be sprayed or soaked with chemicals.

c) No ducts, baffles or anything that may control airflow is allowed on, or in, the air cleaner assembly. All air entering the carburetor must pass through the air filter.

d) No air boxes are permitted.

e) A shield may be used on the front outer half of the element if it is on the element. Air cleaners must remain under the hood.

f) All air cleaners are subject to New London Waterford Speedbowl approval.

Ignition

a) Only Stock OEM-type HEI distributors, using factory production firing order, are permitted,

The firing order is as follows: 1-8-4-3-6-5-7-2

b) The only aftermarket distributors allowed are the Moroso (part # 72231) and the Performance Distributor (Part #127212).

c) Only stock-type coils are permitted. GM must have the coil in the cap. No MSD or super coil-type coils.

d) The only aftermarket part allowed in, or on, the complete distributor will be advance springs.

Note: New London Waterford Speedbowl, at any time, reserves the right to confiscate a competitor's ignition module and require them to compete with a stock component provided by the Speedbowl. A failure to comply will result in penalties.

Clutch & Flywheel

a) The clutch and pressure plate must be stock OEM steel. No modifications of any kind are permitted.

The minimum diameter for the clutch and the pressure plate is 10.4".

b) Any steel flywheel for the make and model of the car may be used. It must have come with a 10.4" or larger clutch and pressure plate.

c) Minimum weights are as follows:

i) Flywheel: 20 lbs.

ii) Pressure Plate: 13 lbs.

iii) Clutch Disc: 3.0 lbs.