M.1.B Race of Champions Asphalt Sportsman Modifieds

ANY CAR, TEAM AND/OR DRIVER THAT DOES NOT MEET THESE SPECIFICATIONS AND/OR EQUIPMENT REQUIREMENTS WILL BE SUBJECT TO PENALTIES AS DETERMINED BY THE Race of Champions OFFICIALS. **Any new components, including engine components, body designs, frame designs and/or components of any type utilized in competition must be approved by Race of Champions Officials prior to being introduced into competition.**

Any components for participants competing in Ontario, in events that may be held in accordance to rules other than Race of Champions Asphalt Sportsman Modified rules which are not defined by the following rules will be defined as pursuant to the 2021 Delaware Speedway and/or OSSCAR Rule Book.

Open to Race of Champions-approved automobile manufacturers provided they comply with, and adhere to specifications as outlined for this Series.

NOTICE
ALL MODEL, ENGINE OR EQUIPMENT CHANGES OR MODIFICATIONS NOT SPECIFICALLY ADDRESSED IN THIS RULE BOOK BY RACE OF CHAMPIONS MUST BE SUBMITTED, IN A COMPLETED FORM/ASSEMBLY, TO RACE OF CHAMPIONS FOR CONSIDERATION OF APPROVAL ON OR PRIOR TO NOVEMBER 1, 2021 UNLESS OTHERWISE AUTHORIZED BY RACE OF CHAMPIONS, TO BE CONSIDERED FOR COMPETITION FOR THE 2022 SEASON. THE APPLICANT WILL BE NOTIFIED OF APPROVAL OR REJECTION FROM RACE OF CHAMPIONS. RACE EQUIPMENT WILL NOT BE CONSIDERED AS HAVING BEEN APPROVED BY REASON OF HAVING PASSED THROUGH INSPECTION AT ANY TIME OR ANY NUMBER
OF TIMES UNOBSERVED OR UNDETECTED. ANY RACE EQUIPMENT WHICH DOES NOT CONFORM TO SPECIFICATIONS OR TOLERANCES CONTAINED IN THE RACE OF CHAMPIONS RULE BOOK, OR IS NOT OTHERWISE APPROVED BY RACE OF CHAMPIONS, MAY NOT BE USED IN COMPETITION IN 2021. ALL SUBMITTED RACE EQUIPMENT MUST BE ACCOMPANIED BY COMPUTER AIDED DESIGN (CAD) FILES AND/OR MECHANICAL DRAWINGS AND REQUISITE FEE AS DETERMINED BY RACE OF CHAMPIONS.

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

1.0 Engines

General Engine Rules

The following characteristics of the production engine must be maintained in any engine used in competition in a manner acceptable to Race of Champions Officials. All parts listed below must originate from approved production castings and forgings. All parts, except spark plugs, should utilize fractional English measurement system fasteners and dimensions (non-metric).

ENGINE BLOCK:
Material
Number of Cylinders
Angle of Cylinders
Cylinder Bore Centerline Spacing
Number of Main Bearings and Type
Number of Camshaft Bearings and Type
Integral or Separate Cylinder Sleeves
Location of Camshaft
Overall Configuration

CYLINDER HEAD:
Material
Number of Valves per Cylinder
Type of Combustion Chamber
Location of Spark Plug
Orientation of Spark Plug
Arrangement of Valves

Valve Location in Relation to the Cylinder Bore
Angle of Valves
Type of Valve Actuation
Number of Intake Ports
Number of Exhaust Ports
Center Distances of Intake Ports Referenced to the Cylinder Bore
Center Distances of Exhaust Ports Referenced to the Cylinder Bore
Angle of Port Face Relative to Mating Face of Head to Block
Firing Order

a.) Unless otherwise specified by the Race of Champions, the same long block engine assembly (engine block, crankshaft, camshaft, connecting rods, pistons, cylinder heads, and valves) must be used for the entire Event, including practice, qualifying and the Race. An engine must not be removed from a car without the approval of the Race of Champions Officials. The Race of Champions Officials may require any team that removes an engine to start at the rear of the field, providing the car earns a starting position in the Race. The engine may be removed from a back-up car, without a penalty, at the discretion of the Series Director as follows:

(1) If a car is wrecked beyond repair in practice before qualifying and a back-up car is used, then an engine change may be permitted provided the change can be accomplished in a timely manner before qualifying.
(2) If a car is wrecked beyond repair during qualifying and a back-up car is used, an engine change may be permitted, however, the engine change must be completed before the beginning of practice(s), if practice(s) is scheduled, that follow qualifying.
(3) If a car is wrecked beyond repair after qualifying and a back-up car is used, then an engine change may be permitted without an additional penalty.
(4) If a Competitor violates this Rule, in addition to imposition of a penalty pursuant to Section K, the Race of Champions may take such action during the Event as he deems appropriate, including but not limited to loss of practice time and/or loss of the opportunity to qualify and/or confiscation of the engine or engine components. Such action shall be deemed an inspection decision not subject to Section K.

NOTE: In an effort to save time during at track inspections, it is highly recommended that all built engines have the forward most right side and forward most left side intake manifold bolts and the forward most right side and forward most left side lower cylinder head bolts cross drilled for engine sealing. If cylinder head studs are used, it is recommended that the studs be cross drilled above the cylinder head nut or through cylinder head nut and stud. If the cylinder head bolts or studs are drilled, the holes must be drilled a minimum diameter of 0.063 inch to accept the Race of Champions engine seal.

The right side front and left side rear carburetor studs must be drilled a minimum diameter of 0.063 inch to accept the Race of Champions carburetor seal on all engines. All built engines must have the closest intake manifold bolt to each drilled carburetor stud on
both the right side and left side drilled a minimum diameter of 0.063 inch to accept the Race of Champions carburetor seal.

1. Chevrolet or DART Engine Block
a.) Only GM Chevrolet type 350 cubic inch or Ford 351 cubic inch blocks will be permitted.
b.) DART production block part number: 3116111 (DART SHP Ford 31365135) will be permitted.
b.) Bowtie cast iron blocks part number 124800474 or stock block will be permitted.
c.) A Bore size of 4.00 to **4.060** plus or minus .005 will be permitted.
d.) Angle cutting of the block deck will not be permitted.
f.) The engine block must be mounted within 2”-inch of centerline of the lower ball joints and must be securely mounted to the frame.
g.) The minimum height of the engine when measured from the horizontal centerline of the crankshaft to the ground will be 9 1/2" inches.
g.) Tilted blocks will not be permitted.
h.) There will be a minimum of 2”inch ground clearance on the oil pan.
i.) All bolt holes and bores must remain in the stock OEM location.
j.) MOPAR, Chrysler, Dodge, American Motors type engines will not be permitted for competition. Alumimum, aluminium billet and/or any other type of exotic material as determined by the Race of Champions Officials will not be permitted.
k.) The engine displacement may be increased by increasing the bore size. The formula for determining the cubic inch displacement of the engine will be: Bore X Bore X .7854 X Stroke which will equal the cubic inch

displacement of each cylinder. The cubic inch displacement of each cylinder added together will determine the total cubic inch displacement for the engine.
l.) The maximum compression ratio permitted for any engine will be 11.0 to 1. When calculating the compression ratio a tolerance of one (1) cubic centimeter will be added to the volume for the area around the top of the piston down to the top of the piston ring that will be sealed with grease.
m.) In the event that the compression ratio must be confirmed in a circumstance that requires calculation the following formula will be utilized; Bore X Bore X .7854 X Stroke equals the volume for each cylinder at Bottom Dead Center (BDC) in cubic centimeters. The cylinder head pour volume minus (-) the known volume of the cylinder head plate plus (+) the cylinder head gasket volume plus (+) 1.00 cubic centimeters for sealing the piston ring plus (+) the cylinder block volume minus (-) the known volume of the block plate equals the chamber volume. (Compress ratio = Cylinder Volume (+) Chamber Volume).

2. Crankshaft
a.) Only a standard magnetic steel or cast iron production design crankshaft will be permitted. The crankshaft must be a minimum of 48lbs. The crankshaft journals, journal size, construction and/or appearance must remain as manufactured. Undersizing of crank journals will not be permitted.
b.) A tolerance of (+/- .020) on the crankshaft rod journals will be permitted.
c.) The crankshaft may be balanced by drilling, turning and/or the addition of weight. Deburring of the crankshaft will be permitted, however forging and/or casting flashing must remain.
d.) Any Chevrolet / GM engine must use the large journal size crankshaft.
e.) Only a stock stroke of 3.480 +.005 / -.005 will be permitted.
f.) Crankshaft counterweights must be same shape and size as the original stock OEM Mass production crankshaft used with this block.
g.) Round nosed, knife edging, tapering and/or any type of alteration will not be permitted.
h.) Undercut or tapered counterweights will not be permitted.
i.) A fluid dampener will be permitted.
j.) The minimum diameter for the harmonic balancer will be 6.25” inches.

3. Connecting Rods
a.) Only solid magnetic steel connecting rods (OEM or aftermarket) will be permitted.
b.) Forged or billet connecting rods measuring a minimum of 5.700” inches and a maximum of 6.000” inches will be permitted for Chevrolet engines. The minimum weight for the aftermarket 5.700” connecting rod (forged or billet) will be a total of 575 grams. The minimum weight for the aftermarket connecting rod (forget or billet) will be a total of 600 grams.
c.) The maximum Ford connecting rod length will be 6.000” inches.
d.) A maximum length of 6”-inches will be permitted.
e.) Machining for bushing or full floating connecting rod will be permitted.
f.) Deburring, removal of flashing, polishing, abrasive cleaning or any attempt at weight removal will not be permitted.
c.) Stainless steel, aluminum, titanium and/or any other materials that are considered exotic materials will not be permitted.

4. Pistons
a.) Flat top and dished aluminum round pistons will be permitted. Dome pistons will not be permitted.
b.) Only pistons with three (3) functioning ring grooves will be permitted. All three (3) rings must be in place.
c.) A maximum overbore of 0.060 will be permitted.
d.) Ceramic, plastics and/or any other type of exotic type material pistons will not be permitted.
e.) Coatings of any type will not be permitted.
f.) Valve reliefs may be machined in the pistions.
g.) Any magnetic steel connecting pin may be used.

5. Cylinder Heads
a.) Only 23 degree cast iron cylinder heads as listed from the manufacturer will be permitted:
    1.) Chevrolet World Casting - #011150 (Angle Plug)
    2.) Chevrolet World Casting - #011250 (Straight Plug)
    3.) DART Iron Eagle – #10310010 (Angle Plug)
    4.) DART Iron Eagle - #10320010 (Straight Plug)
    5.) Proaction - #2234-00000A (Angle Plug)
    6.) Proaction - #2234-00000 (Straight Plug)
    7.) Proaction - #12320 (Angle Plug) (this line includes the RHS Proaction #12320)
    8.) Proaction - #12319 (Straight Plug)
    9.) GM Bowtie - #14011034,

10.) GM Bowtie - #14011058
11.) GM Bowtie - #10134392
12.) Chevrolet SBC - #492
13.) Chevrolet SBC - #462
14.) Chevrolet SBC - #461
15.) Chevrolet SBC - #461x
16.) DART Platinum - #10310010P
17.) Engine Quest - #12334
18.) Ford - #M-6049-N351
19.) Ford - #M-6059-N352
20.) Dart Iron Eagle Ford - #13300000

NOTE: The cylinders heads listed may have limited availability and may become unavailable for retail in the future. Previously approved cylinder heads will be permitted for competition, however may be removed from the list and inspected as necessary to maintain that the correct cylinder is being used for competition based on the part number submitted for competition.

b.) The GM Vortec Cylinder Heads of any type will not be permitted.
c.) The maximum intake runner volume will be 200 cubic centimeters. Porting to reach the maximum runner volume will not be permitted.
d.) The cylinder heads must remain stock as manufactured, including but not limited to internal and external measurements. Port matching, blending, porting, polishing, removal or addition of material to cylinder head will not be permitted.
e.) Hand grinding and/or acid dipping will not be permitted.
f.) The manufacturer specification and intake runner CC size must remain unaltered as specified for all approved cylinder heads with no tolerance.
g.) All valves must remain identical in appearance and construction as a stock OEM type valve. The minimum vale stem diameter is 11/32”-inch. The valve stem diameter may be undercut to a minmum diameter of 15/16”-inch in the area of the valve stem from the head of valve to the bottom of the valve guide.
h.) Only solid stainless steel valves will be permitted.
i.) Only magnetic steel valve springs and/or push rods will be permitted.
j.) Only thread in studs will be permitted.
k.) Roller rockers and stud girdles will be permitted. Shaft rocker arms and/or shaft mounted roller rocker arm systems of any type will not be permitted.
l.) The following are the maximum valve size (Intake and Exhaust) permitted for specific cylinder heads:

1.) Chevrolet Intake Valve 2.020 / Exhaust Valve 1.600
2.) Ford Windsor Intake Valve 1.844 / Exhaust Valve 1.546
3.) Ford Cleveland Intake Valve 2.046 / Exhaust Valve 1.546
4.) Ford #M-6049-N351 (N352) Intake Valve 2.020 / Exhaust Valve 1.600

d.) The cylinder head must remain in the stock OEM location. Repositioning and/or relocating the cylinder head on the engine block will not be permitted.
e.) The valve centerline and guide angle in relationship to the cylinder heads must be remain in the stock OEM position.
f.) Porting and polishing by the removal or grinding of the original casting in runners will not be permitted. Epoxy fillers, welding, spray welding and/or any other coating or materials on or in the cylinder heads will not be permitted.
g.) External painting will be permitted.
h.) Air directional devices of any type on any valve surface will not be permitted.
i.) Only magnetic steel push rods and valve springs will be permitted. Titanium and/or any other exotic type material will not be permitted.
j.) Titaniaium valve spring retainers will not be permitted.
k.) A 1/2"-inch under the valve seat to complete the valve job will be permitted. Only machine cut will be permitted. Polishing and/or blending will not be permitted.
l.) Heat risers may be filled.
m.) Multiple angle valve job with valve centerline and valve guide angle in the stock OEM location in relationship to the cylinder head will be permitted.
n.) Combusion chamber modifications will not be permitted.
k.) The maximum compression permitted will be 11.0:1

5 - A. “Spec” Cylinder Heads Option (2016)

a.) The DART cylinder head part number 10024266 is the only cylinder head that will be permitted for this engine package option. The cylinder head must remain as produced and remain unaltered as cast by the manufacturer.

b.) The DART production casting must maintain a minimum 60 cubic centimeter (cc) combustion chamber, a 2.02”-inch intake valve and a 1.60”-inch exhaust valve. The casting must remain unaltered.
c.) Machining of the valve guide bosses and the gasket surfaces for seals and sealing will be permitted.
d.) The addition of thread-in studs, guide plates, valve spring seats, valve seals, poly-locks and/or jam nuts will be permitted.
e.) Coolant lines on the front or rear ends of the cylinder heads will be permitted. Coolant lines of the side of the cylinder head will not be permitted.
f.) The maximum intake valve port volume will be 177 cubic centimeters (CC) and the maximum exhaust valve port volume will be 71 cubic centimeters (CC).
g.) The cylinder head gasket surface for the purpose milling will have a tolerance of (+/- .050” inch) from the 23.00 degree stock valve position.
h.) The intake pin measurement must be no less than 6.050” inches. Machining and/or any other modifications of any type will not be permitted.
i.) The ports, runners, combustion chambers, the valve angle and must remain unaltered.
j.) The EGR port may be blocked or sealed off at the intake gasket by use a single metal shim on the surface of the gasket material.
k.) A maximum of two (2) intake manifold mounting holes may have helicoils. Intake and exhaust mounting holes may not be added and/or relocated. All holes must remain unaltered for standard dimension fasteners.
l.) Only the Manley intake valve (Part Number 11596 – 111 grams), Manley intake valve (Part Number 11864 – 114 grams), Manley exhaust valve (Part Number 11543 – 95 grams) or Manley exhaust valve (Part Number 11863 – 102 grams) will be permitted. Valve stems must have a minimum diameter of 11/32”-inch. The valve lifter weight is a minimum of 85 grams. All valve components must remain unaltered from the manufacturer.
m.) When cutting the valve seat angles, stone and/or grinding marks above the bottom of the valve guide will not be permitted. All cutting in reference to the valve job must be centered off the centerline of the valve guide. A competition style multi-angle valve job will be permitted. The bowl are must the 360 degree “ball” check. The intake valve side is a .787”-inch ball. The exhaust valve side is a .531” inch ball. Polishing on any cut and/or surface that has been touched with a stone will not be permitted. Hand grinding and/or polishing will not be permitted on any part of the cylinder head.
n.) Only stock OEM magnetic steel retainers that weigh a minimum of 30 grams (retainer only) will be permitted. Only single or double parallel wound valve springs will be permitted. Barrel, conical, beehive wound valve springs will not be permitted. The double wound valve springs must have a minimum diameter of 1.437”-inches and a maximum of 1.450”-inches. The valve springs must have a minimum height of 1.700”-inches and a maximum height 1.800”-inches. Only magnetic steel retainer locks; Machine 7 degree, Super 7 degree or 10 degree type will be permitted.
o.) The engine utilizing the “Spec” Cylinder Head option must maintain the maximum 11.0 to 1 compresssion ratio and all other defined engine rules.

5 - B. GM / CHEVROLET PERFORMANCE CRATE ENGINE *OPTION*:

NOTE: In the interest of preserving the opportunity of an affordable entry into asphalt modified type competition, the Race of Champions reserves the right to create, introduce and/or specify the GM / Chevrolet Performance Crate Engine Option as the only option in the Race of Champions Sportsman modified division.

a.) The Chevrolet Performance / GM Performance “604” and the Chevrolet Performance / GM Performance “602” Crate Engines will be permitted for competition.
b.) The GM / Chevrolet Performance “604” Crate Engine will not received a weight break unless otherwise posted in a bulletin and/or the Race of Champions rule book. In the event that a competitor chooses the Chevrolet Performance / GM Performance “602” Engine is being used a 75 lb weight break will be permitted from the total weight.
c.) Any Chevrolet Performance and/or GM Crate engine and all components must remain in their original configuration and form as purchased and/or delivered from the factory. Any alterations to the engine will not be permitted. The Engine must remain as manufactured by General Motors. Overbore(s) will not be permitted. Repairs may be permitted with written permission from Race of Champions Officials.
d.) All engines are to remain sealed from the factory. The original factory seals must remain unaltered, Tampering, removal, modifications of any type and/or broken factory seals will not be permitted. The GM Engine must remain unaltered in any way.
e.) The GM Crate Engine seals (bolt-type) must remain unaltered. Race of Champions Officials may require specific sealing and verification of all seals on any Chevrolet Performance and/or GM Crate Engine. Tampering with and/or alteration of any seals will not be permitted and is subject to immediate penalty and/or suspension.

f.) Only GM replacement parts of any type will be permitted for any type of replacement and/or repair work. Only GM Crate Engine specific valve springs may be used for replacement and/or repair.
g.) The maximum RPM of the Chevrolet Performance and/or GM “604” engine will be 6,400 as controlled by part number# MSD 83647. The maximum RPM of the Chevrolet Performance and/or GM “602” engine will be 6,800 as controlled by part number# MSD 83647.
h.) GM Crate Engine repairs must be authorized by Race of Champions Officials. GM Crate Engine repair procedure works as follows:

1.) Contact the Race of Champions administrative office.
2.) A repair location will be specified and instruct the driver/owner where to take the engine to get an estimate.
3.) Based on the estimate and the detail of the repair, officials will determine if the repairs may be made or if a new engine must be purchased.
4.) If a repair is approved, a specified inspector will inspect the engine and work with the engine repair facility throughout the duration of the repair to ensure that the engine maintains the Chevrolet / GM Specifications.
5.) Upon completion of the repair(s) the engine will be ‘resealed’ before being released for competition.
6.) All parts including the gasket repair kit(s) must be stock OEM Chevrolet Performance replacement parts. The receipt(s) generated from the GM / Chevrolet Performance Dealer and/or parts department must be retained and a copy presented to Race of Champions Officials for verification.
7.) Overbores will not be permitted. If a cylinder has scoring and/or needs repair it must be communicated to Race of Champions officials before being sleeved to maintain the original bore size.
8.) Valve jobs will not be permitted.
9.) If the cylinder head requires resurfacing and/or valve seats, a new cylinder head must be purchased. Machine work of any type will not be permitted to the cylinder heads.
10.) Bead blasting and/or any polishing and/or any alteration to the intake manifold and/or cylinder heads will not be permitted.
11.) The distributor advance curve and/or all parts must remain stock as manufactured.
12.) All engine information regarding repairs and/or engine introduction must be retained and turned into Race of Champions Officials, to track and manage engine database, including the driver, serial number, repair, type of repair and/or what type of service was performed to any engine.
13.) If any repair estimates come back to the Race of Champions Officials that meet and/or exceed 60% of the actual price of a new engine, a new engine must be purchased. The engine that was damaged will no longer be eligible for competition.

j.) Only the Chevrolet Performance “604” Engine may use an unaltered Holley stock (part#0-80583, “4412” 500 CFM). Exceptions to this rule will not be permitted. The carburetor must be securely fastened to the intake manifold in the stock location with one .0625(1/16th) or smaller gasket. Spacers or drop in spacers, alterations, physical changes, machining, reshaping or tampering with any part of the original parts, internal or external will not be permitted. Only genuine Holley replacement parts will be permitted.
k.) Only the Chevrolet Performance “602” Engine may use an unaltered Holley stock (part#0-80541-1), (Series 4150, 650 CFM). Exceptions to this rule will not be permitted. The carburetor must be securely fastened to the intake manifold in the stock location with one .0625(1/16th) or smaller gasket. Spacers or drop in spacers, alterations, physical changes, machining, reshaping or tampering with any part of the original parts, internal or external will not be permitted. Only genuine Holley replacement parts will be permitted.
l.) Only Chevrolet Performance or GM Crate Engine specific valve springs may be used for replacement and/or repair, Part Number # 12551483 for the “604” engine.
m.) In the event a “Crate” engine is found illegal and has been tampered with, a one (1) calendar year, suspension will be issued from the date of infraction for the first offense. An indefinite suspension will be issued for any offense after the first.
n.) Race of Champions Officials reserve the right to technically inspect, exchange and/or confiscate any GM Crate Engine at any time. Failure to surrender the engine and/or submit the engine for inspection equals disqualification from the event and/or suspension.
o.) The intended direction of the Chevrolet Performance / GM Crate Engine program is to maintain a cost-effective, affordable racing program. Rebuilding, balancing, blue printing and/or any other alteration made in an attempt to influence the integrity of this program will not be permitted. The judgment and determination of any such decision will be at the sole discretion of Race of Champions Officials.

6. Cam / Lifters / Timing Chain
a.) The camshaft, bores and lifters must remain in the original stock OEM location.
b.) Only flat tappet camshaft will be permitted. Roller camshaft(s) of any type will not be permitted.

b.) Only magnetic steel lifters with a stock diameter will be permitted. Solid or hydraulic lifters with roller tappets or mushroom tapers will not be permitted.
c.) Rev kits will be permitted.
d.) Any timing chain or gear drive will be permitted.
e.) A degree bushing and/or offset crank gear key(s) will be permitted.
e.) Belt drives will not be permitted.
f.) Roller cam bearings will not be permitted.

7. Ignition

a.) Only stock point type distributor or electronic ignition systems will be permitted. Ignition components of any type in the driver's compartment will not be permitted. An aftermarket HEI stock replacement type distributor will be permitted. The MSD HEI Part Number #8635 will be permitted. Aftermarket coils that fit in the traditional stock OEM location will be permitted.
b.) Ignition boxes and/or multi-spark type ignition systems will not be permitted.
c.) The distributor must mount in the OEM stock location. Rotation and firing order must remain in the stock OEM firing order for the engine. GM Firing Order: 1-8-4-3-6-5-7-2
d.) Adjustable timing controls will not be permitted.

8. Intake manifold

a.) The following intake manifolds will be permitted competition:

i. Chevrolet Edelbrock #2101
ii. Ford #M-9424-C358
iii. Edelbrock #2181
iv. Edelbrock #2750

b.) Alterations and/or modifications of any type to the intake manifold including porting, acid dipping, polishing deburring, removal of flashing, abrasive cleaning, painting, milling, cutting, drilling, enlarging bolt holes, matching, welding or any other type of alteration will not be permitted.
c.) Welding and/or epoxy and/or filling of any type will not be permitted.
d.) Painting and/or coating and/or the application of coating will not be permitted.
e.) Identificiation and/or part numbers on the intake manifold must remain unaltered in their stock OEM position.

8.-A "Spec" Intake Option (2016)

a.) Only the Second Generation Edelbrock #7101 intake manifold will be permitted with the "Spec" DART cylinder head part number 10024266.
b.) Alterations and/or modifications of any type to the intake manifold including porting, acid dipping, polishing, deburring, removal of flashing, abrasive cleaning, painting, milling, cutting, drilling, enlarging bolt holes, matching, welding or any other type of alteration will not be permitted.
c.) All bolt holes must remain stock OEM unaltered in alignment and size.
d.) Coolant lines from the water neck to the back side of the cylinder heads will be permitted.
e.) A maximum thickness of .064" inch will be permitted for the intake manifold gasket.9

9. Carburetor

a.) Only the Holley 4412 500 CFM or the 4412 500 CFM HP will be permitted for competition. The 4412 500 CFM and 4412 500 CFM HP are separate carburetors and the interchanging of parts from one to the other will not be permitted. Only Holley replacement parts as designated by the part number will be permitted.
b.) Alterations of any type, grinding, polishing, machined, coating and/or other wise; internal or external to the carburetor base and/or any of its components will not be permitted.
c.) The carburetor must be mounted in the standard position on the intake manifold. Sideways mounting of the carburetor will not be permitted.
d.) The venturis must remain unalterted.
e.) Removal of the casting ring will not be permitted.
f.) The base plate must remain unaltered.
g.) The throttle shafts must remain unaltered. Machining, polishing, cutting and/or thinning of the throttle shafts will not be permitted.
h.) The throttle plates (butterflies) may be drilled for idle holes only. Alteration to the shape, thinning, knife edging, rounding, tapering and/or any other type of alteration to the throttle plate will not be permitted.
i.) Changing and/or tuning of the power valve, pump cam and/or accelerator pump and/or jets will be permitted, but must be Holley components and manufactured for the carburetor; OEM. Aftermarket and/or components that fit the carburetor that are not Holley OEM components for the part number of the carburetor will not be permitted.

j.) Removal of the choke horn will not be permitted. Removal of the choke plate and choke linkage will be permitted. The gasket ring must remain unaltered from the manufacturer.
k.) The carburetor boosters must maintain their stock OEM size and must remain in their original mounting location in the main carburetor body. Any alteration to the booster, the booster bridge, including but not limited to the raising or lowering of the booster height, will not be permitted.
l.) Alterations that permit additional air to be introduced below the opening of the venturis such as altered gaskets, base plates and/or drilling holes into the carburetor will not be permitted.
m.) Epoxy fillers of any type will not be permitted.
n.) Only mechanical throttle type linkage will be permitted. Two (2) throttle return springs must be utilized. Cable type and/or any other type of throttle linkage will not be permitted.
o.) A toe strap is mandatory.

10. Carburetor Spacer / Adaptor Plate
    a.) A single one piece carburetor spacer with a maximum thickness of 1”-inches will be permitted. The spacer may only be aluminum or pheonolic plastic material. Other materials will not be permitted. Taper and/or beveled shapes will not be permitted. The spacer must conform to the base ofcarburetor and use two (2) paper gaskets. The maximum thickness for either gasket will be .075”-inches.
    b.) The carburetor spacer must remain in the same position as the original carburetor mounting position on the intake manifold.
    c.) Wedge shaped mounting surfaces will not be permitted. The top and bottom surfaces must remain parallel.
    d.) The carburetor spacer must have two (2) holes a maximum of 1.750”-inches with a straight bore (perpendicular to the top and bottom surfaces) and match the base of the carburetor.
    e.) Any type of air flow modifications will not be permitted.

11. Air Cleaner
    a.) Only one (1) round paper type (dry) air cleaner will be permitted. The air cleaner may be a minimum of 12”-inches and a maximum of 14”-inches in diameter, with a minimum of 1-1/2”-inches and a maximum of 5”-inches in height. The top and bottom of the air cleaner housing must be round, the same diameter and solid. Openings on the top of the air cleaner will not be permitted. Plastic type (K&N) type top and bottom air cleaner housing components will not be permitted.
    b.) The filter base must have a minimum round opening of 5”-inches.
    b.) All air that enters engine must pass through air cleaner. Any type of device that directs and/or ducts air to or from the air cleaner will not be permitted. Air induction, ducts, baffles, tubes, funnels, hats and/or any other device that controls air entering the carburetor will not be permitted.
    c.) The filter must be mounted in the center of the carburetor. A maximum one (1) inch spacer will be permitted between the carburetor and the air cleaner.
    d.) A single shield for the purpose of protecting the air cleaner from debris which may cover up to one half of the air cleaner circumference on the front of the air cleaner will be permitted. The shield must be no wider than the height of the element.
    e.) Performance enhancing additives and/or chemical and/or freezing or cooling of, on and/or in the air cleaner and/or any of the air cleaner components will not be permitted.

13. Oiling System
    a.) Only wet sump type oiling systems will be permitted. Dry sump type systems will not be permitted.
    b.) Only internal oil pumps driven from the distributor will be permitted.
    c.) Only standard type magnetic steel oil pans will be permitted.
    d.) Oil deflecting to individual rod and/or main journals will not be permitted.
    e.) Partitions of any kind in the oil pan will not be permitted. Oil pans must be approved prior to entry into competition by Race of Champions Officials.
    f.) A one (1) inch inspection plug must be must be placed in the bottom of oil pan for visual and mechanical inspection. The inspection plug must be a minimum of 1 1/4" inch located 9 1/2" inches from the rear of the block face to the centerline of the inspection hole and 1 1/4" inches from the oil pan rail. Obstructed views from the inspection hole to the crank and rods will not be permitted. If the view is obstructed from the inspection hole, removal of the oil pan will be required.
    g.) Only stock-type magnetic steel or cast iron dampers will be permitted. Maching and/or any alteration to the damper will not be permitted.

14. Engine / Car Electrical System / Ignition System
    a.) Only stock point type distributor or electronic ignition systems will be permitted. Ignition components of any type in the driver’s compartment will not be permitted. An aftermarket HEI stock replacement type

distributor will be permitted. The MSD HEI Part Number #8635 will be permitted. Aftermarket coils that fit in the traditional stock OEM location will be permitted.
b.) Ignition boxes and/or multi-spark type ignition systems will not be permitted.
c.) Adjustable timing controls will not be permitted.
d.) Magnetos and Magneto type ignition systems will not be permitted.
e.) Ignition system equipment and/or wiring may not be located in the driver's side door area and/or within reach of the driver with the exception of the ignition button or ignition switch.
f.) Adjustable timing controls will not be permitted.
g.) Ignition delay devices will not be permitted.
h.) All electrical switches must be located on the dash panel or within reach of the driver and labeled. A labeled on and off master switch to the battery cable must be installed on the cowl behind the windshield opening to the right side of the driver. The switch must be easily accessible and in plain view.
i.) There must be an operational ignition cut off (interrupt) switch. The tigor type switch is recommended.
j.) Tachometers, if used, should be mounted to either the steering column or the dash gauge panel. The mounting must be acceptable to Race of Champions Officials. In all cases, tachometer wiring must be as visible as possible, and easily accessible for inspection.
k.) Tachometers should have a maximum of three (3) wires connected to the ignition system allowing for a ground, power and a tachometer signal.
l.) The tachometer must have a connector of the Packard Electric type (MSD part #8172), or approved equivalent, to facilitate testing during inspection. The tachometer connector must be located on or at the removable ignition system mounting plate. The wire color, gage, and pin assignment must follow the table below:

Pin Description Color Gage

A Ground Black 16-18
B Power Red 16-18
C Tachometer Signal Green or Brown 16-18

m.) The tachometer signal wire must be run from the tachometer as a single continuous green or brown 16-18 gage wire to connect the primary and backup ignition amplifier boxes to the tachometer through blocking diode(s).
n.) The tachometer power wire must be connected to the battery side of the starter solenoid.
o.) If an illuminated tachometer is used, the light power and ground wires must connect into the tachometer power and ground between the tachometer and the tachometer connector.

AS AN OPTION, THE STAFFORD MOTOR SPEEDWAY SPEC ENGINE MAY BE INTRODUCED INTO THE RACE OF CHAMPIONS ASPHALT SPORTSMAN MODIFIED DIVISION. THE RULES ARE AS FOLLOWS AND THERE ARE NO VARIABLES. IN THE EVENT ENGINE HOLDS A COMPETITIVE ADVANTAGE, THE RULES MAY BE ADJUSTED AND/OR WEIGHT ADDED TO THIS ENGINE OPTION TO MAINTAIN THE INTEGRITY OF COMPETITION.

These SMS Spec Engine rules are intended and designed to create a standardized rule package to reduce cost, increase the level of competition, and to promote a better technical atmosphere by involving the engine builders in the process of technical inspection. To help keep the full integrity of the Spec Engine program intact, any published engine builder whose engine finishes in the top three may be involved in the tech process.

SMS SPEC- 5 GENERAL SPEC ENGINE REQUIREMENTS- The only approved engine for Spec use is the Chevrolet 350. All parts for the Spec Engine must maintain manufacturers overall dimensions and weight. All Spec Engine parts must be installed as supplied, with no machining or modification except where noted. These SMS Spec Engine rules are intended to create a standardized rule package to reduce cost and increase the level of competition. With the exception of engine machined components, all Spec Engine listed parts and components must be used as purchased, with no modifications permitted, unless otherwise noted. We will add a list of Spec Engine component part numbers.

DETAILED SPEC ENGINE REQUIREMENTS-

All Spec Engines must use the following parts, approved part numbers are as follows:
GM BLOCK – 10066034, 3970010, 3970014, 14010207, 14010209, 14011064, 14016379 , the DART SHP, or any pre-existing GM Bow-Tie block. PISTONS- Wiseco Pro Tru-PT003H, JE SPR-157076, or Manley 5915 must be used. The ring package used (type and thickness) must be the one designed for the piston used.
RODS- Manley-14101-*8*, 14050R-8, or Crower Sports Rods- SP3205
OIL PAN – Any pre-approved aluminum pan or Canton 11-196.

VALVES- Manley Intake 11596 or 11864, Manley Exhaust 11543 or 11863
CRANK- Scat Cast or Steel – 9-350-3480-5700, Callies Comp Star Series, or Manley 190190.
INTAKE- Edelbrock 7101
Carb Spacer- Big Haus USA part #002
HARMONIC BALANCER- ATI 917260 or 917320 or BHJ CH-IBF-6-C or Power Bond PB1012-SS.
The maximum decking of the block is 9.00". Angle milling of block deck is not permitted. Offset dowel pins are not permitted. De-flashing, grinding, welding or painting of any internal area is not permitted. Maximum overbore is .060". A maximum static compression ratio of 11.0 to 1 is permitted.

SMS SPEC- 5.5 PISTONS/RODS Wiseco Pro Tru -PT003H, JE SPR- 157076, or Manley-5915 piston must be used. Manley-14104-8 or 14050R-8, or the Crower Sport Rod- SP3205 must be used.
A. The approved piston must retain all its manufactured dimensions and weight. The JE and Manley pistons must maintain a 2.50" pin length. Wiseco pistons must maintain a 3.00" pin length. Additional gas porting of any type is not permitted. All rings must be installed, working and of magnetic steel. Stainless, z-gap, gapless, or Dykes type rings are not permitted. No portion of piston may protrude above the top of the block. The minimum ring thickness permitted is as follows: Compression rings .043" Oil ring assembly 3mm.
B. Only magnetic steel non-coated piston pins maintaining a minimum diameter of .927" inch are permitted. They must be contained by bushings only (no bearings of any type). Full floating pins are permitted. Wrist pins may not be coated.
C. Piston pin holes must be in a fixed location in the piston and connecting rods.
D. Only two-piece insert style connecting rod bearings are permitted.
E. The approved rod must retain all of its manufactured dimensions and weight. Only normal engine balancing and the use of after-market bolts and nuts are permitted. No de-burring, de-flashing, polishing, grinding or lightening is permitted. Rod length must be 5.700".
G. Minimum weight for piston, pin, ring, bearing and rod assembly is 1168 grams.

SMS SPEC- 5.5.4 OIL PAN – Dry sumps, external oil pumps or tanks or accu-sump systems are not permitted. The Canton #11-196 steel pan or any pre-approved existing aluminum oil pan may be used. Oil coolers are permitted. Only OEM in the pan magnetic steel type oil pumps are permitted. No pumps of any type may be used in the evacuation systems.

SMS SPEC -5.6 HEADS – Dart part number 10024266 cylinder head casting must be used. The casting part number must be purchased as completely produced by Dart, custom ordering of partial production/finishing is not permitted. The Dart casting is produced with, and must maintain a 60cc combustion chamber, a 2.02" intake valve and a 1.60" exhaust valve. Machining the valve guide bosses for seals and machining the gasket surfaces is permitted. The addition of screw-in studs, guide plates, valve spring seats, valve seals, poly-locks or jam-nuts is permitted. Coolant lines are permitted on the front/rear ends of the heads. Coolant lines are not permitted on the side of the head. Max Intake port volume is 177cc. Max Exhaust port volume is 71cc. Head gasket surface milling tolerance for SK Modified® is 0.00" to 0.050" from true 23.00 degrees of stock valve position. The Intake to pin measurement must be no less than 6.050". No other machining or modifications of any kind are permitted. The ports/runners, combustion chamber, the valve angle and location must remain as produced by Dart. The EGR port may be blocked off at the intake gasket area only, by use of a metal shim on one surface of the gasket. The exterior of the casting may be painted. A maximum of 2 intake mounting holes may have HeliCoils. Intake and exhaust mounting holes may not be added or relocated. Holes must take standard dimension bolts.
VALVES- The Manley intake valve #11596 (111 grams), Manley intake valve #11864 (114 grams), Manley exhaust valve #11543 (95 grams) or Manley exhaust valve #11863 (102 grams) must be used. Valve stems must have a minimum diameter of 11/32 inch. Valve lifter weight is 85 grams minimum. All parts must maintain production dimension and weight.
VALVE JOB- 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. Competition style multi-angle valve job is permitted. The bowl area must pass the 360 degree "ball" check (the appropriate sized ball must not fall into the guide area when rolling around on the valve stem). Intake is a .787" ball. Exhaust is a .531" ball. 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.
VALVE SPRINGS & RETAINERS- OEM Stock type magnetic steel retainers that weigh a minimum of 30 grams (retainer only) must be used. Valve springs may be single or double springs, but must be parallel wound. Barrel wound, conical wound springs, or beehive type springs are not permitted. Double springs must have a diameter between 1.450" and 1.437". Valve springs must have a height of 1.700" to 1.800". Retainer locks must be magnetic steel, and must be Machine 7 degree, Super 7 degree, or 10-degree types only.

SMS SPEC - 5.7 CRANKSHAFT
A. The Scat Cast or Steel Crank # 9-350-3480-5700, Callies Comp Star series crankshaft, or the Manley #190190 may be used. The main and rod journal sizes are .020" under for the main and .030" under for the rod journals. Stroke must be 3.480". If you are currently converting an existing SK Engine over to the SK Spec Engine, you may use your existing GM cast or forged steel crankshaft, and it must weigh a minimum of 50 pounds and must be 3.480" to 3.495" in stroke. You must contact the SMS Tech Staff to notify them of your intent to run this pre-existing crankshaft. NOTE: The GM style crankshaft will be allowed until the conclusion of the 2013 season.
B. Small journal or Honda pin crankshafts are not permitted.
C. Machining or polishing of the crankshaft counterweights is not permitted. Normal standard engine balancing is the only acceptable modification that can be performed on this component. No painting or Teflon coating. No capping of the counterweight holes. Crankshafts must maintain the manufacturer's dimensions.
D. Minimum crankshaft weight is 45 lbs for the SCAT, Callies, or Manley crankshaft, and 50 lbs for the old style SK pre-existing crankshaft.
E. The Power Bond # PB1012-ss, ATI 917260 , 917320,or the BHJ CH-IBF-6-C harmonic balancer must be used.

SMS SPEC - CAMSHAFT- K15 or P55 cast core camshafts must be used (Billet steel cores are not permitted). The maximum camshaft bearing journal size is 1.875″ (475mm). Camshaft may not exceed .550" +/- .005" lift at the valve with zero lash.

SMS SPEC - 5.8.2 VALVE LIFTERS-
A. An 842" diameter magnetic solid steel valve lifter must be used. Roller tappets, ceramic valve lifters, tool steel solid lifters, mushroom valve lifters, and any type of mechanical assistance exerting a force to assist in closing the valve and/or push rod commonly known as rev-kits are not permitted.
B. Valve lifters can weigh no less than 85 grams.

SMS SPEC - 5.8.3 ROCKER ARMS- Aluminum or stainless stud mounted roller rocker arms are permitted. 7/16" studs may be used. Steel 5/16" x .080" minimum wall push rods must be used. Chevrolet must run 1.5 ratio rockers. Stud-girdles are permitted, aftermarket shaft rocker systems are not permitted. Competition Cams rocker part number 1604 will be permitted.

SMS SPEC - 5.9 INTAKE MANIFOLD– A second generation Edelbrock #7101 intake manifold must be used. There are no modifications or alterations permitted to the intake manifold. No porting, polishing, acid dipping, deburring, de-flashing, abrasive cleaning, internal painting, milling, cutting, drilling holes, enlarging bolt holes, matching of ports or welding. An SMS supplied intake manifold must fit your engine complete with stock gaskets. All bolt holes must be in alignment and same size as stock. Coolant lines are only approved from the water neck to the back side of heads. The maximum thickness allowed for the Intake gasket is .064". Note: SMS / Race of Champions Officials reserve the right to swap competitors intake manifolds as part of their routine post-race tech process.

SMS SPEC - 5.10.2 CARBURETOR SPACER –
The Big Haus USA part #002 spacer must be used. One gasket per side, maximum gasket thickness of .075" permitted. The spacer may not be modified in any way. Additional openings for the induction of air is not permitted.

SMS SPEC- 9 ENGINE EXHAUST SYSTEM-
A. SK Spec Engine must use the following headers:
Flowrite: Troyer #3025, CD #3035, Spafco #3055, Raceworks #3045
Kooks: Troyer #SMS1048, CD #SMS1438, Spafco #SMS1348, Raceworks #SMS1253
Beyea Performance # AMSST-23S1-SK
B. Headers must remain as manufactured, no modifications may be made to the headers.
C. The exhaust header flange must mount directly to the cylinder head with no spacers between the flange and the cylinder head. Header flange thickness may not be altered.
D. Inserts are not permitted in any part of the header or collector. Only one (1) collector allowed per side.
E. Turn-downs must be used after the mufflers, on each side. The turn-downs must be installed so that hot exhaust, engine debris, or engine flames are aimed at the ground (from pointing straight down to less than 90 degrees to horizon).
F. Kooks #R35-30-10 or #R35-35-10, the Flowrite #FR-300 or #FR-3500, or the Beyea Performance #MUF3.5-SK mufflers must be used. The Muffler must be 3.5" on the inlet and outlet. Modifications to the 3" flange on the existing mufflers to make them 3.5" will be permitted. Both muffler flanges must still be intact.

Mufflers must be removable for inspection.
G. Thermal wrap is not permitted anywhere on exhaust system.
H. Only one muffler and exhaust pipe allowed per side.
Exhaust system subject to approval by SMS / Race of Champions Officials.
J. Interior coatings are permitted.
NOTE: The life expectancy for all mufflers are two years. All owners are responsible to make sure their mufflers are in proper working order. If found not to be, the muffler will be deemed illegal (i.e. missing one or more of the internal baffles).

SMS SPEC- 10 ENGINE DRIVE TRAIN – FLYWHEEL AND CLUTCH – SPEC ENGINE-
The Quarter Master #298108 or #298158, 7-1/4" two disc V-Drive, with an SFI rated 153 tooth steel OEM type ring gear/flexplate that weighs a minimum of 4.1 pounds may be used with the SK Spec Engine. Optional stock type clutch rule: A Stock OEM dimension 153 tooth steel flywheel and 10" steel clutch and pressure plate may be used. OEM type steel pressure plate and steel disc only. Solid type disc only, no paddle or button type discs. Minimum diameter 10″ clutch and pressure plate. Drilling or lightening of any part is not permitted. Steel bolts only. Flat surface machining allowed only on the face of the flywheel, any cutting on the back side of the flywheel will deem the part illegal. Spec Engine flywheels must weigh a minimum of 9 lbs (without bolts) and be one of the following part numbers:
10,000 RPM #1019-9.5
Magnus #MRPBF-95
Ram #851

SMS SPEC 5.10 CARBURETOR – A Holley two-barrel model #4412 carburetor must be used. Only Holley replacement or service parts can be used in any carburetor rework. Carburetors and/or carburetor components machined from billet materials are not permitted. All parts must be a Holley manufactured part for the 4412 model. Polishing, grinding, resizing or reshaping of any part or orifice is not permitted. The body, base plate, metering block, and bowl must be a standard Holley 4412 part, HP parts are not permitted. OEM type gaskets, jets and power valve must be used. The diameter of every hole in carburetor must pass the standard NASCAR /SMS/Race of Champions pin and tooling gauges as part of our routine tech process.
(1) Body of carburetor and metering block: No polishing, grinding or reshaping of any part. Drilling of additional holes or plugging holes is not permitted.
(2) The choke may be removed, but all screw holes must be permanently sealed.
(3) Choke Horn: Choke horn may not be removed.
(4) Boosters: Boosters may not be changed. Size or shape must not be altered. Height must remain standard.
(5) Venturi: Venturi area must not be altered in any manner. Casting ring must not be removed.
(6) Alterations to allow additional air to be picked up below the opening of the venturi such as altered gaskets, base plates and drilling holes into the carburetor will not be permitted.
(7) Base Plate: Base plate must not be altered in shape or size.
(8) Butterflies: The stock Holley 4412 or Stainless Steel Holly part #346 butterflies must be used. They may not be thinned or tapered. The Butterflies must remain as manufactured, and must maintain the Holley production tolerance thickness of .0438" to .0398". Idle holes may be drilled in butterflies. Screw ends may be cut even with shaft but screw heads must remain standard.
(9) Throttle Shaft: Shaft must remain standard and must not be thinned or cut in any manner.

SMS SPEC 5.12.1 CARBURETOR AIR FILTER / AIR FILTER HOUSING
A. Only a round dry type paper air filter element maintaining a minimum 12 inches and maximum 14 inches diameter will be permitted. The air filter element must maintain a minimum of 1½" inches, maximum five (5) inches in height. All air must be filtered through the element.
B. Only a round metal filter housing will be permitted. The top and bottom of the air filter housing must be solid with no holes. A maximum of one (1) inch lip will be permitted from the air filter element to the outer edge of the air filter housing top and bottom. The air filter housing carburetor mounting ring must have only one (1) round hole a minimum of five (5) inches in diameter. It is permissible to attach a shield to the front area of the air filter housing up to a maximum of one half of the air filter circumference. The shield must not be higher than the height of the air filter element. The air filter housing metal top and bottom must be of the same diameter. The air filter housing must be centered side to side and set level on the carburetor. No air induction, ducts, baffles, tubes, funnels or anything else which may control the air entering inside of, or between the air filter and carburetor. No plastic air filter housings or parts.
C. The bottom of the air filter element must measure within one (1) inch of the carburetor's top flange. A spacer may be used between the carburetor and the air cleaner so long as the one (1) inch specification is not exceeded.
D. No portion of the hood may be higher than the bottom of the air cleaner.

SMS SPEC- 6.1 IGNITION SYSTEM – NASCAR approved ignition system must be used. Electronic distributors are permitted. All electronic distributors must be in stock type housings, have stock type controls and modules, be equipped with a magnetic pickup, be gear driven, and be mounted in the stock location. Billet distributor housings are permitted.
B. Single or dual point camshaft driven distributors are permitted.
C. Only one (1) ignition coil is permitted and must be mounted on engine side of the firewall.
D. Electronic firing module amplifier box is not permitted.
E. Computerized, multi-coil, dual electronic firing module box or crank trigger systems are not permitted. Magnetos are not permitted. All ignition systems are subject to approval by SMS Officials.
F. Adjustable timing controls are not permitted.
G. Retard or ignition delay devices will not be permitted.
H. Only MSD #8727CT or #8728 External RPM limiters may be used. The violet wire must be cut back flush to the unit's housing, with the green and the white wires run directly to the coil negative, mounted on the engine side of the firewall in plain view.
I. Accessories to regulate the power supply are not permitted.
J. The tachometer wire must run from the distributor to the tachometer along the #8 dash bar separate from any other wires and in unobstructed view for inspection. The tachometer wire must be isolated from any other wires, connections or devices. The entire length of the tachometer wire must be visible from distributor to the gauge.
K. The Vacuum advance unit may be replaced with a manual non-electronic timing adjuster that does not extend more than two inches beyond the distributor housing.

15. Alternator
    a.) The alternator system, if used, must be working within specifications and mounted on the front of the engine in the stock OEM location.

16. Starter
    a.) The self-starter must be in working order. After the race is underway, cars may be started by hand pushing on pit road and/or in the pit area only. Cars may not be hand pushed onto and/or on the race track during competition. In the event that any car is hand pushed onto or on the track during competition that car will be immediately disqualified from the event.

17. Battery
    a.) Only Race of Champions approved batteries with a maximum nominal voltage of 12 volts will be permitted. Each battery(s) must be of the standard automotive type, gel cell or absorption glass mat design, weighing a minimum of 17 pounds.
    b.) The battery must be located between the frame rails. The battery must be located under the hood or floor of the car. If located under the floor, the battery must be completely encased. If located under the hood, the battery must have a suitable cover. The battery must not be forward of the radiator or rear of the rear end housing of the car. The battery location must be acceptable to Race of Champion Officials.

18. Engine Cooling System
    a.) The radiator must appear and work like an OEM radiator and be centered in front of engine. Copper, brass or aluminum radiators will be permitted. An additional dust screen used in front of the radiator, approved by Race of Champions Officials will be permitted.
    b.) Cooling or icing type chemicals in the engine compartment will not be permitted.
    c.) The coolant must flow in same direction as production engine.
    d.) External portable machines that provide cooling of the cooling system will not be permitted.
    e.) The radiator overflow pipe may be relocated and must use a minimum one (1) gallon overflow can.

19. Water Pump
    a.) Only OEM type magnetic steel or aluminum mechanical water pumps, turning in the same direction of crankshaft rotation and in the approved location, will be permitted.
    b.) Water pump impellers may be altered.
    c.) Coolant flow must be in the same direction as the approved production engine.

20. Fan
    a.) Engine-driven fans if used, must be operational and belt driven from the crankshaft. Free spin or clutch fans will not be permitted.
        (1) The pitch of the fan blades may be changed.
        (2) The minimum diameter of the fan must not be less than 14 inches.

(3) Engine-driven fans must have a minimum of four (4) blades.
(4) Flat fan blades will not be permitted.

b.) Electric cooling fans will be permitted in place of a standard steel fan on the back side of the radiator only.

c.) The installation, type, and location of the fan(s) must be acceptable to Race of Champions Officials.

21. Radiator Ducts

a.) When ducting air from the air intake housings to the radiator, air directional shields or dividers will be permitted within the duct. All air entering the air intake housing must pass through the radiator.

22. Engine Exhaust System

a.) The exhaust systems and components must be acceptable to Race of Champions Officials and meet the following minimum requirements.

23. Exhaust Headers

a.) All cars must use tube header-type exhaust systems.

b.) The exhaust headers must be a manufacturered production header. Custom fabricated headers of any type will not be permitted. The exhaust header flange must mount directly to the cylinder head without any spacers between the flange and the cylinder head. A maximum header flange thickness of 3/8” inch will be permitted.

c.) The exhaust header(s) must be round tube header-type. Materials used in the exhaust header must be magnetic steel with the primary tube size of a maximum 1 3/4" inch and a minmum of 1 5/8” inch outside diameter. 1 5/8” inch to 1 3/4" inch step exhaust header will be permitted. The exhaust must be a conventional four into one collector with a maximum diameter of 3 1/2" inches. Exhaust headers that are made from stainless steel and/or any type of exotic materials will not be permitted.

e.) Adjustable exhaust headers, try-y type, collector type, 180 degree, merge type, pyramid type, exhaust headers will not be permitted.

f.) Inserts in the exhaust headers or collectors will not be permitted.

g.) Exhaust systems will not be permitted in the driver’s compartment.

h.) Cross over pipes will not be permitted anywhere on the header.

i.) Thermal wrap on the exhaust headers will not be permitted.

d.) Exhaust header assemblies must remain outside of the body panels from the front fire wall rearward.

24. Exhaust Pipes

a.) 180 degree exhaust systems will not be permitted.

b.) Exhaust pipes must be round magnetic steel 3 1/2" outside diameter come out aft of the engine at the cowl and must extend a minimum of six (6) inches past the cowl.

c.) Exhaust connectors will not be permitted between the left side exhaust pipe and the right side exhaust pipe.

d.) Exhaust pipe assemblies must remain outside of the body panels from the front fire wall rearward.

25. Heat Shields

a.) Heat shields, when used to cover the exhaust headers, must be a flat piece of metal not more than six (6) inches wide and not longer than the length of the valve cover.

26. Drive Train

a.) All drive train systems and drive train system components must be approved by the Race of Champions. Prior to being used in competition, all drive train systems and drive train system components must be submitted, in a completed form/assembly, to the Race of Champions for consideration of approval and approved by the Race of Champions. Each such part may thereafter be used until the Race of Champions determines that such part is no longer eligible. All drive train fasteners and mounting hardware must be made of solid magnetic steel.

27. Clutch

a.) Only mechanical foot pedal, cable or hydraulic operated clutches will be permitted. Pneumatic assisted clutches will not be permitted.

b.)The clutch assembly must be bolted to the flywheel located inside the bell housing.

c.) Only disc / pressure plate design type clutch assembly will be permitted for competition. Multiple disc clutches will be permitted up to a maximum of three (3) discs. The disc clutch housing assembly and cover must be made from aluminum or magnetic steel. The clutch cover must be the push-type design.

d.) Only solid magnetic steel or aluminum pressure plates, and magnetic steel floater plates, without any holes will be permitted.

e.) Only full circle, fully faced magnetic steel clutch discs with a minimum diameter of 7-1/4” inches will be permitted. Minimal cooling slots will be permitted in the clutch discs.
f.) The clutch must be mounted inside the bell housing.
g.) Clutches must be a positive engagement design. Slider or slipper clutch designs will not be permitted.
h.) Any single disc OEM production type clutch assembly with a minimum 10-1/2” inch diameter steel hub disc will be permitted.
h.) Dog clutch, couple type or direct drives will not be permitted.

28. Bell Housing
a.) Only special production aluminum or magnetic steel bell housings acceptable to Race of Champions Officials will be permitted.
c.) It is recommended that a 3/4 inch hole be drilled in the top of the bell housing directly over the starter ring gear to manually turn the engine for checking the compression ratio limit. This will be the only modification permitted on the approved aluminum bell housings.
d.) Holes and/or other modifications that, in the judgment of Race of Champions Officials, have been made with the intent of weight reduction will not be permitted.
e.) For all engine block-mounted starters, the starter mounting position must remain on the right side for Ford and General Motors engines.

29. Transmission
a.) Transmissions must be standard production OEM type design Muncie or T-10, manual three (3) or four (4) speed transmission will be permitted. The transmission must be from an approved manufacturer. Race of Champions Officials may use a transmission provided by the respective manufacturer as a guide in determining whether a Competitor's transmission conforms to the specifications of the Rule Book.
b.) Unless otherwise specified by the Race of Champions Officials, the same transmission must be used for practice, qualifying, practice after qualifying and the start of the Race. A transmission must not be removed from a car without the approval of Race of Champions Officials. Race of Champions Officials may require any team that removes a transmission to start at the rear of the field, providing the car earns a starting position in the Race. The transmission may be removed from a backup car, without penalty, at the discretion of the Race of Champions Officials, as follows:
    (1) If a car is wrecked beyond repair during qualifying and a backup car is used, a transmission change may be permitted, however, the transmission must be installed before the beginning of practice(s), if practice(s) is scheduled, that follow qualifying.
    (2) If a car is wrecked beyond repair during or after qualifying and a backup car is used, then a transmission change may be permitted without an additional penalty. If a competitor violates this Rule, in addition to imposition of a penalty pursuant to Section K, Race of Champions Officials may take such action during the Event as they deem appropriate, including but not limited to, loss of practice time and/or loss of the opportunity to qualify, and/or confiscation of the transmission or transmission components. Such action shall be deemed an inspection decision not subject to Section K.
c.) Race of Champions Officials may, at its discretion, require that all cars compete with a final drive gear ratio specified by Race of Champions Officials for each Event.
d.) High gear must be 1.00:1 (direct) and be the primary gear engaged on all tracks, except road course Events, during competition.
e.) The transmission must be acceptable to Race of Champions Officials and meet the following requirements:
    (1) Standard production OEM type Muncie or T-10 manual four (4) speed transmissions with OEM type gears will be permitted. Square cut forward gears will be permitted in OEM type Muncie or T-10 manual four (4) speed transmissions.
    (2) First gear may be removed and replaced with a spacer.
    (2) Jerico or Jerico type transmissions will not be permitted.
    (3) Automatic type transmissions will not be permitted.
f.) Only aluminum or magnetic steel transmission housings will be permitted. Magnesium or any other type of exotic material transmission housing as determined by Race of Champions Officials will not be permitted.
g.) All transmissions must have the input shaft and its main gear constantly engaged. This assembly must be constantly engaged with the countershaft and its cluster and reverse gears.
h.) Transmission gear ratios between 1.00:1 and 1.18:1 will not be permitted. The only high gear transmission ratio permitted will be 1.00:1.
i.) A forward gear and reverse gear must be in working order.
j.) Only manual, left-side mounted, shift linkage will be permitted on the transmission. The shift lever must be metal. All shift rods connecting the shifter mechanism to the transmission must be made of metal.

k.) Only fire resistant type shifter boots will be permitted. The shifter boots should meet the SFI 48.1 specification and should display a valid SFI 48.1 label visible on the outside of the shifter boot. Shifter boots should not be used beyond two (2) years from the date of manufacture. Quick release fasteners will not be permitted to secure the shifter boot to the transmission tunnel. The shifter boot, when installed, must mount directly to and must be completely sealed to the floor of the car. Installation of the shifter boot must be acceptable to Race of Champions Officials.
l.) Heating pads and/or blankets will not be permitted for warming the transmission.

30. Drive Shaft
a.) **T**he drive shaft, universal joints and yokes must be magnetic steel and similar in design to standard OEM production type drive shaft components. Only a one-piece magnetic steel drive shaft with a minimum outside diameter of two (2) inches and a minimum thickness of 0.090 inch or a minimum outside diameter of 2-1/2 inches and a minimum wall thickness of 0.065 inch will be permitted. All drive shafts must be painted white.
b.) Two (2), 360 degree solid magnetic steel brackets, without holes or slots, not less than two (2) inches wide and 1/4 inch thick, must be placed around the drive shaft and be welded or fastened to the crossmember of the car. As an option the rear drive shaft bracket may be bolted directly to the torque arm using aminimum of two (2) high quality 3/8 inch minimum diameter bolts.

m.2 Fuel, Fuel Cells and Fuel Systems

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

3. Fuel Specifications
e.) At all Race of Champions Events only VP Racing Fuels (VP110/Green) will be permitted for competition. Blending and/or mixing of the fuel will not be permitted with any other chemcicals, hydrocarbons, additives, nitrous, nitrous additives and/or any other fuel enhancement.
f.) A designated VP Racing Fuels designated “Crate Fuel” may be permitted for competition

5. Fuel System
a.) All fuel systems and fuel system components must be approved by the Race of Champions.
Prior to being used in competition, all fuel systems and fuel system components must be submitted, in a completed form/assembly, to the Race of Champions for consideration of approval and approved by the Race of Champions. Each such part may thereafter be used until the Race of Champions determines that such part is no longer eligible.
b.) Race of Champions 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. Fuel cell vent pipe check valves must be used. Check valves and the fuel cell must be acceptable to Race of Champions Officials.
c.) 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.

6. Fuel Cell
b.) The Race of Champions-approved nominal fuel cell size shall be 24-1/4 inches by 16-3/8 inches by 13-1/4 inches.
b.) Modifications to the approved fuel cell bladders, including the nut ring, will not be permitted.
c.) The maximum fuel cell capacity, including the filler spout and overflow, must not exceed 24 gallons.
d.) Materials other than standard foam, as provided by an approved fuel cell manufacturer, will not be permitted.
h.) Fuel cells should not be used beyond five (5) years after the date of manufacture.

12. Fuel Pump
a.) Only one (1) mechanical fuel pump in the stock location, acceptable to Race of Champions Officials will be permitted.
b.) Electric, piston type, Mechanical, lever-action, camshaft actuated fuel pumps in the approved location will not be permitted.
c.) Electric fuel pumps will not be permitted.
d.) Liquid cooling of the fuel pump will not be permitted.

m.3 Muffler and Sound Reduction Devices

1. Muffler and Sound Reduction Devices

a.) All cars must have working and unaltered mufflers. Exhaust pipes must have specific mufflers at designated tracks that will be noted on the Competition Format Sheet the specific Event. Kooks (part number R300-10) or Lobak (part number 30-12-30, 35-12-35) will be permitted. The mufflers must be acceptable to Race of Champion Officials.
b.) Several tracks have a locally enforced decibel rule, which preempt any particular muffler rule. Some tracks may have a maximum sound level rule of 95 decibels at 100 feet. This rule will be enforced by local government agencies. Such decibel rules preempt utilizing the required mufflers in sub-section m.3.
c.) At determined events only the Lobak RCM 12" (12"-inch body length 3 1/2" inch diameter) spiral flow muffler (Part Number RCM351235) will be permitted for competition.
d.) Any car that fails to meet the decibel rule may be disqualified and/or "parked" from the event.

m.4 Traction Control Devices

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

m.6 Overall Car Weight

1. Added Car Weight

a.) Added weight must be in approved block form of not less than five (5) pound blocks (no pellets). Tungsten and other unapproved metals or materials will not be permitted. Added weight must be securely bolted to the frame rail with a minimum of two (2), 3/8 inch diameter high quality bolts and painted white with the car number or team identification permanently legible on it. Dislodged weight will not be permitted to be returned to the car for weighing after the Race. Any added weight containers should be welded directly to the main frame rails, rear sub-frame rails and/or the crossmembers attached to the main frame rails. Added weight will not be permitted inside the driver's compartment. Material and mounting must be acceptable to Race of Champions Officials.

2. Car Weights After Competition

c.) The addition of ballast weight, after competition, will not be permitted.
d.) All specified minimum weight requirements will be with fuel, oil, and water (with driver) and the car race ready. All cars must be scaled at the request of the Race of Champions Officials, pre and/or post qualifying and/or pre and/or post race. There will be a pre-race weight minimum and a post-race minimum that must be meant as follows:

1.) Throughout the Event, the minimum post race weight requirement for the Race of Champions engine package for cars using all listed Cylinder Head and Intake Manifolds as specified including the Dart Platinum Cylinder Head or the "Spec" Cylinder Head and 'Spec" Intake Manifold will be 2,600 pounds. A maximum weight requirement of 3,200 pounds will be permitted in this Series regardless of the cubic inch displacement. Left side weight percentage must be maintained; not be permitted to have more than 56% of the total weight as left side weight.

2.) Throughout the Event, the minimum post race weight requirement for the Race of Champions engine package for cars using an engine that has a maximum compression ratio of 9.6:1 or any car following the traditional OSCAAR "stock-type" rules will be 2,550 pounds. A maximum weight requirement of 3,200 pounds will be permitted in this Series regardless of the cubic inch displacement. Left side weight percentage must be maintained; not be permitted to have more than 56% of the total weight as left side weight.

3.) Throughout the Event, the minimum post race weight requirement for the Race of Champions engine package utilizing the GM / Chevrolet Performance 604 Engine will be 2,600 pounds and a maximum weight requirement of 3,200 pounds will be required in this Series. Left side weight percentage must be maintained; not be permitted to have more than 56% of the total weight as left side weight.

4.) Throughout the Event, the minimum post weight requirement for the Race of Champions engine package utilizing the GM / Chevrolet Performance 602 Engine will be 2,500 pounds and a maximum weight requirement of 3,200 pounds will be required in this Series. Left side weight percentage must be maintained; not be permitted to have more than 56% of the total weight as left side weight.

e.) Unless otherwise authorized by the Race of Champions, at all times all weights will be measured by the Race of Champions Officials using the scales provided by the Race of Champions. It is the responsibility of each race team to insure that its car meets the specified minimum weight requirements for this Series on these scales.

f.) On major components, the use of non-magnetic and/or hollow fasteners and component mounting hardware with the intent of weight reduction will not be permitted.
g.) Unless otherwise approved, Race Equipment, including car parts and components, that in the judgment of Race of Champions Officials have been constructed to increase the components weight beyond normal standards, will not be permitted.
h.) Before the use of any composite component(s), the component(s) must be submitted to and approved by the Race of Champions for use in competition.
i.) Mechanical devices used for or intended to be used for the shifting of weight that may be activated by the driver and/or a crew member while the car is static or in motion will not be permitted.
j.) From time-to-time and/or specific event(s), the weight rules for the Race of Champions may be adjusted based on maintaining the balance of competition and adjustments in regard to "home track rules". Those adjustments will be issued specifically on the "Event Competition Format".

m.7 Body

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

1. Body

b.) The Race of Champions will with the rules as specified in Section m.7f the Rule Book. If authorized by the Race of Champions, deviations to these rules may be permitted for stand-alone Events only. All Events will be governed by the rules as published in Section m.7 of the Rule Book.

15. Hood / Roof

d.) The roof panel should be from an approved manufacturer and be made of magnetic steel or fiberglass. All roof panels and their installation must be acceptable to Race of Champions Officials. The following are magnetic steel roof panels that are approved for competition:
MANUFACTURER PART NUMBER
General Motors 22699260
Ford F8RZ6350202AA
PTM Corporation NMT-111
Previously approved magnetic steel roofs will be permitted for competition if approved by Race of Champions Officials.

m.8 Suspension

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

1. Suspension

a.) All suspension systems and components must be approved by Race of Champions Officials. Prior to being used in competition, all suspension systems and components must be submitted, in a completed form/assembly, to Race of Champions Officials for consideration of approval and approved by the Race of Champions. Each such part may thereafter be used until the Race of Champions determines that such part is no longer eligible. All suspension fasteners and mounting hardware must be made of solid magnetic steel.

4. Shock Absorbers

a.) Coil over shock absorbers may be used. Shock absorbers and coil over shock and spring, by visual reference, must remain within the outline of the body and no holes can be cut in the outer body for the mounting of shocks.
b.) Shock absorbers must provide a resultant force dependent upon piston velocity and must be acceptable to Race of Champions Officials. Shock absorbers and components must be acceptable to Race of Champions Officials. Shock absorbers and components must be used as supplied by a manufacturer and approved by the Race of Champions. Shock absorbers and components must be available to all Competitors and must meet the following minimum requirements:

(1) Shock absorbers must be either a mono-tube or twin-tube telescoping type. Mono-tube shock absorbers must be of the nitrogen-gas pressurized, deflective disc valve type with an integral gas reservoir and with steel deflective disc valve shims sealing the primary metering faces of the single piston in the main shock body. Shock absorber bodies may be made of aluminum or magnetic steel. If the shock absorber is of the twintube type then it must use a maximum 1.375 inch diameter piston with compression bypass valves that are the coil-spring loaded disc type or the coil-spring

loaded spool or poppet valve type and a compression head (may also be called foot valve or head valve). The twin-tube shock absorber may use a gas cell located between the tubes. An external gas reservoir will not be permitted. Inertial valves will not be permitted. Twin-tube shock absorbers and internal components must remain as produced by the manufacturer, approved by the Race of Champions and as displayed on the approved component shock board and as such, are not considered to be interchangeable and will not be permitted to be modified by the Competitor.
(2) Mono-tube shock absorbers must meet the following dimensions: Overall Length (Extended) 23.60 Inches Maximum (center to center) Piston/Shock Body Outside Diameter 2.16 Inches Maximum Piston/Shock Body Length 10.00 Inches Maximum Gas Reservoir Outside Diameter 2.60 Inches Maximum Gas Reservoir Length 3.80 Inches Maximum Shock Shaft Diameter 0.500 Inches Minimum and 0.630 Inches Maximum
NOTE: The internal bore of the shock absorber body must remain as supplied by the manufacturer. The internal bore diameter of the shock absorber body must be the same from top to bottom. Tapers, steps, grooves and other misalignments will not be permitted. Modifications which provide position sensitive piston travel will not be permitted.
(3) Changes in shock absorber force must not be made by the position of the shock absorber shaft, only by the velocity of the shaft through the compression and rebound stroke. Only one (1) piston per shock with one (1) shim stack on compression side and one (1) shim stack on the rebound side of piston, will be permitted.
(4) Only a single, manual, external shaft bleed adjustment through a tapered needle into a fixed orifice in the hollow shaft, acceptable to Race of Champions Officials, will be permitted on the shock absorbers of the mono-tube type.
(5) Only a single manual external adjustment, with an adjusting pin (allen head screw) tapered to regulate bleed and pressure of the spring on the valve will be permitted on the shock absorbers of the twin tube type.
(6) The shock absorber shaft must not have any sleeves or spacers that could limit the travel of the shaft into or out of the main body.

c.) Shock absorbers and internal components are subject to inspections.
d.) Race of Champions Officials may use a shock absorber provided by the respective manufacturer as a guide in determining whether a Competitor's shock absorber conforms to the specifications in the Rule Book.
e.) A maximum of one (1) shock absorber per wheel will be permitted.
f.) Quick disconnect shock mounts will not be permitted. The shocks must be attached with nuts and bolts.
g.) External shock absorber reservoirs will not be permitted.
h.) Remote or electronically controlled shock absorbers will not be permitted.
i.) Heating pads and/or blankets will not be permitted for warming the shock absorbers.
j.) Air scoops, covers or any aerodynamic devices on or around the front shock absorbers will not be permitted.
k.) It is the responsibility of the crew chief, not the Race of Champions, to ensure the shock absorbers are used in accordance with the manufacturer's instructions and specifications.
l.) There will be a maximum “racer retail” price per shock absorber, per corner of the car of $350.00. The shock absorber will be searched by part number in three catalog locations and the mean price of the shock absorber will be used to determine the overall “racer retail” price of the shock absorber.
m.) A shock absorber claim rule will be in effect for all shock absorbers. The claim will be $350.00 per shock absorber claimed. The rules for the claim will be as follows;

1.) In order for a competitor to claim another competitors shock absorber, the competitor initializing the claim must complete the race on the lead lap and must not have finished in the top five finishing positions of the race.
2.) All claims must be made in writing within 15 minutes of the conclusion of the feature race.
3.) The competitor who is having his shock absorbers claimed must surrender the shock absorbers to a Race of Champions Official for the claim and will receive payment from the Race of Champions.
4.) In the event that any competitor refuses a written and acceptable claim, the competitor will be disqualified from the event.
5.) The price of claiming each shock absorber will be $350.00.
6.) Grudge claims will not be accepted. In the event that a grudge claim is threatened and/or placed, the competitor placing the claim may be penalized per the section K of the rule book.
7.) The Race of Champions reserves the right to claim any competitors shock absorbers at any time during any event.

6. Spindles / Wheel Bearings / Hubs
   a.) The spindles, wheel bearings, and hubs must be acceptable to Race of Champions Officials and meet the following minimum requirements:

b.) Heavy-duty magnetic steel spindles must be used.
c.) The front spindles should be equipped with a minimum of one (1) and a maximum of two (2) tether attachment brackets mounted on the front of the spindle as shown and described in Diagram (#15) in the rear pages of the NASCAR Rule Book. The tether attachment brackets must be 3/16 inch thick magnetic steel and be completely welded to the spindle tower and spindle steering arm. The tether attachment brackets must have a 1/2 inch minimum diameter mounting hole and use a 1/2 inch minimum diameter bolt for the attachment of the front spindle tethers. The mounting holes must have a minimum of 3/4 inch of metal from the center of the mounting bolt to the edge of the bracket.
d.) Wheel bearings must be magnetic steel, tapered roller bearings and bearing races. The bearings, races and seals must be assembled separately in the hubs.
e.) Aluminum or magnetic steel hubs will be permitted. Only standard type wide five hubs using an inner bearing race with a maximum inside dimension of 1.995 inches and an outer bearing with a maximum inside dimension of 1.885 inches will be permitted. This does not apply to the 5 X 5 design steel hub designs. All hubs must use a moly type grease. Hubs that require oil as a lubricant will not be permitted.
f.) The front spindles must be linked to the frame using a minimum of one (1) and should use two (2) Vectran® HS V-12 fiber cables on both the left side and right side. The fiber cables must be attached around the frame rearward of the upper A-frame mounts and forward of the front sub-frame bars (#16 A&B) using a choker-type hitch. The fiber cables must be attached to the tether attachment brackets mounted on the front spindles as described in 12-5B using a 1/2 inch minimum diameter magnetic steel bolt. The fiber cables must be constructed from a continuous loop of 5/16 inch diameter 12 strand cable (with a red tracer thread) woven from Vectran® HS V-12 fiber. The fiber cables should have the dated sleeve attached to the center of the continuous loop. The fiber cables must be from the approved manufacturer listed below:
MANUFACTURER PART NUMBER
Amick Industries MD-103R2
The fiber cables and components (including expiration date and part number) must be in good quality condition and must remain as manufactured. The fiber cables must not be used past their expiration date which is three (3) years after the date of manufacture.

7. Tread Width Requirements
a.) All cars must maintain the following tread width requirements. A minimum front and rear tread width of 82 inches and a maximum tread width of 83-3/4 inches will be permitted. The tread width will be determined by measuring the left outside wheel bead surface to the right outside wheel bead surface at spindle height.
b.) Aluminum or steel spacers will be permitted to utilize the maximum allowable tread width.

8. Wheelbase Requirements
a.) On either side of the car the minimum wheelbase that will be permitted is 106 inches and the maximum wheelbase that will be permitted is 108 inches.
b.) When measuring the wheelbase, the maximum allowable difference must not exceed one (1) inch plus or minus (+/-) on the opposite side. Any device or procedure which has the ability to dynamically change the wheelbase beyond normal travel parameters will not be permitted.

10. Car Height Adjustment / Handling Devices
a.) The only device permitted for adjusting the height of a car will be the front and rear coil over spring units as described in sub-section m.8.2. Adjustments will be permitted during an Event but must be done in a manner that results in the car maintaining body height requirements, as described in sub-section m.8.9.
b.) Any device(s) for adjusting the handling characteristics or the car's height, which can be activated by the driver, will not be permitted inside of the driver's compartment.
c.) Electrical, pneumatic, hydraulic, remote control, or any other devices, which change the handling characteristics or height of the car, will not be permitted.
d.) Devices and/or procedures to, or used to, reduce or hold the car lower than the normal stiffness of the springs will not be permitted.
e.) Car height adjustments will not be permitted on the left front suspension during a Race unless approved by Race of Champions Officials.

11. Steering Components
a.) All steering components must be approved by the Race of Champions. Prior to being used in competition, all major steering components must be submitted, in a completed form/assembly, to the Race of Champions Officials for consideration of approval and approved by the Race of Champions. Each such part may thereafter be used until the Race of Champions determines that such part is no longer eligible.
b.) Rack and pinion steering will be permitted.
c.) All cars must be equipped with a magnetic steel steering shaft.

d.) Tie rods, drag links and steering component parts must be heavy-duty. Pitman arms that may be interchanged will be permitted. Holes and/or other modifications in steering components that, in the judgment of Race of Champions Officials, have been made with the intent of weight reduction, will not be permitted.
e.) The center top of the steering post must be padded with at least two (2) inches of resilient material acceptable to Race of Champions Officials.
f.) A quick-release steering wheel coupling with a magnetic steel housing acceptable to Race of Champions Officials must be used. The steering wheel coupling should meet the SFI 42.1 specification and display a valid SFI 42.1 label on the outside surface. The magnetic steel housing must not be covered with plastics or coatings.
g.) The use of universal joints in the steering shaft must be acceptable to Race of Champions Officials. It is recommended that a minimum of two (2) universal joints be used forward of the firewall.
h.) Only magnetic steel or aluminum steering wheels will be permitted.
i.) The power steering pressure pump must be mounted and driven off the front of the engine.

15. Rear Axle

a.) The rear axle must be acceptable to Race of Champions Officials and meet the following requirements:
b.) Aluminum or magnesium quick change rear end center sections equipped with aluminum or magnesium side bells will be permitted. Only quick change center sections with magnetic steel spur gears on the back side will be permitted.
c.) Front loading type, mini type quick change rear ends will not be permitted.
d.) Aftermarket racing magnetic steel or aluminum spool or magnetic steel aluminum mini spool will be permitted.
e.) Only the 10”-inch ring and pinion will be permitted.
f.) Only a magnetic steel lower jackshaft and driveshaft yoke will be permitted in the quick change rear end center section.
g.) Only full floating magnetic steel double splined rear axles will be permitted. Any axles that require clips must be welded in place.
h.) Only locked rear drive axle assemblies will be permitted at all times during an Event. Limited slip differentials will not be permitted.
i.) Only magnetic steel axle tubes will be permitted. If axle housing support(s) are being used, the support must not have any type of adjustment and must maintain a solid mount on either end of the support.
j.) The distance, measured from the center of the rear end housing to the rear hubs, left and right, at the point the wheels bolt on, must be within three (3) inches in length.
h.) The rear end must be mounted so that the inside edge of the left rear tire is even with or outside the outermost edge of the left side frame rail.
k.) Heating pads and/or blankets will not be permitted for warming the rear end assembly.
l.) Any method or transmission gear higher than 1.18:1 designed to override the gear rule will not be permitted. The only high gear transmission ratio permitted will be 1.00:1. A tire circumference and air pressure minimum limit may also be in effect.
m.) Race of Champions Officials may, at its discretion, require that all cars compete with a final drive gear ratio specified by Race of Champions Officials for each Event.
l.) For purposes of checking a pre-determined final drive gear ratio, when jacked up both rear wheels must rotate in the same direction with each traveling the same rotational distance.

Race of Champions Asphalt Modified Gear Rule Chart for Reference (Track Size) 2020

For non-quick change type rear ends;

Track Type	
1/2 mile	4.87
5/8 mile	4.87

Note: In 2020 a maximum short track gear will be established and issued via a technical bulletin.

m.9 Roll Cage

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

m.10 Wheels

1. Wheels

a.) The wheels must be acceptable to Race of Champions Officials and meet the following requirements:
b.) Only 15 inch diameter five (5) lug reinforced magnetic steel wheels with a maximum width of 13 inches will be permitted. A 12 inch maximum width is recommended.
c.) Any offset (backspacing) will be permitted.
d.) Steel valve stem hardware recommended by the manufacturer must be used. Valve stem caps must be installed at all times during competition.
e.) Only solid, one-piece, heavy-duty 1/2-inch to 5/8-inch magnetic steel lug bolts and standard one (1) inch hex, fully threaded, solid, one-piece magnetic steel lug nuts, tapered on at least one (1) side, will be permitted. The first thread on each lug bolt must be visible from the front of the lug nut when the lug nut is installed. The same style lug bolt must be used for practice, qualifying and the Race. Design modifications to the lug bolts will not be permitted.
f.) Bead locks will not be permitted.
g.) Any device, modification or procedure to the tire, wheel or valve stem hardware, that in the judgment of Race of Champions Officials is used to release pressure (beyond normal pressure adjustments) from the tire and/or inner shield, will not be permitted.

m.11 Tires

1. Tires

a.) Only approved tires will be permitted. Approved tires are those tires that comply with the requirements of this rule and are recommended in writing, with prior notification to the Race of Champions by the Race of Champions-approved tire manufacturer for use by Competitors in the Event.

2. Physical Requirments

a.) All four (4) tires must be the same make and the same tread design.

3. Tire Manufacturer Obligations

a.) The tire manufacturer must provide the Race of Champions with the following information in writing two (2) weeks prior to the date of the Event. (1) Tire identification markings for each tire must be unique to one (1) particular size, construction, and rubber compound combination.
(2) The recommended position on the car for each tire being used in the Event.
b.) The same tires must be made available to each Competitor.
c.) The Hoosier Racing Tire designation 1070 will be the only tire permitted for competition in Race of Champions Sportsman Modified events unless otherwise indicated in a bulletin and/or rule change as designated by Race of Champions Officials.

4. Tire Measurement Procedure

a.) A Race of Champions-approved measuring device will be used to determine the maximum size of the tire. Tires may be selected at each Event by Race of Champions Officials for measurements. Tires to be measured must be mounted on a 15 inch wheel of the proper rim width. Twenty pounds air pressure will be required for the measurements.

5. Tire Usage Rules

a.) All tires must be used in approved positions. Approved positions are those positions on the car recommended in writing with prior notification to the Race of Champions, by the Race of Champions-approved tire manufacturer for its tires used by Competitors in the Event.
b.) Unless otherwise authorized by the Race of Champions, all tires to be used for practice or qualifying must be purchased and mounted at the Event from the Race of Champions-approved tire supplier.
c.) Unless otherwise authorized by the Race of Champions Officials, at all tracks teams will be required to use sticker tires (new tires) for qualifying and/or group qualifying, purchased on the day of the event.
d.) Immediately following a qualifying attempt, wheels and tires from all qualified cars may be impounded and/or marked by Race of Champions Officials. Unless otherwise authorized by Race of Champions Officials, all tires used in qualifying must be used for the start of the Race. The impounded tires will be returned when the cars are prepared for the Race. The tires must be replaced in the positions from which they were removed.
e.) Unless otherwise authorized by Race of Champions Officials, Competitors will not be permitted to make tire changes prior to the completion of the first official green flag lap of the Race.
f.) The Race of Champions Officials may approve the replacement of an impounded tire when recommended by the tire manufacturer's representative without a starting position penalty provided the replacement tire carries the same manufacturer identification number as the tire used for qualifying.

g.) The Race of Champions-approved tire supplier may re-balance or re-mount tires under the supervision of Race of Champions Officials.
h.) Tire or wheel warming, using heaters, blankets, micro-wave or any other method will not be permitted.
i.) Should identification numbers or serial numbers be defaced on any previously approved tire, this tire will be ruled ineligible for competition.
j.) Tires that, in the judgment of Race of Champions Officials, have been altered by unauthorized treatment will not be permitted.
k.) Hand grooving, buffing, grinding, and/or cutting on any area of the racing tire will not be permitted.
l.) The Race of Champions Officials may establish a tire change rule for the particular Event being run. This rule shall be made known to all the Competitors at the Pre-Race driver's meeting.
m.) Competitors presenting cars for inspection must have their tires inflated to the recommended technical inspection inflation pressures as specified by the participating tire manufacturer for the Event. If tire pressure(s) are not at the recommended technical inspection inflation pressures after competition, tires will be adjusted to the recommended technical inspection inflation pressures as specified by the participating tire manufacturer for the Event.

m.12 Safety

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

m.13 Other

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B

m.14 Series Decal and Patches

NOTE: Unless otherwise specified within Section M.1.B, the rules shall remain as published in section M.1.A. Only specified Race of Champions asphalt Sportsman Modified rules will appear in section M.1.B