

# 2018 SK Modified® Rulebook

**ALL RULE REVISIONS FOR 2018 CHECK YOUR CORRESPONDING RULE BOOK FOR COMPLETE EXPLANATION.**

## **2018 SK MODIFIED® RULE REVISIONS**

**20E- 10.4 TRANSMISSION**

**20D – 12.1 COIL SPRINGS**

**20E – 12.2 SWAY BARS (ANTI-ROLL BARS)**

## **PREFACE**

The rules herein shall refer to Stafford Motor Speedway as “SMS”. These rules are intended to create safe, affordable and fair competition. While they offer a good outline, every item cannot be covered by a written rule. If you have questions regarding something not detailed in these rules, please consult an SMS Official for clarification before proceeding. These rules are for SMS only with no expressed or implied agreement with any other speedway or series as to their interpretation, implementation and method of inspection by their technical inspectors and officials. No car, component or equipment will be considered as having been approved by reason of having previously passed through inspection unobserved. No car, component or equipment will be considered as having passed inspection for the event until the finish is made official. All engine models, equipment changes, or modifications not specifically addressed in the rule book by SMS must be submitted in writing for consideration of approval on or prior to September 2, 2017 unless otherwise authorized by SMS to be considered for competition for the 2018 season. All equipment is subject to the approval of SMS Officials. You may be assessed penalties including but not limited to: added weight, fines, loss of points, loss of handicapping, or suspension for car parts, components, and/or equipment deemed as not in compliance with these rules. Any car part, component, and/or equipment which does not conform to specifications or tolerances contained in the 2018 rule book or is not otherwise approved by SMS may not be used in competition in 2018.

By engaging in competition at SMS, you hereby agree to have read the SMS 2018 General rulebook and the 2018 SK Modified® rulebook.

**All 2018 NASCAR Whelen Modified Tour (NWMT) rules and Nascar Whelen All-American Series (NWAAS) rules, where applicable, will be enforced for the SMS SK Modifieds®, with the following changes and/or additions (EIRI):**

**DRIVER ELIGIBILITY** – All drivers must have a NASCAR FDD (Feature Division Driver) or higher driver’s license. Drivers competing in the SK Modified® division will not be permitted in the SK Light Modified, Limited Late Model, or DARE Stock division on the same event date. Drivers must be a minimum 16 years of age to compete in the SK Modified® division.

**20E- 1.3 APPROVED COMPETITION MODELS**– Approved model bodies are listed in the NASCAR Rulebook. Other models both domestic and foreign steel passenger cars may be approved for the SK Modified® division providing they are the same in body configuration and meet the spirit and intent of competitive racing in the SK Modified® division.

**20E- 2.2 OVERALL CAR WEIGHT** – All specified weight requirements will be with the driver. The minimum weight at all times will be 2,645 pounds. MOPAR engines over 359 cubic inch displacement must add 6.8 pounds per cubic inch over 359. No car will be allowed to have more than 56% of the total weight as the left side weight. Proper bore & stroke for engine type must be maintained. Any car found to be under the minimum overall car weight allowance will be penalized one position for every pound under the minimum weight.

**20E- 2.3 ADDED CAR WEIGHT** – Added weight must be in block form magnetic steel or lead only of no less than five (5) pound blocks (no pellets). Added weight must be securely bolted to the frame rail and painted white with the car number stenciled in black. No added weight will be permitted inside the driver's compartment. Weight must be welded in a box or attached with two or more "grade 8" bolts minimum 7/16" diameter.

**20E- 2.4 CAR WEIGHTS AFTER RACE** – Nothing may be added to or taken from the car to make total or left-side weight. Gas, oil or water may not be added. Wheels and tires cannot be changed, but an amount equal to one half of one percent (.5%) of the gross weight will be added for loss in weight due to race wear (minimum post-race weight of 2632 lbs.).

**20E- 3.2.3 SIDE WINDOW GLASS/WINDOW NET** – A nylon window net must be installed in the left side door window opening, and it must be positioned to cover the entire window opening. Window net should not be used beyond three (3) years from the date of manufacture. The window net must be rib type, made from minimum 3/4 inch, maximum one (1) inch wide nylon material with a minimum one (1) inch and a maximum 2-1/4 inches square opening between the ribs. The minimum window net size must be 22 inches wide by 16 inches high. All window net mounts must be a minimum 1/2 inch diameter solid steel rod on the bottom and a minimum one (1) inch wide by 3/16 inch thick flat steel or a minimum 1/2 inch diameter solid steel rod on the top, with mounts welded to the roll cage. The window net, when in the closed position, must fit tight and be secured with a lever-type quick release latch acceptable to SMS Officials. The lever must be secured by a detent ball in the lever and may be supplemented by Velcro® fastener only – pins or clips will not be permitted. The latch must be mounted at the top in the front to roof bar (#3) release from the inside.

**WINDSHIELD** – A flat windshield is mandatory, per the NWMT rulebook, made of a minimum of 1/8" polycarbonate that extends from the left A-pillar to the #4A center windshield bar and from the roof to the cowl. A minimum of three Dzus type fasteners must be used on each of the four sides.

**20E- 3.2.5 REAR VIEW MIRROR** – One (1) rear view mirror must be mounted at the top of the windshield. If running a head and neck restraint system, you may run a 14" X 2" mirror. If not, the mirror must be no larger than 8" X 2". No multi-image or side mirrors. Oversized mirrors maybe blacked out by the use of paint only, to obtain the 8" X 2" maximum reflective area. Spot mirrors of any size/type are not permitted.

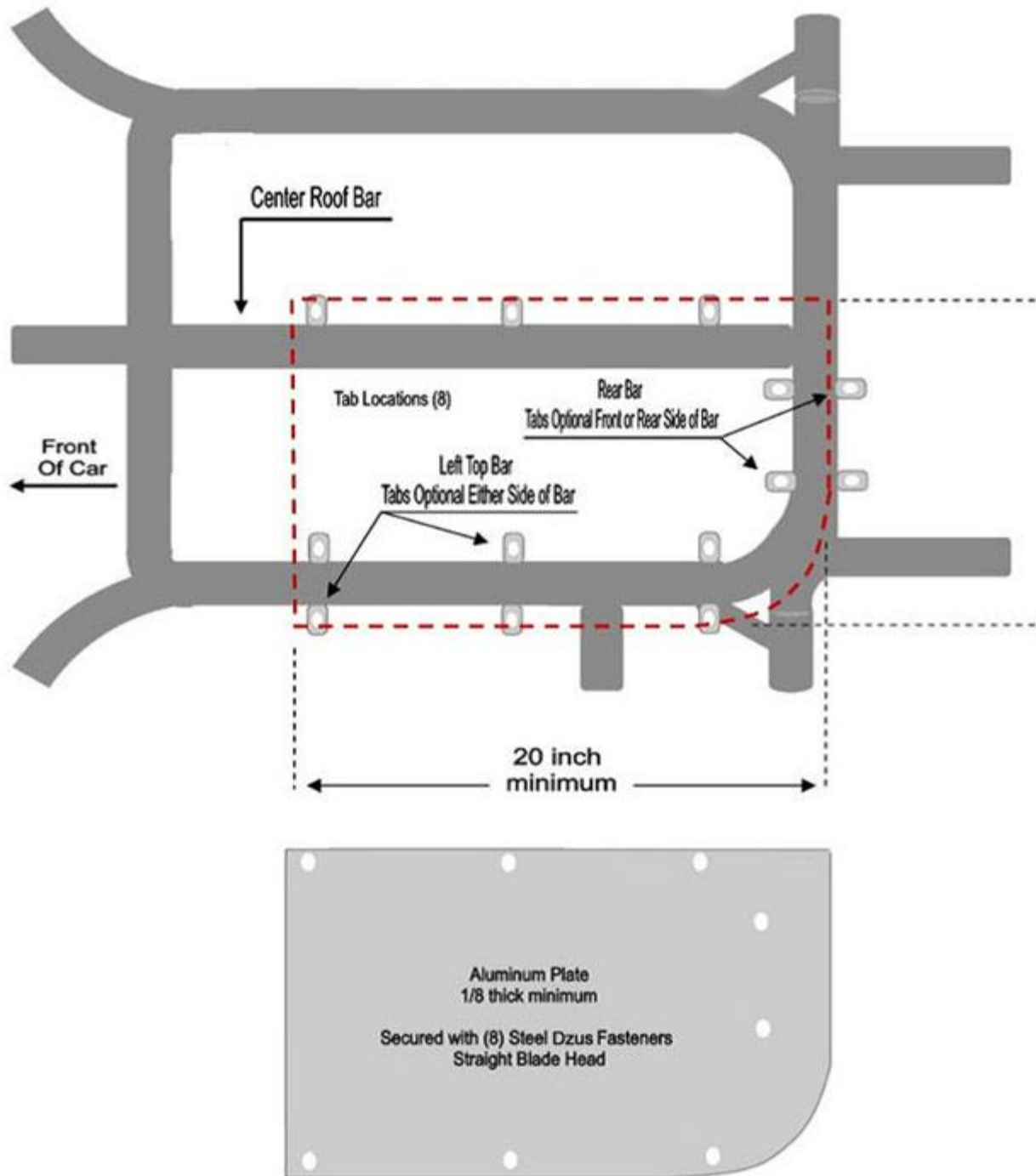
**20E- 3.5 DOORS** – Door panels may be made of magnetic steel or aluminum. Aluminum crush panels must be installed per the NWMT rulebook.

**20E- 3.6 QUARTER PANELS** – All quarter panels may be made of aluminum or magnetic steel.

**INTERIOR SHEET METAL** – The rear center panel (over the fuel cell) must be made of magnetic sheet steel, 22 gauge, .031” thick, with a minimum width of 28”, and must extend from the rear vertical panel forward to the #7 roll bar, per the NWMT rulebook.

**20E- 3.8 HOODS / ROOF-**

**C.** All roof panels must be made of magnetic sheet steel, or be an SMS approved manufactured fiberglass roof panel. All cars utilizing an approved fiberglass roof must install the (minimum) 1/8” thick aluminum anti-intrusion plate in the roll cage halo as described in the following diagram. For additional specifications on letters A. B. D. E. and F. see the NWMT rulebook.



**20E- 3.11 IDENTIFICATION** – All car number configuration and design is subject to approval by SMS Officials. Only single or double-digit numbers will be permitted. The size, color, and style of numbers must be adequate to permit prompt identification by SMS Officials at all times. Numbers must be solid color, at least 18 inches high, measured vertically, excluding borders and silhouettes, must be neatly attached to or painted on both sides of the car on the center of the door. Door numbers must be a minimum of four (4) inches in width, and slant no more than 30 degrees from vertical. The tops and bottoms of all numbers must be even (not staggered). Two

(2) digit numbers must not overlap and must have a minimum of ¾ inch separation. A solid number 18 inches high, excluding borders and silhouettes, must be neatly attached to or painted on the roof, reading from the passenger side. A solid number a minimum of 12 inches high, excluding borders and silhouettes reading from the passenger side neatly attached to or painted at a 45 degree angle on the right front corner of the roof is also acceptable. Solid numbers, as large as possible, must be attached to or painted on the right outer nose and taillight covers. The use of number decals is acceptable if SMS Officials determine that the number is legible. Mirror foil numbers and decals will not be permitted. Paint schemes using a mirrored or holographic appearance will not be permitted.

### **STAFFORD MOTOR SPEEDWAY SK MODIFIED® SPEC ENGINE RULES**

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.

**20E- 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-** 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

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.

#### **20E- 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 1185 grams.

**20E- 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.

**20E-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.

### **20E- 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.

**20E-5.8.1 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" (47.5mm). Camshaft may not exceed .550" +/- .005" lift at the valve with zero lash.

### **20E – 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.

**20E- 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.

**20E- 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 Officials reserve the right to swap competitors intake manifolds as part of their routine post-race tech process.

**20E- 5.10.2 CARBURETOR SPACER** –The Canton part number 85-065, 85-060, 85-060S or the 85-065S (with a maximum height of 1") may be used. One gasket per side, maximum gasket thickness of .075" permitted. The spacer may be cut out to a maximum dimension area (port hole) of 2.150" x 3.750". Additional openings for the induction of air is not permitted. All spacers must be approved by SMS Officials.

**20E- 15 FUEL SPECIFICATIONS** – The only approved fuel is Sunoco Supreme.

**A.** Icing or cooling of the fuel system is not permitted in the paddock, pit or racing area.

**B.** Gasoline may be tested and certified at any event through the application of various chemical analyses as considered appropriate by SMS Officials. Gasoline may be checked before, during and after the racing events.

**C.** Nothing may be placed in the fuel line other than a standard fuel filter. The use of any type of fuel catalyst or other fuel-altering devices is prohibited.

#### **20E- 9 ENGINE EXHAUST SYSTEM**

**A.** SK Spec Engine must use Flowrite Part Numbers: Troyer #3025, C.D. #3035, SPAFCO #3055, RACE WORKS #3045 Or the Kooks Part Numbers: Troyer #SMS1048, C.D. #SMS1438, SPAFCO #SMS1348, RACEWORKS #SMS1253

**B.** 180-degree headers, Tri-Y headers and Multi merge headers are not permitted.

**C.** The exhaust header flange must mount directly to the cylinder head with no spacers between the flange and the cylinder head. A maximum header flange thickness of ½ inch is permitted.

**D.** Inserts are not permitted in any part of the header or collector. Only one (1) collector allowed per side.

**E.** Exhaust pipes must come out of engine at cowl and must extend a minimum of six (6) inches past the cowl. Right exhaust pipe may run beneath the car, but must turn down and out toward the bottom of the right side frame rail.

**F.** Kooks #R35-30-10 or #R35-35-10, or the Flowrite #FR-300 or #FR-3500 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.

#### **20E- 10 ENGINE DRIVE TRAIN – FLYWHEEL AND CLUTCH**

**SPEC ENGINE-** The Quarter Master #298108 or #298158, 7-1/4" two disc V-Drive, with a 153



tooth steel OEM type ring gear/flexplate that weighs a minimum of 4.1 pounds may be used in 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

**20E- 5 GENERAL ENGINE REQUIREMENTS** – Engine must be OEM cast iron V8 production block, or the Dart SHP Block. Cylinder heads must be OEM or Dart 10024266, and intake must be OEM steel 2-barrel type. The maximum compression ratio allowed will be 11.5 to 1. Any engine found to exceed the 11.5 to 1 compression ratio limit will be deemed illegal and will refer to Whelen Modified Tour rule 20D-5.4 B for verification. The only approved engine for GM is the Chevrolet 350, Ford is the 351, Mopar is the 360. No deflashing, grinding, welding or painting of any internal area. Maximum overbore for GM and Ford is .065". Maximum overbore for Mopar is .030". No block may have more than two (2) cylinder sleeves installed and they must be made of cast iron material.

### **20E- 5.5 PISTONS/RODS**

**A.** Any flat top three (3) ring round aluminum piston with three (3) rings in place are permitted. Valve reliefs for valve clearance only may be cut into the pistons. No portion of piston may protrude above the top of the block. Self-centering connecting rod type pistons are not permitted, rods must align off the crankshaft rod journals. All three rings must be of flat magnetic steel. Dykes type rings are not permitted.

The minimum ring thickness permitted is as follows: Compression rings = .043 inch Oil ring assembly = 3.0 mm

**B.** Only magnetic steel piston pins maintaining a minimum diameter of .0927 inch are permitted. They must be contained by bushings only, not bearings. Full floating pins are permitted. Wrist pins may not be coated (DLC etc.).

**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.** Only solid magnetic steel stock type connecting rods are permitted. Hollow beam connecting rods are not permitted. All after-market connecting rods must be steel sportsman rods. Only normal engine balancing and the use of after-market bolts and nuts are permitted. Any form of deburring, deflashing, polishing, grinding or lightening is not permitted. Billet connecting rods are not permitted. The minimum/maximum rod lengths permitted are:

MANUFACTURER	MINIMUM	MAXIMUM
Mopar	6.000	6.250
Ford	5.778	6.250
GM	5.700	6.250

All connecting rods of an engine must be the same length.

**F.** Titanium and stainless steel connecting rods are not permitted.

**G.** Minimum weight for piston, pin, ring, bearing and rod assembly is 1075 grams.

**20E- 5.5.4 OIL PAN** – Dry sumps, external oil pumps or tanks or accu-sump systems are not permitted. Evac system pumps are not permitted. Windage trays of any type will be allowed. Oil coolers are allowed. Only OEM type in the pan oil pumps are permitted. Crank scrapers are not permitted.

**20E- 5.6 HEADS** – GM must use the GM Stock OEM steel 492 castings, the old style 461, the old style 462, or the Dart part number 10024266 cylinder head. GM Angle plug, Bow-tie or Vortec heads are not permitted. Intake valve must be 2.02" maximum diameter. Exhaust valve must be 1.60" maximum diameter.

Ford Cleveland or Windsor must use Stock OEM steel heads of two-barrel design that came on a passenger vehicle, with a maximum intake valve of 2.05" and exhaust valve of 1.66". Ford Motorsports heads are not permitted.

Mopar must use the Stock OEM steel passenger car version of casting number 3418915, or ENGINEQUEST Chrysler part number 318B, all with a maximum intake valve of 2.02" and exhaust valve of 1.60". W2 or TA heads are not permitted.

All GM and Ford heads must have a minimum of 60cc combustion chambers. Mopar heads must have a minimum of 64cc combustion chambers. When heads are checked at the track you will be responsible for cleaning and carbon removal to make the respective cc limit. The only modifications allowed will be the installation of valve guide sleeves and milling of the gasket surfaces, however angle milling, changing the angle of the head gasket surface in relationship to the rest of the head, is not permitted. Additionally altering the position or angle of the valve guide is not permitted. The addition of screw-in studs, guide plates, valve spring seats, optional valve seals, Poly-Locks or jam-nut devices are permitted. The only machining of valve guide bosses allowed is for seals only. Coolant return lines are allowed to be placed on the ends of the heads. No lines will be allowed on the sides of the head. Any other head must be approved. All other head modifications are not permitted, including but not limited to: porting, polishing or any grinding in ports or combustion chambers, chemical milling, glass beading or removal of any flashing or casting marks. No welding or sectioning. No internal modifications of any kind, including painting or Teflon coating. No more than two intake-mounting holes may have HeliCoils. Intake or exhaust manifold mounting holes may not be added or relocated. Holes must take standard intake manifold bolts. Head gasket surface milling tolerance for SK Modified® is 0.00" to 0.050" from true 23.00 degrees of stock valve position.

**VALVES** – All valves must be identical in appearance and construction as an OEM type valve. No air directional devices will be permitted on any of the valve surfaces. Valve stems must have a minimum diameter of 11/32 inch. Stainless steel replacement valves are permitted.

**VALVE JOB** – Three (3) angle valve jobs are permitted. When cutting the valve seat angles, no stone or grinding marks are permitted above the bottom of the valve guide. All cutting in reference to the valve job must be centered off the centerline of the valve guide. Upon completion of the valve job, the bowl area under the valve seat down to the bottom of the valve guide should still be the same configuration as far as shape and finish as it was from the

manufacturer. Surfaces and/or edges where the cutter or stone has touched must not be polished. No hand grinding or polishing is permitted on any part of the head. Un-shrouding of valves is not permitted.

**VALVE SPRINGS & RETAINERS** – Any type steel valve springs allowed. Double springs are permitted. Steel valve spring retainers only.

### **20E- 5.7 CRANKSHAFT**

- A.** Only stock production OEM crankshafts allowed. The main and rod journal size must be stock for the block being used. Original bore and stroke combination must be maintained. The maximum allowable stroke tolerance for GM and Ford will be +/- .015". Mopar will have +/- .005. Minimum main journal size .020 under stock. Minimum rod journal size .030 under stock.
- B.** After-market crankshafts, knife-edge crankshafts, small journal crankshafts are not permitted.
- C.** No machining or polishing of the crankshaft counterweights allowed. Standard engine balancing is the only acceptable modification that can be performed on this component. No painting or Teflon coating. No drilling of rod journals.
- D.** Minimum crankshaft weights are GM engines 50 lbs., Ford and Mopar 54 lbs.
- E.** Fluid harmonic balancers will be permitted.

### **20E- 5.8.1 CAMSHAFT**

- A.** Only magnetic steel camshafts will be permitted. The maximum camshaft bearing journal size must not be more than 1.870 inches (47.5mm).
- B.** Any type chain will be permitted. Belt-drive and gear-drive systems will not be permitted.
- C.** Only standard production sleeve type cam bearings will be permitted and must be standard diameter for the production block being used. Needle roller bearings will not be permitted.
- D.** Camshafts must be driven in the same direction of rotation as the approved standard production engine. The camshaft must maintain the same firing order as the NASCAR-approved production engine. The approved firing orders using approved cylinder identification are as follows:

GM and Mopar 1-8-4-3-6-5-7-2

Ford 1-3-7-2-6-5-4-8

- E.** The manufacturer's cylinder identification sequence is as follows:

GM and Mopar	Ford
(Front)	(Front)
1 -2	5-1
3-4	6-2
5-6	7-3
7-8	8-4

- F.** The front engine cover material must be acceptable to SMS Officials.
- G.** Maximum lift at the valve with zero (0) lash is .550".

**20E- 5.8.2 VALVE LIFTERS** – Stock lifter diameter must be maintained. No roller, mushroom, oversize, convex, concave or ceramic lifters. Only flat bottom magnetic steel straight barrel lifters of the same diameter and length as stock.

**20E- 5.8.3 ROCKER ARMS** – Roller rocker arms permitted. Rockers must be independent and stud type for GM and Ford. Stud girdles are permitted. Stock type shaft rocker system is allowed on Mopar only. Aftermarket shaft rocker systems are not permitted.

**20E- 5.9 INTAKE MANIFOLD** – Stock cast iron passenger car manifolds of 2 barrel design must be used. Manifold must be one that was used with an OEM two-barrel carburetor. Fuel injection/throttle body manifolds are not permitted. Throttle bores can measure no more than 1.730” dia. Intake ports must meet the following requirements a vertical height of 1.910” and a horizontal measurement of 1.175.” Runner size between ports must measure between .250” & .300”. You are required to have an unaltered stock 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. Absolutely no modifications of any kind are permitted. An SMS supplied stock 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 not permitted in the intake manifold.

**20E- 5.10 CARBURETOR** – 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 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.

**20E- 5.10.2 CARBURETOR SPACER** – Only one solid spacer made of aluminum or phenolic plastic of a maximum height of 1” permitted. Only one .075” maximum thickness gasket per side. No wedge shaped mounting surfaces, both top and bottom surfaces must be parallel. Spacer can be no larger than base of carburetor. Port holes or hole must be vertical to the surface with no

beveling, tapering, or flaring. No additional openings for the induction of air allowed. SMS Officials must approve all spacers.

#### **20E- 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.

**20E- 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.

**20E- 6.3 ALTERNATOR** – A functioning 12-volt single alternator system is optional.

**20E- 6.4 STARTER** – Stock type starter only. Must be in stock position and operative at all times.

**20E- 6.5 BATTERY** – One (1) 12-volt Gel or Glass Mat type battery with a minimum weight of 17 lbs is mandatory. The battery must be located between the frame rails under the hood or the 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 SMS Officials.

**20E- 6.7.1 RADIOS** – Are mandatory for communication between driver and crew. SMS reserves the right to monitor and broadcast radio communications between the drivers and crews as well as the right to revoke any and all communication privileges of the driver and crew if at their sole discretion and judgment that communication is being misused in any way.

Waddell Communications [www.waddellcommunications.com](http://www.waddellcommunications.com) 860-573-8821

**20E- 6.7.2 SPOTTERS** – Spotters are mandatory. Every car must have a spotter monitoring SMS race control by way of scanner or radio, located in front of SMS Race Control tower with radio communication to their car unless otherwise directed by SMS Officials.

Waddell Communications [www.waddellcommunications.com](http://www.waddellcommunications.com) 860-573-8821

**20E- 6.7.3 TRANSPONDERS** – Transponder are required on the cars at all times. See the SMS General Rules for locating transponders properly. Any car not registering a transponder signal during practice may be black-flagged to be made aware of their scoring transponders failure and is required to remedy it before proceeding further in the event.

**20E- 7 ENGINE COOLING SYSTEM** – Only Water or SMS approved coolants or additives may be used in the cooling systems. “Anti-freeze” coolants are not permitted.

#### **20E- 7.1 WATER PUMP**

- A. Steel or aluminum OEM type only. Electric pumps are not permitted.
- B. Modifications of stock impellers are not permitted.
- D. Any serpentine, cog or V-belt pulley system is permitted.

**20E- 8 ENGINE OIL SPECIFICATIONS** – The use of combustion enhancing oils or additives is not permitted.

#### **20E- 9 ENGINE EXHAUST SYSTEM**

- A. Headers are permitted. Headers must be a commercially manufactured header.
- B. 180-degree headers, Tri-Y headers and Multi-merge headers are not permitted.
- C. The exhaust header flange must mount directly to the cylinder head with no spacers between the flange and the cylinder head. A maximum header flange thickness of ½ inch is permitted.
- D. Inserts are not permitted in any part of the header or collector. Only one (1) collector allowed

per side.

**E.** Exhaust pipes must come out of engine at cowl and must extend a minimum of six (6) inches past the cowl. Right exhaust pipe may run beneath the car, but must turn down and out toward the bottom of the right side frame rail.

**F. 1. NON-SPEC ENGINE:** LOBAK # RCM 30-12-30, LOBAK # 35-12-35, Kooks P/N R3530-10 Flow-Right P/N FR350 or the Kooks R35-35-10 (3.5) mufflers are required at all times. Modifications or repairs of any type are not permitted on the muffler. Both muffler flanges must be intact. Mufflers must be removable for inspection.

**2. SPEC ENGINE:** Kooks P/N R3530-10, Flow-Right P/N FR350 or the Kooks R35-35-10 (3.5) Stainless Steel muffler required at all times.

**NOTE:** 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.

**I.** Exhaust system subject to approval by SMS Officials.

**J.** Interior coatings are permitted.

**NOTE:** The life expectancy for all Lobak 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).

**20E- 10 ENGINE DRIVE TRAIN – FLYWHEEL AND CLUTCH** – The Quarter Master #298108 or #298158, 7-1/4” two disc V-Drive, with a 153 tooth steel OEM type ring gear/flexplate that weighs a minimum of 4.1 pounds may be used in with the SK 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 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. The following weights are the minimum allowed for each part:

Flywheel only (no bolts) – Non-Spec Motor 12.5 LBS.

Pressure plate, Cover, & Solid Disc (no bolts) 16 LBS.

The steel solid disc (no bolts) must maintain a minimum weight of 2.5 pounds and a maximum weight of 3.8 pounds after the combined weight has been determined.

**20E- 10.3 BELL HOUSING** – Only a commercially manufactured magnetic steel bell housing may be used. The bell housing must enclose the flywheel 360 degrees with minimum 3/16” inch magnetic steel. Any modifications you make to the bell housing must be done with 3/16” steel and welded in place (no bolt on pieces). A commercially manufactured bell housing (like the Quarter Master # 008110440) with a bolt on bottom cover may be used. An opening no larger than 3 ½ x 4 inches may be used for throw out bearing access. This hole may be covered with sheet metal.

### **20E- 10.4 TRANSMISSION**

**The GM OEM production stock 3 or 4 speed transmission (top loader not permitted), Richmond two speed transmission (see approved part numbers below), or the Jerico 2SP (see approved part numbers below) transmission must be used.**

- A. All transmissions must have a constant engagement of the input shaft with gear and countershaft with cluster gears.
- B. High gear must have a ratio of 1 to 1 and no other gear may have a ratio higher than 1.20 to 1.
- C. The shifter and all of its components must be aluminum or steel.
- D. Five-speed transmissions, with gears removed are not permitted. Quick change transmissions are not permitted.
- E. Automatic or semi-automatic transmissions are not permitted.
- F. Machining or lightening of any internal rotating or non-rotating parts including gears, shafts, and case are not permitted. Gun drilled transmission shafts are not permitted. Welding on any internal part is not permitted. Lightweight parts, machining, coatings, or special bearing upgrades are not permitted.
- G. Additional or different from OEM bearings other than the tail-shaft, which may have roller bearings, are not permitted.
- H. The transmission must be a "side shift" unit. Top shift transmissions are not permitted.

#### **GM OEM Transmission-**

OEM Stock cast iron, aluminum or magnesium transmission housings, or the Magnus part number MRPSA-1009 housing is permitted. The OEM Stock transmission side cover must be used. Removal of first gear, or replacement of first gear with a metal spacer, in 4-speed transmissions is permitted. All other forward and reverse gears must be in working order, and they must be operational from inside the driver's compartment. Only OEM type, steel, angle cut forward gears are permitted. OEM gear ratios must be used. Lightweight parts, machining, coatings, or special bearing upgrades are not permitted.

#### **Richmond Two Speed-**

Modification of the dog-ring and slider (high gear only) in Richmond 2-speed transmissions is permitted. The following Richmond 2-speed transmission part numbers are the only approved Richmond part numbers: 7020010X, 7020026X, 7027010X, 7027026X, the X representing Richmond's ratios letter designator. The following Richmond produced low gear ratios are the only approved ratio for use in the Richmond 2-speed transmission: 1.2250, 1.3391, 1.4588, 1.5956, 1.7442. Lightweight parts, machining, coatings, or special bearing upgrades are not permitted.

#### **Jerico 2SP-**

The Jerico oval track 2speed transmission (part # 2SP, base model) as produced by Jerico is permitted.

The Jerico 2 speed transmission may be run, with only the following "Low Gear" options allowed: 1.2250 to 1.7100, and "High Gear" must be 1:1.

No modifications or options are allowed to the base Jerico 2SP.

The addition of any optional parts (other than base model supplied / needed), and/or any lightweight parts, machining, coatings, or special bearing upgrades are not permitted.

#### **20E- 10.6 REAR AXLE**

**B.** Full floating magnetic steel double splined rear axles must be used.

**B-1.** All axles must be a minimum of 7.00 pounds while still maintaining a 1.250-inch



manufactured outside shank size and a .6875-inch inside hole diameter.

- E.** Only magnetic steel axles, bearings, and axle housings are permitted. F. Only one-piece, magnetic steel axles will be permitted. The axle splines must be straight cut, not crowned. Crown type axle splines will not be permitted. G. Cambered rear axle housings or other cambered components will not be permitted. A tolerance of 1½ degrees of camber (positive or negative) will be permitted. H. Only aluminum or steel drive plates, the same thickness on the left and right side will be permitted. The drive flange splines must be straight cut, not crowned.
- L.** Only ten (10) inch ring gear and housings are permitted.
- M.** Thermal dispersant coatings are not permitted.

**GEAR RULE** – Quick Change rears must use a 4.11/4.12 (8/33 teeth), 4.57 (7/32 teeth), or 4.86 (7/34 teeth) 10” diameter ring & pinion gear set.

The 4.12 ring & pinion QC rear may use gear sets 25 (20/22), 12 (26/29), 7 (23/26), 7A (21/24), 17 (26/30), 17A (24/28) or 8A (23/27).

The 4.57 ring & pinion QC rear may use gear sets 1 (21/21), 2 (27/28), 5 (24/25), 15A (21/22) or 15 (19/20).

The 4.86 ring & pinion QC rear must use gear set 1, tooth count of 21/21.

Straight rears may use 4.86 maximum to 4.56 minimum, 10” diameter ring & pinion.

**20E- 10.8 TIRES** – Hoosier Tire East of Manchester Connecticut will be the sole supplier of tires for the SK Modified® and SK Light Modified Divisions. The size and compound numbers are 26.0/13.0-15 M30 on the left side and 27.0/13-15 450 on the right side. Tire purchases prior to the first scheduled race of the season may be made at Hoosier Tire East. After the first event of the season all tires used at SMS must be purchased at the track on race day. Each tire will carry a special bar coded serial number. The legibility of the bar code is the sole responsibility of the team. This number will be scanned and entered into a database designating it as a tire for use at SMS. Each scanned serial number will be placed on a Tire Inventory that will be assigned to the driver that the tires have been purchased for. Each driver must update and return a Tire Inventory Card to the SMS Tire Delegate at every event. This tire inventory card must be turned in to the SMS Tire Official prior to the events drivers meeting. For the first race of the season, SK Modified® drivers will be issued ten (10) tire credits. For each completed event attended a driver will be issued two (2) tire credits distributed as follows: The completion of a qualifying event (EIRI) will allow a driver to receive one tire credit and taking the green flag in the feature will allow a driver to receive one tire credit except for events where pre-qualifying is in use in which case the driver will be awarded two tire credits for taking the green flag in the feature. These tire credits may be used at any future race event. The amount of extra tires allowed for longer distance feature events will be determined by SMS Officials. After a designated number of weeks into the season and at the discretion of SMS Officials, any new driver will only be allowed to start their season off with six (6) new tires and two used ones (total of 8 inventoried tires). This number is the maximum number of tires that can be registered for use each week. Only the tires on the race inventory card for the SK Modifieds® will be allowed into the paddock area (EIRI). The maximum number of tires allowed in a driver’s race inventory throughout the season will be sixteen (16) for the SK Modified® division. Once a driver’s inventory has filled up to 16 tires, that driver must begin to manage their inventory by replacing used/junk/scrap tires. Tires that you throw away must have their barcode number designated as such. Please notify the SMS Tire Official of any tires you discard and will not use. SMS

Officials may change or amend this rule at any time. If a tire cannot be identified, it will be considered illegal. SMS Officials may confiscate and/or impound tires at any time for inspection. The JTR Eagle PPM Tester will be set at a fixed level and will be strictly enforced throughout the 2018 season.

### **20E- 10.8.1 PHYSICAL REQUIREMENTS**

**E.** Minimum circumference of right rear tire @ 20 psi. is 84".

**F.** Minimum Tire Pressures for all inspection purposes are ten (10) psi for both left side tires and fifteen (15) psi for both right side tires. Air may be added to the tires to achieve only the minimum tire pressures during inspections, per an SMS provided tire pressure gauge.

**NOTICE:** A participant competing in any race at SMS specifically agrees that he/she acknowledges it is illegal to soak or treat racing tires and that said soaking or treatment of racing tires is subject to suspension.

### **20E – 12.1 COIL SPRINGS**

Only coil spring suspension will be permitted. The suspension and coil springs at all four (4) wheels must be active and permit suspension movement in compression and rebound.

All downward chassis movement while the race vehicle is in competition must be limited only by the normal increasing stiffness of the springs or the bottoming of the chassis against the race track, whichever occurs first. Any device or procedure that in the judgment of SMS Officials attempts to detract from or compromise the above will not be permitted, including "coil-bind".

Any type of chassis travel limiter, used in compression or rebound, will not be permitted.

All coil springs must not be colder than ambient temperature.

***A maximum of two full (360 degree) spring rubbers in each coil over spring is permitted. Shock/Coil over boots or bags are not permitted.***

#### **Coil Over Springs:**

**1.** Coil over springs must mount to the lower A-frames.

**2.** Strut bars will not be permitted for mounting of coil over front springs.

**3.** Coil over springs must be manufactured from one solid piece of heavy-duty magnetic round steel (flat or oval wire is not permitted) and must be constructed with both coil ends closed and ground. One inactive coil on each end of the coil spring is permitted.

**4.** Only one (1) spring per wheel will be permitted.

**5.** Coil springs may be coated but coating thickness and material must be acceptable to SMS Officials.

**6.** All active coils of the spring must have the same coil spacing, same wire diameter, and same inside and outside diameter. The first and last coils may be different due to having closed and ground ends.

**7.** Progressive or digressive rate springs will not be permitted.

**8.** Front coil must be a minimum of 6" in free height. Rear coil must be a minimum of 8" in free height.

***\*SMS reserves the right to set and enforce a maximum coil spring rate in 2018.***

### **20E – 12.2 SWAY BARS (ANTI-ROLL BARS)**

Front sway bar(s), when used, must be for the purpose of anti-roll only. The front sway bar must

freely rotate in its mounts. The movement of the front sway bar arms must not be prevented or restricted beyond that of normal use as an anti-roll bar.

**A.** Only magnetic steel front sway bars will be permitted.

**B.** Rear sway bars (anti-roll bars) will not be permitted.

**\*SMS reserves the right to set and enforce a maximum sway bar spring rate in 2018.**

**20E- 12.3 COIL OVER SHOCKS** – Shock must be non-adjustable or single adjustable (rebound adjustable or gas pressure adjustable), available to all competitors “race ready” with a published price of \$440 or less ready to race, less any separate coil-over kits.

The following shocks are permitted for competition in 2018: Pro – AC series Koni – 30 Series AMF – SK Mod Series Genesis – G1 or G0 Series Integra – 310-411XX Avenger Series JRI – 200-426 or 200-427 QA-1 – 62 Series Penske – 7500 or 7150 Bilstein – ASN Series, AS2 Series, or XVA Series Shocks will be disassembled and dyno’d for inspection and comparison. Shocks must be used as they are purchased, with all factory supplied valving and components for the model number used. Any other shock must be submitted to SMS for approval (the parts approval process is described on the first page of the rules). Any submitted shock must be single adjustable, available to all competitors “race ready” with a published price of \$440 or less ready to race, less any separate coil-over kits. All shocks subject to SMS Officials’ approval.

**20E- 12.5 SPINDLES, WHEEL BEARINGS and HUBS** – Front spindles must be linked to frame utilizing two individual tethers per spindle. All tethers and their installation must be acceptable to SMS Officials. Low drag components (excluding seals) are not permitted. The use of oil filled hubs, oiled bearings, low friction bearings, non-steel bearings, coated or polished spindles, bearings or races will not be permitted. Two standard steel wheel bearings, a wheel bearing seal, a torque nut and a standard nut locking mechanism are the only components permitted on each spindle/hub assembly.

**E.** Oil filling of any spindles, wheel bearings or hubs is not permitted.

### **20E- 12.6 TRACK WIDTH REQUIREMENTS**

**A.** All cars must maintain the following track width requirements. A minimum front and rear track width of 82 inches and a maximum track width of 83-3/4 inches will be permitted. The track width will be determined by measuring the left outside wheel (rim) bead surface to the right outside wheel (rim) bead surface at spindle height.

**B.** Aluminum or steel spacers will be permitted to utilize the maximum allowable track width. Spacers must be acceptable to SMS Officials.

**20E- 12.8.2 GROUND CLEARANCE REQUIREMENTS** – The frame rail and sheet metal ground clearance will be a minimum of two (2) inches. All ground clearance requirements will be measured with the driver in the car.

### **20E- 14.1 BRAKE COMPONENTS**

**A.** Four wheel disc brakes are mandatory. Only magnetic cast iron or cast steel round circular rotors permitted. Only metal brake calipers will be permitted. Drilled, slotted or grooved rotors are not permitted. Only factory dust cleanouts are permitted. Dust cleanouts should not exceed .038 in depth. If the dust cleanout exceeds .038 in depth, the rotor may be deemed illegal. The brake rotors must be bolted directly to the hubs. Floating brake rotors will not be permitted.

**B.** Only Single stage master cylinders are permitted. All brake components are subject to SMS Officials approval.

**20E- 14.2 – BRAKE COOLING** Electric blowers are not permitted for cooling purposes in brake duct systems. Additionally, electric blowers are not permitted anywhere on the car for cooling (i.e. brakes, rear end, etc.).

**20E- 15 FUEL SPECIFICATIONS –**

**A.** The fuels listed below are permitted for use in the SK Modified® division. Any blending of fuels or use of any additives is not permitted.

<u>Brand Name</u>	<u>Grade of Fuel</u>
Sunoco Race Fuel	260 GTX*, Supreme*, and Standard*.
Power-Mist Race Fuels	TWS T112
VP Racing Fuels	VP C-12.

\*Sunoco Race Fuel is available at SMS. SMS Officials will take fuel samples as part of the normal technical inspection process.

**B.** Icing or cooling of the fuel system is not permitted on SMS property.

**C.** SMS Officials will take fuel samples as part of the normal technical inspection process.

**D.** Nothing may be placed in the fuel line other than a standard fuel filter. The use of any type of fuel catalyst or other fuel-altering devices is prohibited.

**20E- 16 FUEL SYSTEM –** See NWMT rulebook

**20E- 16.1 FUEL CELL –** Must meet NASCAR specifications with a fuel cell bladder made of a material that returns to its original size and shape after deformation. Rotational molded bladders are not permitted. It is highly recommended that the fuel cell bladder be no more than six (6) years old. Competitor must provide bladder model, serial number and date(s) to SMS Officials before competing. If a gas cap is used it must be painted white with the car number on it for identification. For additional specifications see the NASCAR rulebook. The minimum requirement for approved fuel cells at SMS are as follows: ATL Super Cell “100” FB1 – Series Bladders. (Note: the complete cell will be the SU1- Series), and the Fuel Safe Sportsman Cell (SM Series). Any cell that is rated above these cells (ATL 200 & 500 series), and the Fuel Safe Pro Cell (PC Series), will also be approved for competition at SMS. For additional specifications see the NWMT rulebook.

**20E- 16.2 FUEL CELL CONTAINER –** Fuel cell container must be RED.  
See NWMT rulebook.

**20E- 16.5.3 FUEL SHUT-OFF –** A 1/4-turn fuel shut-off valve of minimum 3/8-inch NPT with minimum 4-inch handle is required in the fuel line. The fuel shut-off valve must be located 8-inches inboard of the passenger side frame rail’s outside edge and 24-inches forward of the main roll bar (#1 bar). The fuel shut-off valve must be mounted securely to the underside of the driver’s compartment sheet metal. The fuel shut-off valve shank must protrude through a maximum 1-inch diameter hole in the sheet metal to the interior of the driver’s compartment. The fuel shut-off valve handle must be parallel with the sheet metal that the valve is mounted to. The fuel shut-off valve handle must be a minimum of 4-inches in length, red in color with a

minimum of 1-inch clearance from the sheet metal throughout its full travel. A minimum 6-inch by 6-inch square area must be painted white with the fuel shut-off valves' ON and OFF positions clearly labeled with 1/2-inch tall, black in color lettering. The shut-off valve must rotate clockwise from a ON position with the handle parallel with the frame rail, pointing towards the rear of the car, to the OFF position with the handle perpendicular to the frame rail pointing toward the driver.

**NOTICE** – Competitors are solely and directly responsible for the safety of their race cars and racing equipment and are obligated to perform their duties (whether as a car owner driver or crew members) in a manner designed to minimize to the degree possible the risk of injury to themselves and others.

**CONTINGENCIES** – Contingencies are a valuable part of the SMS program. Contingency stickers must be displayed for either product or monetary considerations. Each division will be notified as to what stickers are required. To be eligible for contingency rewards the stickers must be displayed on both sides of the car in such a manner as to be clearly visible in a photograph.

**20E – 18 ROLL BARS – (8) – (A)** The door bars (#9 A & B), on both the left and right sides, must have a minimum of four (4) bars equally spaced from top to bottom that must be welded horizontally between the vertical uprights of the main roll bar (#1) and the front roll bar legs (#2 A & B). The top door bar on each side must maintain a minimum vertical height of 15-1/2 inches from the top of the main frame rails to its centerline and match up with the intersection of the dash panel bar (#8) at the roll bar legs (#2A & #2B) at the front and the intersection of the horizontal shoulder bar (#7) at the main roll bar (#1) at the rear. All door bars must be convex in shape. The door bars (#9 A & B) must have a minimum of six (6) vertical supports per side with two (2) equally spaced between each door bar. These supports must be made from a minimum of 1-3/4 inches by 0.090 inch wall thickness magnetic steel seamless round tubing (not numbered but shown in the left side view of diagram #3). Right side door bars must cover a minimum of 25 inches of door length and may be either four (4) horizontal bars with six (6) vertical studs or two (2) horizontal bars and two (2) bars configured in an X design. If the X design is used, a vertical bar must connect through the center of the X from the top horizontal bar to the frame.

**(B)** A 13 gage (0.0897 inch thick) magnetic steel anti-intrusion plate(s) must be securely welded to the outside of the left side door bars. The anti-intrusion plate(s) must fill the area between the horizontal centerlines of the top and bottom door bars, and vertical centerlines of main roll bar (#1), and the left front roll bar leg (#2A). The plate(s) must be formed to match the curvature of the door bars. Plate(s) welded between the vertical upright bars should be as large as possible. All plate(s) must have the corners welded with one (1) inch of weld followed by a maximum of three (3) inches of surface not welded and followed again by a minimum one (1) inch weld. To facilitate emergency removal of the left side door bars (#9A), the anti-intrusion plate must have six (6), 2-1/8 inch diameter holes cut in the anti-intrusion plate, with three (3) holes forward of the front vertical supports and three (3) holes rearward of the rear vertical supports in the following locations: The upper two (2) holes must be centered vertically between the left side door bars (#9A-1&2), at an on-center distance of three (3) inches from the center of the front vertical support and the rear vertical support. The middle two (2) holes must be centered vertically between the left side door bars (#9A-2&3), at an on-center distance of three (3) inches from the center of the front vertical support and the rear vertical support. The lower two (2) holes

must be centered vertically between the left side door bars (#9A-3&4), at an on-center distance of three (3) inches from the center of the front vertical support and the rear vertical support (see Diagram #9A, in the rear pages of the rulebook).

(9) All cars must have a foot protection bar acceptable to SMS Officials installed on the left side of the roll cage. The foot protection bar must be located at or in front of the pedal assembly, when viewed from the side and above. The foot protection bar must be completely welded to the left front roll bar leg (#2A) and extend forward and be completely welded to the main frame rail or front sub-frame.

### **RECOMMENDED ENGINE BUILDER LIST**

***R.A.D. AUTO MACHINE  
80 RAVENWOOD DR.  
LUDLOW, MA 01056***

***Don Wood  
413-583-4414  
www.radautomachine.com***

***T/A ENGINES  
124 HILL TOP ROAD  
PLANVILLE, CT 06062***

***Tony Alteri  
860-747-6713***

***PERFORMANCE ENGINES  
79 HAYES STREET  
TORRINGTON, CT 06790***

***Billy Mathes  
860-489-0363***

***PETTIT RACING ENGINES  
44 OLD STATE ROAD UNIT 38  
NEW MILFORD, CT 06776***

***Mike Pettit  
860-354-3339***

***LARRY'S AUTO MACHINE  
AIRPORT IND. PARK  
GROTON, CT 06340***

***Gary Espinosa  
860-449-9112  
www.larryspower.com***

***CARLQUIST COMPETITION ENGINES  
98 FALLS AVE.  
OAKVILLE, CT 06779***

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