



## **2017** New London-Waterford Speedbowl **SK Modified Rules**

(Last Updated: 1-11-17)

### **2017** NLWS SK Modified Competition and Tech Contacts:

**TBA**- New London-Waterford Speedbowl **Saturday NWAAS** Race Director  
Email: **TBA** – Phone: **TBA**

Todd Stiles - New London-Waterford Speedbowl Technical Director  
Email: chiefinsp43@yahoo.com – Phone: 860-884-7798

Mark St. Hilaire - New London-Waterford Speedbowl SK Modified Technical Inspector  
Email: msthilaire@aol.com – Phone: 860-919-4141

All items marked in **RED** are new and/or are wording changes to the **2017** NLWS SK Modified rulebook.

All references to the New London-Waterford Speedbowl in the following rules may be referred to as (NLWS) as an abbreviation of the speedway name and deemed an official recognition of the New London-Waterford Speedbowl in this **2017** rule book.

Drivers & Car Owners are required to familiarize one's self with the General Track Rules as well as the SK Modified rulebook.

By registering as an owner or driver you agree to be knowledgeable and bound by the contents found in these divisional rules and in the General Rules.

### **2017 NLWS SK Modified General Rules**

#### **2.0) General SK Modified Division Rules**

In the following rules you will see the term “stock OEM” used. This means “original equipment manufacturer”. These parts must come on a standard production car.

- a) No carbon fiber or titanium parts allowed.



b) None of the following will be allowed in or on any engine or driveline component or part: abrasive cleaning, acid dipping, chemical milling, coating, epoxying, finishing, grinding, painting, plating, polishing, porting, etc.

c) The rules herein are for the New London-Waterford Speedbowl only, with no expressed or implied agreement with any other Division or Speedway as to their interpretation and/or method of inspection.

d) All equipment must be approved by track officials. No equipment is considered to be approved by reason of having passed through a technical or safety inspection unobserved. No car will be considered as having passed inspection for the event until the finish is made official.

e) All engine models, equipment changes, or modifications not specifically addressed in this rule book must be submitted to the New London-Waterford Speedbowl for consideration of approval prior to competition.

f) All equipment is subject to the approval of the New London-Waterford Speedbowl Officials.

g) Once a car has been presented to the New London-Waterford Speedbowl Officials for post-race inspection the entire car and all of its components become subject to inspection. This includes but is not limited to items designated for inspection following a particular event

h) All rule changes and updates made during the course of the season for the current rulebook will be posted to the New London-Waterford Speedbowl website ([www.speedbowlct.com](http://www.speedbowlct.com)). This will serve as the only form of official notification until the printing of the **2018** New London-Waterford Speedbowl rule book.

i) An aftermarket, aluminum fabricated racing seat, sized correctly for the driver, must be used. The seat frame must be made of steel tubing (min 1" round or square) and must be welded to the roll cage and/or frame. The seat cannot attach to any part of the floor pan. The seat must be bolted at 4 places at the bottom of the seat, and 4 places at the back. The bolts must be 3/8" diameter grade 8, with large fender washers on the seat side. You must have (2) head supports, (2) shoulder supports, and (2) leg supports bolted to your seat.

### 2.0.1) Scoring Transponder Location

Transponder mounting brackets will be installed on the inside (or outside) of the right rear frame rail. The round post of the bracket must be on top and the square tab on the bottom flush with the lower edge of the frame rail. The bracket must be mounted with its center line exactly 12" to the rear of the rear axle centerline and must be completely vertical to the ground. Transponders are required on the cars at all times. Any car not registering a transponder signal during practice will be black-flagged to be made aware of their scoring transponders failure and is required to remedy it before proceeding further in the event.

Transponders are available from: AMB, US, Inc. 32 Highlands Parkway, Suite 104 Smyrna, GA 30082 Tel 678-816-4000 Fax 678-816-4001

### 2.0.2) Driver Eligibility

All drivers must have a valid **2017** NASCAR Feature Division Driver or higher driver's license.



## 2017 NLWS SK Modified Technical Rules

All current NASCAR Whelen Modified Tour rules will be enforced for the NLWS SK Modified Division, with the following changes and/or additions:

### 2.1) Approved Models

Approved model bodies are listed in the NWMT Rulebook. Other models – both domestic and foreign steel passenger cars – may receive approval for the NLWS 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.

### 2.2) Weight

- a) All specified weight requirements will be with the driver.
- b) The minimum total weight at all times will be 2645 lbs. Mopar's with engines of over 359 cubic inch displacement must add 6.8 lbs. per cubic inch over 359.
- c) Maximum left side weight of all cars is 56% of total weight.
- d) Added weight must be magnetic steel or lead only, in block form, and weighing no less than five (5) lbs. per block (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 (2) or more 7/16" diam. (minimum) grade 8 bolts and locking nuts.
- e) 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.
- f) **All cars must have decals placed on both sides of the hood listing proper weight of the car at least 1" tall.**

### 2.3) Window Net

A commercially manufactured, SFI-rated, nylon window net must be installed in the driver side door window opening. It must be positioned to cover the entire window opening. Window nets may not be used beyond three (3) years from the date of manufacture. The window net must be rib type, made from minimum three-quarter ( $\frac{3}{4}$ ) inch and maximum one (1) inch wide nylon material with a minimum one (1) inch and a maximum two and one-quarter ( $2\frac{1}{4}$ ) inch 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 one-half ( $\frac{1}{2}$ ) inch diameter solid steel rod on the bottom and a minimum one (1) inch wide by three-sixteenths ( $\frac{3}{16}$ ) inch thick flat steel or a minimum one-half ( $\frac{1}{2}$ ) inch diameter solid steel rod on the top, with mounts welded to the roll cage. The window net must fit tight and be secured with a lever-type quick release latch. The lever must be secured by a detent ball in the lever and may be supplemented by Velcro® fastener only – pins or clips are not permitted. The latch must mount at the top in the front to roof bar (#3) and release from the inside.



#### 2.4) Windshield

A flat windshield is required, per the **2017** NWMT Rulebook, made of a minimum of one eighth ( $\frac{1}{8}$ ) inch 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.

SK Modified may run a left side vent window only. The window can be 1/8" Lexan. It must be fastened with Dzus style fasteners (non-wing style) to the roof A-pillar and top of the left door. It cannot go past the vent window bar #10 in the NASCAR Whelen Modified Tour rule book. It cannot make the left window opening for the driver any smaller. It must meet NLWS Officials approval.

#### 2.5) Rear View Mirror

One (1) single image 8" x 2" rear view mirror mounted in the center of the upper windshield is permitted. If you use a head and neck restraint system, you may run a 14" x 2" mirror. A three inch (3") spot mirror is permitted. Oversized mirrors may be blacked out by the use of paint only, to obtain the correct size allowed.

#### 2.6) Doors

a) All door panels must be made of magnetic sheet steel or aluminum. For additional specifications see the NWMT rulebook.

b) A magnetic steel anti-intrusion plate made from a minimum thickness of .080 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, and the left front roll bar leg. The plate(s) must be formed to match the curvature of the door bars. Individual plates, if used, should be made as large as possible. All plate(s) must have the corners fastened / welded. To facilitate emergency removal of the left side door bars, the anti-intrusion plate(s) 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, 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, 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, at an on-center distance of three (3) inches from the center of the front vertical support and the rear vertical support.

c) Aluminum crush panels must be installed per the **2017** NASCAR Whelen Modified Tour rules. For additional specifications see the NWMT Rulebook.

#### 2.7) Quarter Panels

a) All quarter panels must be made of magnetic steel or aluminum. For additional specifications see the NWMT rule book.



b) 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 **2017** NWMT Rulebook. For additional specifications see the NWMT Rulebook.

## 2.8) Hoods and Roof (Letter C)

- a) All roof panels must be made of magnetic sheet steel. For additional specifications, see the NWMT Rulebook.
- b) Roofs and roof posts must be fastened for quick removal with Dzus-type fasteners.
- c) A two (2) piece fiberglass roof with an anti-intrusion plate installed above the drivers head will be allowed. The plate must be secured with eight (8) Dzus-type fasteners and be a minimum of 1/8 aluminum and 20" long. Fasteners must be strait blade type and be able to be removed from the outside top of the car when the roof is removed to extract the driver.

*These 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. Please note that the following rules from the Built Motor Engine Specifications also apply to the Spec Engine program: 2.38 (Carburetor) through 2.47 (Oil).*

## 2.9) Spec Engine: General 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

## 2.10) Spec Engine: Detailed Engine Requirements

- a) Approved part numbers are as follows:
  - i) GM BLOCK - 10066034, 3970010, 3970014, 14010207, 14010209, 14011064, 14016379, the DART SHP, or any pre-existing GM Bow-Tie block.
  - ii) PISTONS- Wiseco Pro Tru-PT003H, JE SPR-157076, Manley-59053 or 5915 043/043/3.0MM the ring package used (type and thickness) must be the one designed for the piston used.
  - iii) RODS- Manley-14101-8, 14050R-8, or Crower Sports Rods- SP3205
  - iv) OIL PAN – Any pre-approved aluminum pan or Canton 11-196.
  - v) VALVES- Manley Intake 11596 or 11864, Manley Exhaust 11543 or 11863
  - vi) CRANK- Scat Cast or Steel - 9-350-3480-5700, Callies Comp Star Series, or Manley 190190.
  - vii) INTAKE- Edelbrock 7101
  - viii) HARMONIC BALANCER- ATI 917260 or 917320 or BHI CH-IBF-6-C or Power Bond PB1012-SS.
  - ix) CARB SPACER- CANTON- 85-060, 85-060S & 85-065, 85-065S.





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.

### 2.11) Spec Engine: Pistons and Rods

- a) Approved Parts: Wiseco Pro Tru -PT003H, JE SPR- 157076, or Manley-5915 piston must be used.
- b) Manley-14104-8 or 14050R-8, or the Crower Sport Rod- SP3205 must be used.
- c) 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

- d) 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.
- e) Piston pin holes must be in a fixed location in the piston and connecting rods.
- f) Only two-piece insert style connecting rod bearings are permitted.
- g) 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".
- h) Minimum weight for piston, pin, ring, bearing and rod assembly is 1185 grams.

### 2.12) Spec Engine: Oil Pan

Dry sumps, external oil pumps or tanks or accu-sump systems are not permitted. The Canton #11196 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.

### 2.13) Spec Engine: 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 two (2) intake-mounting holes may have HeliCoils. Intake and exhaust mounting holes may not be added or relocated. Holes must take standard dimension bolts.

#### 2.14) Spec Engine: 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.

#### 2.15) Spec Engine: 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.

#### 2.16) Spec Engine: 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 an installed 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.

#### 2.17) Spec Engine: 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".
- b) ~~Note: If you are currently converting an existing SK Modified Engine over to the SK Modified 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 NLWS Technical Inspectors to notify them of your intent to run this pre-existing crankshaft. The GM style crankshaft will be allowed until the conclusion of the 2014 season.~~
- c) Small journal or Honda pin crankshafts are not permitted.



- d) 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.
- e) Minimum crankshaft weight is 45 lbs. for the SCAT, Callies, or Manley crankshaft, and 50 lbs. for the old style SK Modified pre-existing crankshaft.
- f) The Power Bond # PB1012-ss, ATI 917260 , 917320, or the BHJ CH-IBF-6-C harmonic balancer must be used.
- g) The only approved firing order for the Spec Engine is 1-8-4-3-6-5-7-2.

**2.18) Spec Engine: Camshaft**

15 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.

**2.19) Spec Engine: 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.

**2.20) Spec Engine: 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. Comp rocker 1604 will be permitted.

**2.21) Spec Engine: 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, deflashing, 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: NLWS Officials reserve the right to swap competitors intake manifolds as part of their routine post-race inspection process.*

**2.22) Spec Engine: 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 air induction are not permitted. All spacers must be approved by NLWS Officials.

#### 2.23) Spec Engine: Fuel Specifications

- a) The only approved fuel is Sunoco Supreme.
- b) Several testing procedures will be utilized to ensure that all racers use the approved fuel. Fuel samples taken must exactly match all of the manufacturer's printed specifications, or penalties may result.
- c) Icing or cooling of the fuel system is not permitted in the garage, pit or paddock areas.
- d) Gasoline may be tested and certified at any event through the application of various chemical analyses as considered appropriate by officials. Gasoline may be checked before, during and after racing events.
- e) Nothing may be placed in the fuel line except a standard fuel filter. The use of any type of fuel catalyst or other fuel-altering device is prohibited.

#### 2.24) Spec Engine: Engine Exhaust System

- a) SK Modified Spec Engine must use Flowrite Part Numbers:  
Troyer #3025, C.D. #3035, SPAFCO #3055, RACEWORKS #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-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.

#### 2.25) Spec Engine: 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 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 diam.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

## Built Motor Specifications

### 2.26) Engine Requirements

a) Engine must be OEM cast iron V8 production block, or the Dart SHP Block. 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. The only approved engine for GM is the Chevrolet 350, Ford is the 351, and Mopar is the 360. No deflashing, grinding, welding or painting of any internal area. Maximum overbore for is .030." No block may have more than two (2) cylinder sleeves installed and they must be made of cast iron material.

### 2.27) Pistons & Rods

a) Any flat-top three (3) ring round aluminum piston with three (3) rings in place is permitted. Valve reliefs for valve clearance only may be cut into the pistons. No portion of the piston may protrude above the top of the block. All three rings must be of flat magnetic steel. The minimum ring thickness is as follows:

Compression Rings: 0.43 inches  
Oil Ring Assembly: 3.0 mm

b) Only stock type steel rods will be permitted. All aftermarket connecting rods must be steel sportsman rods with a steel pin. Only normal engine balancing, and the use of aftermarket nuts and bolts are permitted. Billet connecting rods are not permitted. The minimum/maximum rod lengths permitted are:

Minimum: 5.700  
Maximum: 6.250

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

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

### 2.28) Oil Pan

Dry sumps, external oil pumps, or tanks or accu-sump systems are not permitted. Evac system pumps are not permitted. Windage trays will be allowed. Oil coolers are allowed outside the body. Only OEM type in-the-pan oil pumps are permitted.



## 2.29) Cylinder Heads.

- a) Only stock OEM cast iron cylinder heads will be permitted.
- b) Approved Cylinder Heads
  - i) 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.
  - ii) 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 Windsor may use the cast iron "World Products Windsor, Jr." cylinder head – part number 05303B. Intake valve must be 1.94" maximum. Exhaust valve must be 1.60" diameter. This is the only approved aftermarket cylinder head.
  - iii) Mopar must use the stock OEM steel passenger car version of casting numbers 3418915, 4772576 or 448308 with a maximum 2.02" intake valve and a maximum 1.60" exhaust valve. Chrysler may use part 318B with a maximum 2.02" intake valve and a maximum 1.60" exhaust valve.
- c) No W2 or TA heads allowed.
- d) All cast lines and insignias must be clearly visible and complete.
- e) 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, option valve seals, Poly-Locks, or jam-nut devices are permitted. The machining of valve guide bosses allowed is for seals only. Coolant return lines are allowed to be placed on the ends of the heads. The following head modifications are not permitted, including, but not limited to: port matching, flow work, grinding, polishing, beading or chemical (acid) milling. No welding or sectioning. No internal modifications of any kind, including painting or Teflon coating. No more than two-intake mounting holes may have HeliCoils. Intake or exhaust manifold mounting holes may not be added or relocated. Holes must take standard intake manifold bolts.

## 2.30) 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. Hollow stem valves are not allowed. Stainless steel replacement valves are permitted. Minimum valve weights are 116 grams for the intake and 100 grams for the exhaust.

## 2.31) Valve Jobs

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 must still be the same configuration as far as shape and finish as it was from the manufacturer. Surfaces and/or edges where the cutter or stone has touched must not be polished. No hand grinding or polishing is permitted on any part of the head. Un-shrouding of valves is not permitted.



**2.32) Valve Springs & Retainers**

Any type steel valve springs allowed. Double springs are permitted. Steel valve spring retainers only.

**2.33) 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 lb., Ford and Mopar 54 lb.
- e) Fluid harmonic balancers will be permitted.
- f) If you are currently using an existing SK Modified engine crankshaft, you may use your existing cast or forged steel crankshaft, however, you must contact the NLWS SK Modified Technical Inspector and notify them of your intentions.

**2.34) Camshaft & Timing Chain**

- 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) Only standard production sleeve type cam bearings will be permitted and must be standard diameter for the production block being used.
- c) 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

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

GM and Mopar

(Front)

1 2

3 4

Ford

(Front)

5 1

6 2



5 6

7 3

7 8

8 4

- e) Maximum lift at the valve with zero (0) lash is .550".
- f) Any type chain will be permitted. Belt-drive and gear-drive systems will not be permitted.
- g) If you are currently using an existing SK Modified engine camshaft, you may use your existing camshaft; however, you must contact the NLWS SK Modified Technical Inspector and notify them of your intentions.

### 2.35) Valve Lifter

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.

GM Flat Tappet Lifter 0.842" x 1.88".

Ford Flat Tappet Lifter 0.75 **0.875**" x 1.95".

Chrysler Flat Tappet Lifter 0.904" x 1.79".

### 2.36) 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.

### 2.37) Intake Manifold

Only the latest Edelbrock performer intake, with the Edelbrock-applied American Flag, allowed. The part numbers are Chevrolet 2101, Ford 2181, **2665, and 2750** and Chrysler 2176. The intake must remain per manufacturer's spec out of the box. No alterations will be permitted. Older intakes with outdated part numbers are not permitted. Track supplied intake must fit your engine.

### 2.38) Carburetor

- a) Holley two-barrel model #4412 carburetor must be used. The body, base plate, metering block, and bowl must be a standard Holley 4412 part. HP parts are not permitted. Carburetors and/or carburetor components machined from billet materials are not permitted.
- b) OEM type gaskets, jets and power valve must be used.
- c) The diameter of every hole in the carburetor must pass the standard NASCAR/NLWS pin and tooling gauges as part of our routine inspection process.
- d) The only changes that will be allowed are as follows:
  - i) The choke plate and shaft may be removed, but must be permanently sealed.
  - ii) Throttle plate screws may be trimmed flush with the shaft.
- e) Body of carburetor and metering block: No polishing, grinding or reshaping of any part. Drilling of additional holes or plugging holes is not permitted.





- f) Choke horn may not be removed.
- g) Boosters may not be changed. Size or shape must not be altered. Height must remain standard.
- h) Venturi area must not be altered in any manner. Casting ring must not be removed.
- i) 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.
- j) Base plate must not be altered in shape or size.
- k) 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 the shaft but screw heads must remain standard.
- l) Throttle shaft must remain standard and must not be thinned or cut in any manner.

### 2.39) Carburetor Spacer

The Canton part number 85-065, 85-060, 85-060S, 85-065S or the Moroso part #64966 (with a maximum height of 1") ~~may~~ **MUST** 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 NLWS Officials.

### 2.40) Carburetor Air Filter

- 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 one and one half (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.

### 2.41) Ignition System

- a) An OEM type HEI distributor must be used. The distributor must have a stock-type housing, must be equipped with an OEM style magnetic pickup, module, or circuit board, be gear driven, and be mounted in the



stock location. Billett distributor housings are permitted. Single or dual point camshaft driven distributors are permitted.

- b) Only one ignition coil is permitted and must be mounted on engine side of the firewall.
- c) Electronic firing module amplifier box is not permitted.
- d) Computerized, multi-coil, dual electronic firing module box or crank trigger systems are not permitted.
- e) Magnetos are not permitted.
- f) Adjustable timing controls are not permitted.
- g) Retard or ignition delay devices are not permitted.
- h) Only MSD # 8727CT or MSD # 8728 External RPM limiter with the violet wire 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, will be permitted (if used.)
- 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, connection or devices. The entire length of the tachometer wire must be visible from distributor to 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.

#### 2.42) Alternator

A functioning 12-volt single alternator system is optional.

#### 2.43) Starter

Only a stock type starter is permitted. It must be in stock position and operative at all times.

#### 2.44) 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 NLWS Officials.

#### 2.45) Engine Cooling System

Only water or Water Wetter-type additives may be used in the cooling systems. No antifreeze allowed.

#### 2.46) Water Pump

A steel or aluminum, OEM-type mechanical pump must be used. Modifications of stock impellers are not permitted. Any serpentine, cog or V-belt pulley system is permitted.



#### 2.47) Engine Oil Specifications

Combustion enhancing oils or additives are not permitted.

#### 2.48) Exhaust Pipes/Headers/Mufflers

- a) Headers are permitted. Headers must be commercially manufactured.
- 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" is permitted.
- d) Inserts are not permitted in any part of the header or collector. Only one collector allowed per side. Crossover and pyramid type collectors are not permitted.
- e) Exhaust pipes must come out of engine at cowl and must extend a minimum of 6" rearward 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) Mufflers are mandatory. Unaltered LOBAK # RCM 30-12-30 or LOBAK # 35-12-35 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.
- g) Thermal wrap is not permitted anywhere on exhaust system.
- h) Only one muffler and exhaust pipe allowed per side. Exhaust pipe ends must be turned down to track.
- i) Exhaust system subject to approval by NLWS Officials.
- j) Interior coatings are permitted.
- k) Race teams are responsible for the condition of their mufflers. Mufflers found to have deteriorated baffles due to rust/rot will be treated the same as if they were modified. Your mufflers must be in good condition and have complete baffles.
- l) Note: Spec engine competitors, please see spec engine rules above on exhaust pipes.
- m) Kooks #R35-30-10 or #R35-35-10, or the Flowrite #FR-3500 mufflers may 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.

#### 2.49) Engine Drive Train, Flywheel and Clutch

- a) 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 4.2 pounds may be used in with the NLWS SK Modified engine.
- b) Optional stock type clutch rule: A Stock OEM dimension 153 tooth steel flywheel and a minimum 10" steel clutch and pressure plate may be used. OEM type steel pressure plate and steel disc only. Solid type discs only, no paddle or button type discs. Drilling or lightening of any part is not permitted. Magnetic 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.
- c) The following weights are the minimum allowed for each part:
  - i) Flywheel only (no bolts) – Non-Spec Motor: 12.5 lbs.
  - ii) Pressure plate, Cover, & Solid Disc (no bolts) – Non-Spec Motor: 16 lbs. course spine and 15.5 fine spline



- iii) 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.
- d) Drilling or lightening of any part is not permitted.

### 2.50) 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 1/2 x 4 inches may be used for throw out bearing access. This hole may be covered with sheet metal.

### 2.51) Transmission

- a) Only an OEM production stock 3-speed cast iron transmission, an OEM production stock 4-speed cast iron, aluminum or magnesium transmission, the Richmond 2-speed transmission (part # 7020010, 7020026, 7027010, 7027026) as produced by Richmond, or the Jerico oval track 2speed transmission (part # 2SP) as produced by Jerico are allowed.
- b) OEM production 3-speed cast iron transmissions may be run, and the only modification allowed is the tailshaft bushing may be replaced with a needle type bearing. No other modifications of any kind permitted.
- c) OEM Cast iron, aluminum or magnesium 4-speed transmissions may be run, and the only two modifications allowed are:
  - i) The removal of first gear.
  - ii) The tailshaft bushing may be replaced with a needle type bearing. No other modifications, such as, lightweight parts or added machining are allowed.
- d) The Richmond 2-speed transmission may be run, with only the following 3rd gear options allowed: 1.2250, 1.3391, 1.4588, 1.5956, and 1.7442. The dog rings inside the Richmond transmission may be replaced with aftermarket ones.
- e) No modifications or options are allowed to the base Richmond 2-speed. Any lightweight parts, added machining, or special bearing upgrades are not allowed.
- f) The Jerico 2 speed transmission may be run, with only the following 3rd gear options allowed: 1.2250 to 1.7100.
- g) No modifications or options are allowed to the base Jerico 2-speed. Any lightweight parts, added machining, or special bearing upgrades are not allowed.
- h) OEM Stock cast iron, aluminum or magnesium transmission housings, or the Magnus part number MRPSA-1009 housing are permitted. The OEM Stock transmission side covers must be used.
- i) All forward and reverse gears (except the ones that have been legally removed) must be in working order, and they must be operational from the driver's compartment with mechanical linkage.
- j) The shifter and all of its components must be made of steel or aluminum. k) No coatings allowed.
- l) No polishing, welding, machining, drilling, lightening or use of any type of coatings is allowed.
- m) High ratio must be 1 to 1.



## 2.52) Rear Axle

- a) Only aluminum or steel quick change and non-quick change center sections with a 10" ring gear equipped with aluminum or steel side bells will be permitted.
- b) ~~Full floating magnetic steel rear axles are mandatory.~~
- c) Only locked rear drive axles assemblies will be permitted. No limited slip or ratchet type differentials.
- d) ~~Thermal coatings are not allowed.~~
- e) For the purpose 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.
- f) **Full floating magnetic steel double splined rear axles with straight splines must be used.**
- g) **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.**
- h) **Only magnetic steel axles, bearings, and axle housings are permitted.**
- i) **Only one-piece axles will be permitted. The axle splines must be straight cut, not crowned. Crown type axle splines will not be permitted.**
- j) **Cambered rear axle housings or other cambered components will not be permitted. A tolerance of 1 1/2 degrees of camber (positive or negative) will be permitted.**
- k) **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) **Internal coatings of any type are not permitted.**

## 2.53) Gear Rule

- a) Straight rear minimum gear rule is 5.28 to 1. Maximum is 4.86 to 1.
- b) Quick Change minimum gear rule is 5.38 to 1 and maximum is 4.86 to 1.

## 2.54) Tires

- a) Hoosier Tire East of Manchester Connecticut will be the sole supplier of tires for the NLWS SK Modified Division.
- b) The size and compound numbers are 26.0/13.0-15 M30 on the left side and 27.0/13-15 ~~M45~~ **450** on the right side. If a tire cannot be identified, it will be considered illegal.
- c) NLWS Officials may confiscate and/or impound tires at any time for inspection.
- d) A participant competing in any race at NLWS 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 against EPA regulations and further contains carcinogens and hazardous material which are unfit for his/her health and the health of all competitors and spectators. Any participant found violating the rule is subject to suspension.





e) NLWS will announce the number of tires available to teams in advance, using a SK Modified Tire Inventory schedule located at [www.speedbowl.com](http://www.speedbowl.com). NLWS competitors are required to register tires for each event. Tire registration form must be submitted to NLWS designated tire coordinator at a determined time.

## 2.55) **Shocks and Springs**

All shocks are subject to NLWS Official's approval. Double adjustable shocks and remote adjustable shocks are not permitted. Springs must be magnetic steel. Shocks with a published racer's net price greater than \$350.00 are not permitted. Approved shocks must be within the price limit in their complete on-car form, less any separate coil over kits or parts.

**a) 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 NLWS 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.**

**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 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 NLWS 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.**

### **b) 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.**



**\*NLWS reserves the right to set and enforce a maximum sway bar spring rate in 2017**

**c) 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. 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. All shocks must be submitted to NLWS for approval. 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 NLWS Officials’ approval.**

#### **2.56) Bearings and Hubs**

- a) Front spindles must be linked to frame per NWMT rulebook using approved tethers. Low drag components (oil filled hubs, oiled bearings, low friction bearings, non-steel bearings, coated or polished spindles, bearings or races) will not be permitted.
- b) Oil filling of any spindles, wheel bearings or hubs is not permitted.

#### **2.57) Ground Clearance Requirements**

The frame rail and sheet metal ground clearance is a minimum of two (2) inches. All ground clearance requirements are measured with the driver in the car. 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 a NLWS provided tire pressure gauge.

#### **2.58) Brake Components**

- a) Four wheel disc brakes are mandatory. Only magnetic cast iron or cast steel, round, circular rotors are 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 will be deemed illegal. The brake rotors must be bolted to the hubs. Floating brake rotors will not be permitted.
- b) Only single stage master cylinders are permitted.
- c) All rotors and brake components subject to NLWS Officials’ approval.

#### **2.59) 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.).

#### **2.60) Fuel Specifications**

- a) The only approved fuel is Sunoco Supreme.
- b) Several testing procedures will be utilized to ensure that all racers use the approved fuel. Fuel samples taken must exactly match all of the manufacturer’s printed specifications, or penalties may result.



- c) Icing or cooling of the fuel system is not permitted in the garage, pit or paddock areas.
- d) Gasoline may be tested and certified at any event through the application of various chemical analyses as considered appropriate by officials. Gasoline may be checked before, during and after racing events.
- e) Nothing may be placed in the fuel line except a standard fuel filter. The use of any type of fuel catalyst or other fuel-altering device is prohibited.

#### **2.61) Fuel System**

#### **2.62) 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 NLWS 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 NLWS is 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 NLWS.

#### **2.63) Fuel Cell Container Installation**

See NWMT Rulebook

#### **2.64) Fuel Filler & Vent Requirements**

See NWMT Rulebook

#### **2.65) Fuel Cell Container & Installation**

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 one (1) inch clearance from the sheet metal throughout its full travel. A minimum six (6) inch by six (6) inch square area must be painted white with the fuel shut-off valve's ON and OFF positions clearly labeled with a one-half (½) inch tall, black in color lettering. The shut-off valve must rotate clockwise from an 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.*

## **2.66) Roll Bars**

- 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 one and three-quarters (1 ¾) 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 gauge (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), 21/8 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 NWMT Rulebook).
- c) All cars must have a foot protection bar acceptable to NLWS 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.

## **2.67) Radios**

- a) Spotters are mandatory.
- b) Every car must have a spotter monitoring race control by way of scanner or radio.



- c) All Spotters will be located in a central area designated by The New London-Waterford Speedbowl with 2-way radio communication to their car.
- d) Each spotter will be identifiable as to which car they are spotting for.
- e) Failure to monitor and obey radio direction will result in penalties.

**2.68) Electronics**

- a) No Onboard Computers, Automated Electronics, Recording Devices or Digital Readout Gauges of any kind are NOT permitted. "Tell-Tale" Type Tachometers are the only standard exception to this rule.
- b) Any team must get approval before using any in-car camera equipment.

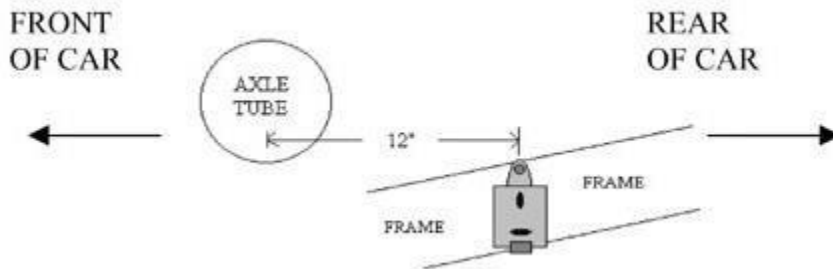
**2.69) SMS Spec Engine Builder List-**

**THIS HAS BEEN REMOVED. NLWS DOES NOT USE A Spec Engine Builder List.**

Link to **2017** SMS SK Modified Rules: <http://staffordmotorspeedway.com/2017-sk-modified-rulebook/>

**2.70) Picture Diagrams**

- a) Exhibit A – Transponder Location

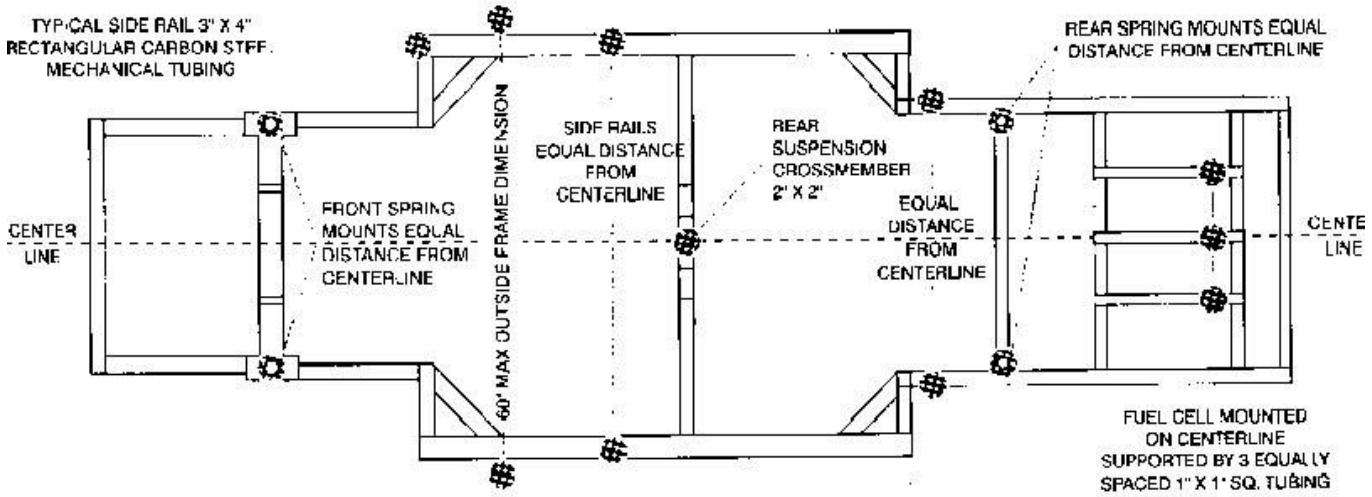




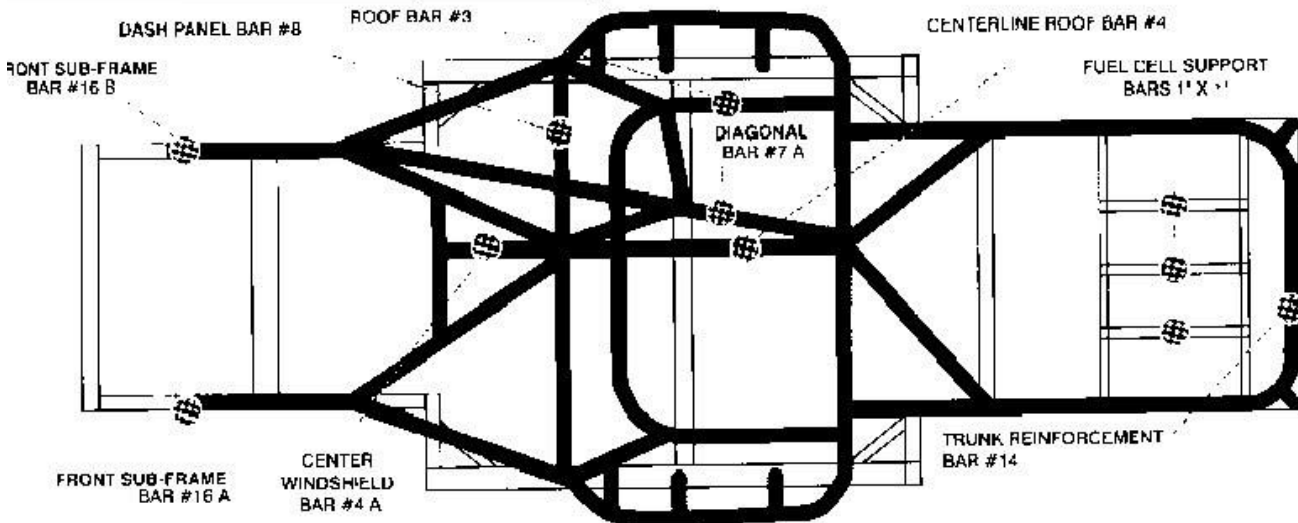


b) Exhibit B – NASCAR Construction Diagram

**DIAGRAM # 1 - TYPICAL NASCAR FRAME (PLAN VIEW)**

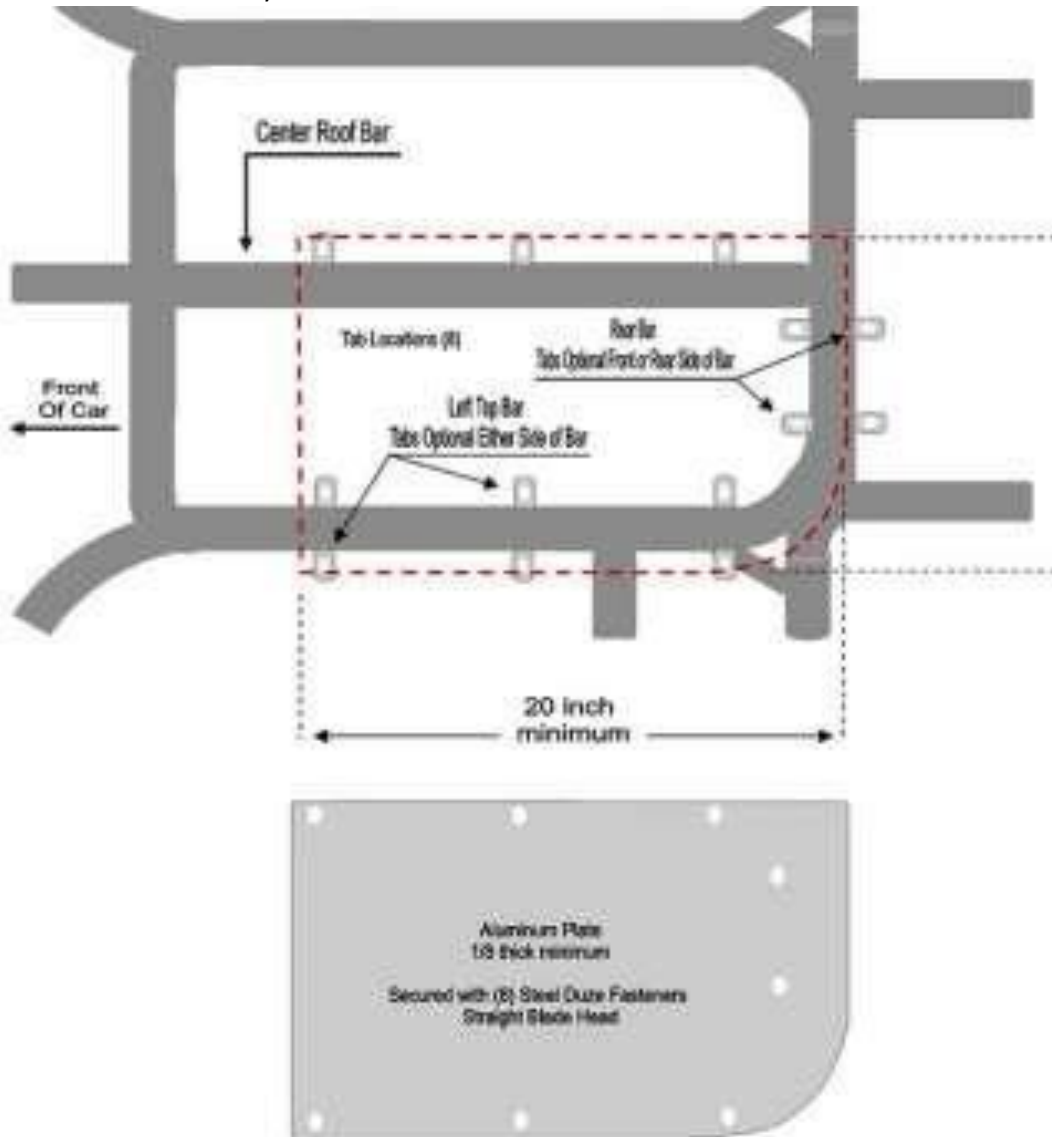


**DIAGRAM # 2 - TYPICAL ROLL CAGE AND FRAME CONSTRUCTION (PLAN VIEW)**





c) Exhibit C- Halo Bar Safety Plate



New London-Waterford Speedbowl officials reserve the right to interpret any and all of the above the published rules in any way, under the guidelines of the published **2017** NLWS SK Modified rules.

**NEW LONDON-WATERFORD**  
**SPEEDBOWL 2016 SK MODIFIED RULES**

---