2017 Limited Late Model Rulebook

ALL RULE REVISIONS FOR 2017
CHECK YOUR CORRESPONDING RULE BOOK FOR COMPLETE EXPLANATION.

LIMITED LATE MODEL RULE CHANGES
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PREFACE

The rules herein shall refer to Stafford Motor Speedway as "SMS". These rules are intended to create 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, 2016 unless otherwise authorized by SMS to be considered for competition for the 2017 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, and suspension, 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 2017 rule book or is not otherwise approved by SMS may not be used in competition in 2017.

By engaging in competition at SMS, you hereby agree to have read the SMS 2017 General Rulebook and the 2017 Limited Late Model Rulebook.

The 2017 NASCAR Whelen All American Series (NWAAS) rules for the Late Model Stock Car division are enforced for the SMS Limited Late Model division with the following changes and/or additions (EIRI):

DRIVER ELIGIBILITY- All drivers must have a NASCAR CHD (Charger Division Driver) or higher license. Drivers competing in the Limited Late Model division at SMS will not be permitted in SK Modified®, Late Model, SK Light Modified, or DARE Stock division on the same event date. Drivers must be minimum 15 years of age.

DEFINITION OF STOCK– In the following rules you will see the term OEM Stock used. This means Original Equipment Manufacturer. The parts must come on a standard production car. Special "Off-Road" or racing parts are not permitted unless pre-approved. No carbon fiber or titanium engine, chassis or body parts are permitted.

20F- 1 COMPETING CHASSIS – American made chassis with a minimum of 108" wheelbase as factory listed for that year and model. No Firebirds, Camaros, Mustangs or two passenger sports cars. No convertibles, station wagons, or using of their frames for other models. Body may be different from frame and engine but engine and frame parts must be from the same corporate line (i.e. GM, Ford, Chrysler). If you are in doubt about the eligibility of a make or model, check before you build it.

20F- 2.1 BODIES – All bodies must be stock for frame being used or be aftermarket SMS approved. See NASCAR Late Model Stock Car Division rule book for approved bodies and additional body specifications. Original dimensions of all bodies must remain as manufactured, except for changes which may be necessary for tire clearance. All aftermarket Limited Late Model bodies will be subject to the NGB or S2 body type measurements. SMS Officials will use the NGB or S2 type templates to insure the measurements from car to car are the same. All measurements from the NASCAR rule book and the NGB or S2 book are the same plus one (1) inch for vertical measurements. Tolerances are built into the templates, with the exception of the 18- ¼" min deck lid length, all other measurements that say minimum or maximum shall be considered as exact for this division. Any other models must be approved by SMS. Older cars with higher roof heights will be adjusted according to the rule. The following NGB bodies and Metric Muscle bodies are approved for all Limited Late Model cars: Pontiac G8 Chevrolet Malibu Cadillac CTS Dodge Charger Lincoln MKS Metric Muscle Camaro Metric Muscle Mustang All vertical body measurements will be done at 5" ride height.

20F- 2.2 OVERALL CAR WEIGHT – All specified weight requirements will be with the driver. The minimum weight for all cars will be 3,100 pounds. No car will be allowed to have more than 55.0% of the total weight as the left side weight. A "lead box" made from magnetic steel rectangular or square tubing may be welded to the outside edge of the drivers side frame rail. The bottom of the lead box may not be lower than the frame where it is attached. The lead box must have suitable end caps or bolts used to retain the lead. All lead boxes shall be acceptable to SMS Officials. All other weight must be bolted to the inside of the frame rail and above the lowest edge of the frame where weight is mounted. Any car found to be under the minimum overall car weight allowance will be penalized one position for every pound under the minimum weight. This does not apply to left side weight requirements.

20F- 2.3 ADDED CAR WEIGHT – Added weight must be in block form of no less than five (5) pound blocks (no pellets) of magnetic steel or lead only. 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.

20F- 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 (3085 lbs. minimum post-race).

20F- 3 DETAILED BODY REQUIREMENTS – Steel aftermarket replacement bodies may be used in place of stock. Hood and roof only may be made of fiberglass. Steel front fenders must be replaced with Steel or poly fenders only. Fiberglass front fenders are not permitted. Rear quarters must be replaced with Steel or Poly only. Body must be straight, stock, and mounted in the stock location on the frame. No lowering, chopping, channeling or streamlining of any body parts or roof. Stock window openings must be maintained. No aluminum or fiberglass replacement parts unless noted elsewhere in the rules. All exterior chrome trim ornaments, outside mirrors and door handles must be removed. Replacement body parts must meet

NASCAR templates. Body skirts or lower body rocker panel flares are not permitted. Rolled under rocker panels are recommended. Rear spoilers are not permitted, however, the ARP New Era Adjustable Wing is permitted for use on any Limited Late Model car.

20F- 3.1.1 FRONT AIR DAM – Approved air dams must maintain 5" ground clearance.

20G- 3.2.1 WINDSHIELD / WINDSHIELD BRACES – A polycarbonate windshield must be used in lieu of a standard glass windshield. The windshield must be clear (no tint permitted). A 1" wide border may be painted/taped on the sides of the front windshield. Full windshield is required to be made of clear 1/8" thick Polycarbonate. The windshield must maintain the OEM Stock angle and fit the SMS template. The windshield must have a minimum of two (2) metal straps or braces 1/8 inch by one (1) inch installed inside the windshield. The straps must be bolted to the roof panel or roll bar at the top and the dash panel at the bottom with minimum 5/16 inch diameter bolts. A piece of rubber stripping must be installed between the windshield and straps. The straps must be installed in a manner that will not obstruct the vision of the driver. Windshield fasteners must be acceptable to SMS Officials. Driver and/or passenger side windows are not permitted. NOTE: Rear and side windows are permitted only if an ARP New Era Adjustable Wing is utilized.

20G- 3.2.2 REAR WINDOW – An optional full clear Polycarbonate rear window is approved. Two (2) metal straps or braces 1/8 inch by one (1) inch are required inside and outside. The rear window must maintain the OEM Stock angle and fit the SMS template. Access holes in the rear window for the rear jacking bolts must not exceed a maximum diameter of 1-1/4 inches. The rear window must be securely fastened in place with bolts or rivets.

20G-3.2.3 SIDE WINDOW GLASS/WINDOW NET – All door window (side) glass must be removed. A clear flat polycarbonate vent deflector panel may be installed at the bottom of the windshield "A" post. The deflector may extend a maximum of eight (8) inches rearward from the lower rear edge of the "A" post. The rear edge of the vent deflector must be vertical. Quarter window openings must maintain the OEM Stock size, shape and location for your year/make/model. Optional quarter windows are approved and they must be flat clear polycarbonate and must cover the entire quarter window opening. If quick release fasteners are used, they must be the flush mount type. All other fasteners must be acceptable to SMS Officials. Only one (1) air inlet in each quarter window is permitted. The maximum hose size is three (3) inches. Ducts that are installed in the direction to create vacuum (suction) are not permitted. A commercially manufactured, SFI rated nylon window net must be installed in the drivers 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 ¾ 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 must be 22 inches wide by 16 inches high. All window net mounts must be a minimum ½ 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 ½ 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.

20F- 3.2.5 REAR VIEW MIRROR – One (1) single pane rear view mirror, with a maximum size of 8' x 2", may be mounted at the top of the windshield. No multi-image or side mirrors. Drivers wearing approved head and neck restraint devices may use one (1) spot mirror that must be mounted to the #10 A bar. The Spot Mirror must be a maximum diameter of three inches (3").

20F- 3.3 DASH BOARD – Stock unit may be removed but must be replaced with magnetic sheet steel, a minimum of 24-gage (0.025 inch thick), of similar design the full width of the body.

20F- 3.4 FIREWALLS

A. Front firewall must be no further than 2.250″ from the front edge of frame rails, and be made of minimum .031″ magnetic sheet metal with all holes covered using sheet metal a minimum of .031″ thickness. The front firewall must extend down to the top of the frame. The bottom 8.0″ may angle no more than 70 Degrees, before going upward at 90 Degrees.

B. Rear firewall must be made of minimum .031″ magnetic sheet metal securely installed over the rear seat back brace and top shelf or "hat rack", completely closing off the trunk compartment.

C. The top shelf or "hat rack" must be positioned horizontal and approximately level, attaching to the #7 bar. On the driver side of the hat rack, there must be a containment area for the seat belts. This can be constructed by making a cut out 42″ from the back edge of the hat rack. The inverted box should go from the top of the hat rack to the top of the #6 bar. This box should be approximately 13.500″ by 8.250″ and be angled at 70 degrees and must be welded in place.

D. The interior area of the car must be completely enclosed from front to rear with fire walls made of not less than 22 gage (.031 inch thick) magnetic sheet steel. The floor area on the left side must not be lower then the top of the frame rails except an area maximum 24 inches by 24 inches directly under the seat where the floor may be dropped not lower than two (2) inches above the bottom of the frame rail. The floor area on the right side of the seat may be a maximum eight (8) inches to the top of the driveshaft tunnel and extend to the right door panel. All interior panels must be welded. Door bars may not be paneled on the inside. All door bars above eight (8) inches must be visible from inside car. The floor must be sealed to the bottom of the door on both sides of the car. The rear seat area must seal to the rear firewall.

E. Door bars may not be covered on the interior of the car and must be visible for inspection from the inside of the car.

20F- 3.5 DOORS – Doors may be steel or aluminum. External nerf bars, made of a maximum 1" round tubing may be used. The nerf bars must be located between the front and rear wheel only, be spindle height, must fit tight to the body panels, and must be painted the same color as the body panels that its attached to. The ends of the nerf bars must be turned into and go through the body or be bolted at the end of the bar with a flush bolt that goes through the body to an interior bar of the same length as the outside bar to prevent hooking. The outside bar must have the ends rounded. Spreading or narrowing of the body is not permitted. Doors must have OEM Stock contour.

20F- 3.6 FENDERS – Full front and rear quarter panels are required. Inner fender wells must be removed from front fenders. Fender and quarter panel location, dimensions and angles must remain stock. Wheel openings may be trimmed a maximum of 2" from the outside edge of the tire for clearance.

20F- 3.7 GRILLES – Grill openings must remain stock for body run. Stock unit may be replaced with screen between headlight doors and stock grill frame. No car will be permitted to run with an open front grill area.

20F- 3.8 HOODS, ROOF

A. Hoods may be made of steel, aluminum or fiberglass. A maximum of two-inch (2") nonfunctioning scoop is permitted. The hood and scoop must seal tight to the fenders and windshield. Hood must be in place at all times.

B. Hood must be held closed with quick release pins. Hinged hoods are permitted.

C. No holes or functioning air scoops allowed. Hoods must lay flat.
D. No openings for air to the carburetor or breather are permitted.
E. All roofs must be the same size and shape of a production roof. Steel or fiberglass roof permitted. Roof panels must be permanently mounted in the stock position the same as a stock production roof for the make and model car being used.

20F- 3.9 TRUNKS – The rear deck lid must maintain the same dimensions, angles and bodylines as the stock production car. Lid may be held closed with quick release pins. Reinforcing inner panels may be removed. All openings in rear panel must be covered. Floor of the trunk area must be removed. Complete taillight panel and bumper covers must be run. No flat back cars. Taillight decals are recommended.

20F- 3.10 BUMPERS/BUMPER COVERS – The bumpers/bumper covers must be acceptable to SMS Officials and meet the following requirements:
A. The front and rear bumpers and/or bumper covers must be installed in the same location as far as height, width and depth as a stock factory production bumper.
B. Magnetic steel tubing must be used to reinforce the front and rear bumper covers. The tubing must not be exposed and must remain behind the bumper covers.
C. The front and rear bumpers/bumper covers must be solid. Holes will not be permitted.
D. All front and rear bumper covers must be painted the same color as the car including bolts and rivets.

OPTIONAL REAR BARS- Two bars, made of 1 ¼" OD round magnetic steel tubing will be allowed to be added to the fuel saver bar, and connect to the bottom of the main bumper bar. These two bars may have one 90 degree bend in them, and may be bolted or welded in place. These are the only bars that will be exposed from the bumper cover.

20F- 3.11 IDENTIFICATION – Roof numbers must read from passenger side of car. SMS reserves the right to assign number colors. Refer to 2017 NWAAS rule book.

20F- 3.12 BODY TEMPLATES – Templates may be used. The decision of SMS Officials is final. All vertical body measurements are measured at cars race ready ride height.

20F- 4 GENERAL SMS 602 CRATE/SPEC ENGINE REQUIREMENTS – A 602 crate/spec engine based on the GM Performance Factory Sealed Circle Track Crate Engine is permitted. The engine that will be used will be the GM Part Number 88958602 GMR 350/350 Circle Track Engine with spec modifications that can be done only through an SMS approved service center. The engines will be inspected and resealed upon completion by SMS Officials. All engine seals must remain intact and un-tampered with. Any service work requiring the removal of any seal bolts must also be scheduled with, and approved by SMS before the seal bolts are removed. Tampering with seals may result in severe penalties and loss of eligibility of the engine to compete in the Limited Late Model division.

The SMS approved service center for the GM Performance Factory Sealed Circle Track Crate Engines is: R.A.D. Automachine Ludlow, MA 1-413-583-4414

20F- 5-A DETAILED SMS 602 SPEC/CRATE ENGINE REQUIREMENTS- ***The detailed parts and labor list is available at our SMS approved service center.***

20F- 5.10 CARBURETOR SPEC – The Holley 650 cfm four-barrel P/N 80541-1 carburetor must be used. Polishing, grinding, resizing or reshaping of any part or orifice is not permitted. The body, base plate, metering blocks, and bowls must be a standard Holley 80541-1. HP parts

are not permitted. OEM type gaskets, jets and power valves 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 blocks: 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 80541-1 butterflies must be used. They may not be thinned or tapered. The 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.

20F- 5 GENERAL ENGINE REQUIREMENTS- ***The SMS approved service center for the GM Performance Factory Sealed Circle Track Crate Engines is: R.A.D. Automachine - Ludlow, MA - 1-413-583-4414***

The GM part number 88958602 factory sealed circle track "602" crate engine is the only engine permitted. The motor may be purchased and delivered to one of our authorized SMS service centers, or you may purchase the engine through one of our authorized SMS service centers. This engine requires specific changes made to it to compete, and the work will be performed at the authorized SMS service center, then the engine will be resealed by SMS Officials. Any service work requiring the removal of any seal bolts must also be scheduled with, and approved by SMS Officials before the seal bolts are removed (see engine package "B" below). Tampering with seals will result in penalties and loss of eligibility of the engine to compete in the Limited Late Model division. All engines must be sealed and documented to compete at SMS. All of the parts specified and/or that come stock OEM on these engines must remain as delivered, with no modifications or alterations of any kind. Engines may not be disassembled without being in need of repair. A maximum overbore of .030" will be permitted. The maximum static compression ratio is 9.3 to 1. The required intake manifold is the GM P/N 12366573. Please call our authorized SMS service centers or email the SMS technical staff at j3ams@comcast.net with any questions on these rules.

20F- 5-A CRATE ENGINE "A" REQUIREMENTS – Required internal changes to this factory sealed engine are: new valve springs, timing chain and gears. The required external changes are a new harmonic balancer and oil pan. The base price for this motor with the required changes is $5,800. The "A" package engine is factory standard bore.

20F- 5-B CRATE ENGINE "B" REQUIREMENTS – Once you have disassembled the "A" engine package (for rebuild or repair), additional work is required to bring the engine up to the "B" specification. Please consult your authorized SMS service center for details and price (dependent on service required). .020" up to .030″ overbore is permitted for the "B" package.

20F- 5.1 ENGINE LOCATION
A. Engine must be in the stock location for a V8 in the chassis being run. Stock engine location is when the distance between centerlines of the forward most fuel pump to engine block

mounting bolt and the upper idler-arm to frame mounting bolt measures 8.75" inches +/- .25" inch, with all bolt holes being in Stock OEM location.
B. The front centerline of the crankshaft must be no less than 12- 3/4 inches from the ground with the car's frame set on five inch (5") high blocks under all four outer corners of the frame.

20F- 5.12.1 CARBURETOR AIR FILTER / AIR FILTER HOUSING
A. Only a round dry type paper air filter elements maintaining a minimum 12 inches and maximum 14 inches diameter will be permitted. The air filter element must maintain a minimum of 1 ½" inches, and a maximum of 3.5 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 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. Plastic air filter housings or parts are not permitted.
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 base, so long as the one (1) inch specification is not exceeded.
D. No part of the air filter or air filter housing will be permitted to protrude through the hood

20F- 6.1 IGNITION SYSTEM
A. 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. A MSD # 8728 External RPM limiter with a 6,400-RPM chip is mandatory. The violet wire of the MSD # 8728 must be cut back flush to the unit's housing. The green and the white wires of the MSD # 8728 must run directly to the coil negative. The MSD # 8728 must be mounted on the engine side of the firewall in plain view. Track officials may require the replacement of the RPM chip with a track issued chip at any time during an event. RPM limiters must be fully functional and operational at all times.
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.
L. GM firing order must be 1-8-4-3-6-5-7-2.
M. The manufactures cylinder identification sequence is as follows:

G/M
Front
5-1
6-2
7-3
8-4

20F- 6.2 STARTER – Stock type starter only. Must be in stock position and operate at all times.

20F- 6.5 BATTERIES – The battery must be located in an enclosed battery box, complete with a cover behind the front spindle but no further back than to have the front surface of the battery flush with the firewall or in front of the rear axle housing behind the rear firewall. The battery must be completely closed / sealed off on the driver side of the firewall. The battery box must be mounted inside the outside edge of the frame rails and must not extend below the bottom of the frame rail. Any battery that would be installed during the race must be installed in the battery box. One (1) 12-volt Gel or Glass Mat type battery with a minimum weight of 17lbs. is mandatory.

20F- 6.7 ACCESSORIES – No onboard computers, automated electronics, recording devices or digital readout gauges of any kind are permitted.

20F- 6.7.1 RADIOS – Monitoring of SMS Race Control on Frequency 461.13750 is mandatory via a Raceceiver, Microscanner, or Receiver. The approved one-way receiver must be mounted in plain view for inspection on the back of the driver seat. Any car not monitoring the Race Control frequency during practice will be black-flagged to be made aware of their failure and is required to remedy it before proceeding further in the event.
Track Frequency Limited Late Model- 461.13750
Waddell Communications www.waddellcommunications.com 860-573-8821

20F- 6.7.2 TRANSPONDERS – Transponder are required on the cars at all times. See SMS General Rules section for locating transponders properly. 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.
MYLAPS AMERICA www.mylaps.com 1-678-816-4000

20F- 7 ENGINE COOLING SYSTEM – Only water or SMS approved coolants or additives may be used in the cooling systems. The addition of coolant lines to the engine block, intake or cylinder heads is not permitted.

20F- 7.1 WATER PUMP
A. OEM type pump must be made of steel or aluminum only. Electric pumps are not permitted. Modifications of stock impellers are permitted. Combination water pump/alternator units are not permitted.
B. Any V-Belt or serpentine pulley and belt system is permitted. Cog belts or pulleys are not permitted. Pulleys may be either steel or aluminum.

20F- 7.2 FAN – Electric fans are permitted.

20F- 7.4 RADIATOR
A. Passenger steel or aluminum car radiators only. Radiators may be interchanged between makes and models but must be stock type. Radiator must be in stock location.
D. All cars must be equipped with an approved overflow catch can under the hood by the right

front fender. The over flow hose coming out of the catch can must run and up through a fitting in the cowl, at the base of the windshield on the right side.

20F- 8 ENGINE OIL SPECIFICATIONS – Combustion enhancing oils or additives are not permitted.

20F-9 ENGINE EXHAUST SYSTEM
A. There will be two headers for the crate engine, they are the Kooks P/N- 15055 or 6250200, and the Flow Right P/N-FR275FF.
B. Stepped and 180-degree 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. The only collector that is permitted is the pyramid (type) that is supplied by the manufacturers. Merge and crossover collectors are not permitted.
E. Exhaust pipes must be a maximum of 3″ dia. exhaust tubing and run from the header back to within 12" of the rear end housing, then turn down a minimum of 45 degrees. Pipes may not exit out the side of the car. Both exhaust pipes must be independent with no connection between them.
F. 602 Spec Engine mufflers will be the LOBAK RCM 25-12-30 or the stainless KOOKS #R300-10 mufflers. 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 per side of car is permitted.
I. Exhaust system subject to approval by SMS Officials. Interior and exterior coatings are permitted.
NOTE: The life expectancy for all Lobak mufflers is two years. Each team is responsible for inspecting their mufflers to insure they are not illegal due to wear. A muffler will be deemed illegal if it is missing one or more of the internal baffles.

20F- 10 ENGINE DRIVE TRAIN – FLYWHEEL AND CLUTCH – Flywheel- OEM Stock dimension steel, or aftermarket replacement billet steel flywheel for engine type, weighing a minimum of 12.5lbs. must be used. Flat surface machining allowed only on the face of the flywheel, any cutting or machining on the back side of the flywheel is not permitted. Pressure Plate- OEM stock type 10" steel pressure plate must be used. See weight requirement below. Clutch Disc- OEM stock type 10" steel full 360 degree disc or Magnus part # 384152F and 384152C must be used. Pressure plate & clutch disc combined minimum weight – 16 lbs. (fasteners not included). Clutch disc minimum weight 2.5 lbs and a maximum weight of 3.8 lbs. (fasteners not included). Drilling or lightening of any part is not permitted. Solid magnetic steel fasteners must be used.

20F- 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.

20F- 10.4 MANUAL TRANSMISSION
A. Only OEM production stock 3 & 4 speed transmissions may be used. Top loader transmissions are not permitted. Gear ratio must be of stock OEM production.
B. Only cast iron housings are permitted. Aluminum or magnesium transmission housings are

not permitted.
C. Only OEM type, steel, angle cut forward gears are permitted. Square cut forward gears are not permitted.
D. All forward and reverse gears must be in working order, and they must be operational from inside the driver's compartment. All transmissions must have a constant engagement of the input shaft with gear and countershaft with cluster gears.
E. Five-speed transmission, with gears removed are not permitted.
F. Quick change transmissions are not permitted.
G. Automatic or semi-automatic transmissions are not permitted.
H. Machining or lightening of any internal rotating or non-rotating parts including gears, shafts and case is not permitted. Gun drilled transmission shafts are not permitted. Welding on any internal part is not permitted.
I. Additional or different from OEM bearings other than the tail-shaft, which may have roller bearings, are not permitted.
J. Auxiliary, over or under drive transmissions are not permitted. High gear must have a ratio of 1 to 1 and no other gear may have a ratio higher than 1.20 to 1. The shifter and all of its components must be made of steel or aluminum.

20F- 10.5 DRIVESHAFT
A. Drive shaft, universal joints, and yoke must be magnetic steel and be similar in design to the standard production type. The drive shaft must be made of one-piece magnetic steel and must either 2-3/4 inches or 3 inches in diameter.
B. Two (2) 360 degree solid magnetic steel brackets with no holes or slots, not less than 2 two (2) inches wide and ¼ inch thick, must be placed around the drive shaft. The front bracket must be welded to the rear suspension crossmember and the rear bracket must be welded or bolted, with a minimum of two 3/8-inch diameter bolts on each side, to the horizontal tunnel bar (#6).
C. All drive shafts must be painted white.

20F- 10.6 REAR AXLE – Ford nine inch (9") floater or non-floater must be used.
A. The center of the rear end housing must be within 1" of the centerline of the track width, front and rear.
B. Differential may be locked only by welding the spider gears, mini spool or a full size heavy-duty spool only. Posi-Traction, Limited- Slip, Detroit Lockers, or any type of ratcheting differential is not permitted.
C. Rear axle housing must be a continuous housing between the backing plates. Only one-piece, magnetic steel rear end axle housings will be permitted.
D. Racing axles are mandatory on both sides for all Ford rears. Axles must retain all stock dimensions. Full floating double splined rear axles may be used. Only one-piece, solid magnetic steel axles allowed. Hollow or drilled axles will not be permitted. Full floating double splined rear axle minimum weight is 9.0 lbs. ***Axle splines must be straight cut, not crowned.***
E. Only magnetic steel axles, drive plates, bearings, and axle housings are allowed. No aluminum parts allowed in or on the rear axle assembly except for the axle caps. The spool (carrier) must weigh a minimum of 7.00 lbs.
F. Cambered rear axle housings will not be permitted. ***Cambered components of any type are not permitted in or on the rear axle housing assembly.*** The method used to check camber will be the SMS Officials' option. Stock upper trailing arms for the chassis used must attach to the frame in the stock location. Stock upper trailing arms may be replaced with DCA P/N 17811 or J.C.I. P/N J.C.I. -09-03-04B. Upper trailing arms can be ordered 1 inch shorter than stock. Directly from DCA or J.C.I. Mounting brackets on the axle tubes may be moved but rear axle assembly housing must be centered in chassis.
G. The right rear lower trailing arm may be as described below or you may use the Hamm adjustable trailing arm # GHC-1937J. The Hamm #GHC-1937J arm may not be modified or

altered. Stock lower trailing arms for the chassis used must attach to the frame in the stock location. Stock lower trailing arms may be replaced with DCA P/N 17812. , J.C.I. P/N JCI-03-01B or Hamm's Welding P/N GHC-1925-RB. Mounting brackets on the axle tubes may be moved but rear must be centered in chassis. Left and right brake rotors must be an equal distance from the frame rails.
H. Springs must be mounted on axle housing in stock location for frame being used.
I. Aluminum parts in or on the rear axle assembly, other than wheel spacers and axle caps are not permitted.

20F- 10.6.1 REAR GEAR – The rear ring and pinion gears must be stock type. The ring gear must weigh a minimum of 12 lbs. The spool (carrier) with 2 bearings installed (less bearing cups) must weigh a minimum of 7.00 lbs. The Ford gear ratio of 4.57 must be used.

20F- 10.7 WHEELS – Magnetic steel 20lb. minimum weight racing or wagon wheels (rims) are mandatory. No magnesium or aluminum wheels permitted. All wheel studs must be solid magnetic steel with magnetic steel racing type lug nuts. Wheel studs must extend a minimum of ½ inch beyond the outside surface of the lug nut. The frame area at the rear of the axle that may come in contact with the right rear tire may be relieved, if necessary, by denting, bending or notching the frame at this point. Left Side Wheels: Maximum width is seven inches (7") wide. Wheels must measure 3½ inches (+/- 1/2 inch) from the axle flange surface to the outer contact surface of the tire bead area. Right Side Wheels: Maximum width is eight inches (8") wide with a 1″ offset. The backspacing must be 3″ when measured from the axle flange surface to the back surface of the tire bead area.

20F- 10.8 TIRES – Hoosier Tire East of Manchester, CT will be the sole tire supplier for the Limited Late Model Division. The size and compound numbers are 27.0/8.0-15 F-53 on the left side and 27.0/8.0-15 F-53 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. In the event a driver changes cars for qualifying or feature racing, their tire inventory must accompany them to the new car. Each driver must update and return a Tire Inventory Card to the SMS Tire Delegate. For the first race of the season, Limited Late Model drivers will be allowed a maximum of eight (8) tires in their inventory. For each completed event attended a Limited Late Model driver will be issued one (1) tire credit for use at any future event as follows: Taking the green flag in the feature will allow a driver to receive one tire credit. These tire credits may be accumulated and 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 four (4) new tires and two used ones (total of 6 inventoried tires). The maximum number of tires allowed in a driver's race inventory throughout the season will be twelve (12) for the Limited Late Model division. Once a driver's inventory has filled up to 12 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 2017 season.

20F- 10.8.1 PHYSICAL REQUIREMENTS F. Minimum Tire Pressures for all inspection purposes are fifteen (15) psi for both left side tires and twenty five (25) psi for both right side tires. Air may be added to the tires to achieve only the minimum tire pressures during inspections, per a track provided tire pressure gauge.

20H- 11.1 OEM FRAMES – All frames must be stock for year, make and model. Front and rear spring pockets may be altered for jacking bolts .No plating or reinforcing of the frame in any way beyond or outside of the following specifications. Unibody cars are not permitted.
A. ***The Hamm Welding front frame section (# TBD) may be installed from the front edge of the front spring pocket forward that incorporates the correct OEM steering box, idler arm and sway bar mounting locations.***
The front frame horns may be replaced with 2"x 3" .083" square tubing from the forward most 1/2" measuring hole to the front bumper. No other part of front frame rails can be replaced with tubing.
B. The front cross member must remain stock. The raised portion of the front cross member may be replaced with steel flat stock welded in flush with the rest of the cross member, maintaining a minimum two inch (2") thickness of the stock cross member for oil pan clearance only.
C. Rear frame rails may be replaced with 2"x 3" .083" magnetic steel square tubing from the rear edge of stock upper crossmember back, only if following stock configuration height, width, and length. Optionally the replacement rear frame rails may extend parallel rearward maintaining a minimum width of the stock frame rails width at rear most edge of the upper crossmember. The rear crossmember must be installed and be in the Stock OEM location.
D. No offset or shortening of frame rails.
E. Frames must measure within a ¼ inch of all factory specifications for year, make, and model used. All measuring cups or holes must remain unaltered.
F. Tubing of a size and length that will not protrude from the stock frame may be located inside the driver's side frame rail. All roll cage bars normally attaching to the drivers side frame rail must be welded directly to the supplemental tubing.
G. Tubing may be utilized as a replacement for the stock transmission crossmember. Any non-stock replacement transmission crossmember must be located perpendicular at 90 degrees to the stock frame rails and no further towards the rear of the car than to have the rear edge of the tubing even with the rear edge of the transmission hosing.
H. Additional X-tubing may be added so long as the tubing connects to the crossmember. The X-tubing must attach within the two corners of each frame turnout. The X-tubing may not extend past any of the frame turnouts and must not be attached to the perimeter frame rails short of the frame turnouts.

FORD FRAMES – Ford full-size frames, (LTD, Crown Victoria, Lincoln Continental) 1979 and newer may be shortened to 108" wheelbase. Frame must be shortened in center section only using the same area on both sides.
1. An approved front sub-frame attached eighty six (86) inches from the rear axle centerline.
2. An approved rear-sub frame attached from the rear of the main frame rails.
3. Any frame competing with factory OEM main frame side rails must remain OEM.
4. If any part of the OEM frame (Center-section) Main Rails is replaced these parts must be replaced with stock OEM GM frame sections.

20H – 11.2 OPTIONAL X-Y-G TUBE FRAME REQUIREMENTS- The only approved aftermarket frames will be the mandrel bent X-Y-G tube frames, as manufactured, with no modifications, by Johnson Chassis (Part # JCI 09-011) or Hamms Welding (Part # GHC-54108). The only approved front clip assemblies are the Johnson or Hamm manufactured mandrel bent sub-frames. Johnson or Hamm mandrel bent rear clips, or conforming mitered rear clips are permitted. All vertical measurements are taken on 5" ride height blocks.

A. Main Frame

(1) A tubular magnetic steel frame must be used. Offset frames will not be permitted. The main frame side rails must be parallel and be an equal distance from the centerline of the frame. The main frame side rails must be the same size (left and right, height and width), constructed using a single tube, and must be magnetic steel box tubing three (3) inches in width by four (4) inches in height with a minimum wall thickness of not less than 1/8 inch meeting ASTM A-500 specification. The main frame side rails start at a distance of 20 inches forward of the rear axle centerline and extend forward a length of 66 inches. When measured from the outside of the left frame rail to the outside of the right frame rail, a width of 54 inches (+/- 1/2 inch), must be maintained. The distance from the outside edge of the main frame side rails, left and right, must be the same, measured from the centerline of the tread width, front and rear.

(2) Sub-frame kick outs must be constructed using a single tube and must be magnetic steel box tubing three (3) inches in width by four (4) inches in height with a minimum wall thickness of 1/8 inch meeting the ASTM A-500 specification. The sub-frame kick-outs must turn in 90 degrees to the main frame side rails and be welded to the inside ends of the main frame rails. The open ends of the sub-frame kick-outs must be closed by welding caps on the ends or bolting weight containment caps. The distance from the front of the front kick-out to the rear of the rear kick-out must be 66 inches. The front kick-out must measure 86 inches from the rear axle centerline.

(3) A crossmember constructed of magnetic steel box tubing, two (2) inches by two (2) inches with a minimum wall thickness of 0.083 inch meeting the ASTM A-500 specification, must be welded between the main frame side rails at a distance of 48 inches from the rear axle centerline.

(4) All frames must have diagonal cross bracing constructed of a minimum one 1” x 1” 0.065 wall thickness tubing.

(5) All crossmembers and diagonal bracing must be installed flush to the top of the main frame side rails. Center of crossmembers a maximum width of 12 inches may be dropped for driveline clearance. No part of the crossmembers or diagonal bracing will be permitted to extend lower than the main frame side rails.

(7) If the optional tubular metric frame is used, the center-to-center dimension of the main roll bar #1 and the rear axle must be a minimum of 23-1/2 inches.

B. Rear Sub-Frame

(1) The rear sub-frame rails must be configured and attached in the same location on the left side and right side to the sub-frame kick-outs four (4) inches in from the outside edge of the main frame rails. The rear sub-frame when measured from the outside edge of the left sub-frame rail to the outside edge of the right sub-frame rail must measure 46 inches, and this width must be maintained for the entire length of the sub-frame. The rear sub-frame must angle rearward and upward at an angle between 45 degrees and 50 degrees to a maximum height of 22 inches from the ground (on five (5) inch blocks), then angle rearward parallel to the main frame rails a maximum distance of 16 inches, then angle down to a minimum height of 11 inches and a maximum height of 14 inches from the ground. The rear sub-frame must be constructed using magnetic steel box tubing, two (2) inches in width by three (3) inches in height, with a minimum wall thickness of 1/8 inch and must be similar in design and configuration to standard OEM automotive rear kick-ups.

(2) The rear sub-frame tail section must extend rearward at a minimum height of 11 inches and a maximum height of 14 inches, to a maximum length of 38 inches from the centerline of the rear axle. The rear sub-frame tail section side rails must be parallel to the main frame side rails and have a minimum length of 24 inches. The rear sub-frame tail section must be constructed using magnetic steel box tubing two (2) inches in width by three (3) inches in height with a minimum wall thickness of 0.083 inches.

(3) The rear sub-frame must incorporate the mounting locations for the rear springs, shock absorbers, panhard bar, and fuel cell, ending with a crossmember constructed of magnetic steel

box tubing two (2) inches in width by three (3) inches in height with a minimum wall thickness of 0.083 inches a maximum length of 38 inches from the centerline of the rear axle.
(4) A reinforcement bar, made from round magnetic steel tubing, minimum 1-1/2 inches in diameter with a minimum wall thickness of 0.083 inches, must extend below the rear sub-frame section behind the fuel cell. This reinforcement bar must be as wide as the rear sub-frame rails and extend as low as the bottom of the fuel cell with two (2) vertical uprights evenly spaced between the sub-frame rails and attached to the rear crossmember. Two (2) support bars, one (1) located on each corner, must angle upwards and be welded to the rear sub-frame side rails. See the Construction Guidelines in the rear pages of the rulebook.
(5) Weight containers, if used, must only be attached to the inside of the frame rails and must not be lower than the bottom of the frame rails.
(6) The back of the rear sub frame from the center line of the rear end may be mitered to conform to the rules stated above. This will be the only mitered section allowed, excluding the front radiator support.

20H – 11.2 FRONT SUB-FRAME
C. The front sub-frame must be constructed by the following guidelines: All of the vertical dimensions checked will be done at 5" ride ht. Many dimensions will come from a front frame kick-out that is eighty six (86) inches from the rear axle centerline constructed of three (3) inches wide by four (4) inches magnetic steel tubing with a minimum wall thickness of 0.125 inch meeting ASTM A-500 specifications. The GM-Metric tubular mainframe width will be an O.E.M. dimension of fifty four (54) inches from the outside of the left frame rail to the outside of the right frame rail and a length of sixty six (66) inches starting at a point eighty six (86) inches forward from the rear axle centerline constructed using three (3) inch wide by four (4) inch high magnetic steel tubing with a minimum wall thickness of 0.125 inches.
(1) A GM-Metric type front steer tubular front sub-frame must be constructed using two (2) inch wide by four (4) inch high magnetic steel tubing with a wall thickness of 0.125-inch meeting ASTM A-500 specifications. The front sub-frame rails must be parallel to each other both vertically and horizontally. The front sub-frame rails must be parallel both vertically and horizontally to the mainframe rails from the jack bolts forward. All front steer assemblies must maintain a dimension of 31 inches from the center of the left side frame rail to the center of the right side frame rail at a point from the jack bolt extending forward in front of the steering assemblies. Spring bucket and jack bolts may be cut into left side and right side frame rails. Top of spring buckets will maintain a vertical height of 15- ¼ inches (+/- 1/2 inch). Jack bolts will maintain a centerline distance of 33- 1/2 inches (+/- 1/2 inch) measured at top of spring bucket from left side to right side and be located equal distance from centerline left and right. A distance of 21 inches (+/- 1/4 inch) must be maintained from the front frame kick-outs forward to the jack bolts centerline. Jack bolts will be allowed a maximum angle of five (5) degrees from vertical. The front sub frame rails may angle outwards and downwards from the jack bolts to the front frame kick-out to a maximum distance of 41 inches. If frame rails are angled outward a wishbone made from round magnetic steel seamless tubing 1- ½ inch by .083 minimum wall thickness meeting ASTM A-519 specification must extend from dash bar #8 to an area at the rear lower a-frame mount and continue to connect at an intersection of roof support bar #12 and diagonal bar # 7A. The front frame extensions using two (2) inch wide by three (3) inch high minimum wall thickness of 0.083 inch magnetic steel tubing meeting ASTM A-500 specifications must angle out and forward and extend a distance of twelve (12) inches forward of the forward most top steering box bolt to a minimum distance of 33 inches from the center of the left side frame rail extension to the center of the right side frame extension. This forward top steering box bolt will be a horizontal distance of 39 inches from the front frame kick-out and a vertical height of 15 inches (+/- 1/2 inch). (steering box bolt location will be inspected with a fixture that will read zero (0) degrees with the frame on five (5) inch ride height blocks) At a point four (4) inches in front of the top steering box bolt a two (2) inch wide by four (4) inch

high magnetic steel tubing with a minimum wall thickness of 0.125 inch meeting ASTM A-500 specification must extend rearward a distance of 34 inches than angle down 30 degrees to the front frame kick-out. A distance of 24- ½ inches (+/- 1/8 inch) must be maintained from the front of the sub-frame kick-outs to the center of an O.E.M. three quarter (3/4) inch pin boss located on the mainframe centerline at the front of the front sub-frame crossmember. O.E.M. pin boss will be used for locating inspection fixtures. The front sub-frame crossmember must be mounted at the centerline of the front sub-frame at a 90 degree angle to the main frame side rails against the back of the 3/4 inch pin boss and be constructed using two (2) inch high by four (4) inch wide magnetic steel tubing with a minimum wall thickness of 0.125 inches meeting the ASTM A-500 specifications. A minimum thickness of one hundred thousandths (0.100) 12ga. magnetic steel must be used to construct the remainder of the front sub-frame crossmember. The front mounting points for the front lower a-frames must be constructed using minimum 3/16 inch thickness magnetic steel. The front mounting points for the front lower A-frames must be 9- 3/8 inches, measured from the centerline of the front sub-frame to the centerline of the mounting bolt at the front side of the mount and a vertical height of seven (7) inches (+/- ¼ inch). The rear mounting points for the lower A-frames must be constructed using minimum 3/16 inch thickness magnetic steel. The rear mounting points for the lower A-frame must be 13 inches (+/- ¼ inch) measured from the centerline of the front sub-frame to the centerline of the mounting bolt at the rear side of the mount and the vertical height will be 6- 7/8 inches (+/- 1/4 inch). Adjustable insert slugs may be used on the rear mounting bolt to maintain a distance of 22 inches (+/- 1/2 inch) from the center of the lower ball joint to the leading edge of the mainframe side rail and kick-out. A 1/2 inch round by 15 inch long solid steel pin must pass freely through these points during inspection. When measuring either the right side or left side the distance from the centerline of the bottom ball joint to the centerline of the sub-frame must be equal. The mounting plates for the upper A-frames must be welded to the top of the sub-frame rails and be parallel with the centerline of the sub frame rails. A distance of 37 inches will be maintained from the top idler arm bolt centerline to the front frame kick-out with a vertical height of 14 inches (+/- 1/4 inch). The GM-Metric tubular replacement mandrel bent front clip subframe must weigh a minimum of 95 lbs. A bare front sub-frame must be submitted to SMS Officials for weigh in and approval. Front sub-frame must be acceptable to SMS Officials before it can be used in competition.
(2) Approved front sub-frames (front clip):
Stock OEM Metric.
Hamms Welding P/N GHC-54108.
Johnson Chassis P/N JCI 09-011

20F – 12.1 COIL SPRINGS / SPRING MOUNTS / JACKING BOLTS- One (1) spring rubber insert, not to exceed one (1) full coil, acceptable to SMS Officials will be permitted on each spring. Only one (1) spring per wheel will be permitted. Progressive or digressive rate springs are not permitted. Any wrapping or binding of the coils will not be permitted. All upward and downward chassis movement must be limited by the suspensions natural compression or the bottoming of the chassis against the race track. Any compression or rebound limiting device or procedure is not permitted. One of the ways SMS Officials will check for chassis travel limiting devices is as follows: With your car's front wheels rolled up onto 2×6 wood planks, the car's valence (air dam) must travel downward beyond the top of the wood plank (over-travel the ground) when three (3) crewmembers push down on it.

Front Coil Spring– Must meet the following: Manufactured from round magnetic steel wire. Consistent wire diameter from top to bottom. May not exceed $95 in retail advertised price. All the coils must be active. Maintain consistent spacing between coils. 8-1/4" to 11" in free height. 5-1/4" to 5-3/4" OD.

Rear Coil Springs- Must meet the following: Each rear coil spring may not exceed 400lbs. in rate. The spring will be checked for rate through several inches of travel, and must remain at the 400lb. rate (+/-) throughout the travel range. Manufactured from round magnetic steel wire. Consistent wire diameter from top to bottom. May not exceed $95 in retail advertised price. All the coils must be active. Maintain consistent spacing between coils. Both coil ends closed and ground. The closed ends of the coil spring must not have a gap larger than 1/8". 10" to 15" in free height. 4-3/4" to 5-1/4" OD.

Front Spring Mounts- The front coil spring mounts must be located on the lower A-frame for the bottom mount and the top mount must be a bucket-type and be welded to the front sub-frame rails and be the same on both the left and right side. The front coil spring upper mount plate must be attached to the front jacking bolt in a manner acceptable to SMS Officials. Monoball(s), excessive taper, bevels, or other devices on the end of the front jacking bolt, the front coil spring mounting plate, the front coil spring mounting bolt or in the front upper spring mount will not be permitted. The hole in the front coil spring upper mount plate must be round and must not be larger than 1/16 inch diameter than the front coil spring mounting plate bolt. The upper and lower coil spring mount must support the front coil spring for 360 degrees of each coil spring mount. The upper coil spring seat must be flat. Thrust-type bearing plates with a maximum diameter of 1-1/8 inches will be permitted between the end of the jacking bolt and the face of the spring seat. Heavy-duty solid metal jacking bolts, with a minimum diameter of 1-1/8 inches, utilizing right-hand threads, and a single thread count of not less than 12 threads per inch for the entire length of the jacking bolt, must be used. The jacking bolts must be installed, using a solid threaded sleeve welded completely into the frame spring bucket, in a manner acceptable to SMS Officials for the purpose of raising or lowering the car. Jacking bolts and the threaded sleeves must be the same thread configuration on the left and right side. Front jacking bolts will not be permitted to be located through the frame rails. The front jacking bolts when measured from the inside wall of the front sub-frame rail to the center of the jacking bolt mount must not be less than three (3) inches and not more than four (4) inches. The front jacking bolts must be mounted on the centerline of the front crossmember, plus or minus (+/-) one (1) inch. The front jacking bolts must be in the same location on both sides. The front jacking bolts must be perpendicular to the sub-frame rails. The front jacking bolts must be mounted on the vertical centerline of the lower spring bucket.

Rear Spring Mounts- All upper and lower rear coil spring mounts must be located between the rear frame side rails. Only one (1) rear jacking bolt frame mount per side will be permitted. Jacking bolts will be permitted to be located through the frame rails. The center of the jacking bolt must not extend further than the center of the frame rail from the inside edge. Jacking bolts located through the frame rails must have a solid sleeve extending through the frame from top to bottom and be welded completely into the frame rails. Heavy-duty solid metal bolts (jacking bolts), with a minimum diameter of 1-1/8 inches, utilizing right-hand threads, and a single thread count of not less than 12 threads per inch for the entire length of the jacking bolt, must be used. Jacking bolts and threaded sleeves must be the same on the left and right side. The rear jacking bolts must be mounted on the vertical centerline of the lower spring mount. Monoball(s), excessive taper, bevels or other devices on the end of the rear jacking bolt, the rear coil spring mounting bolt or in the rear upper spring mount will not be permitted. The hole in the rear coil spring upper mount plate must be round and must not be larger than 1/16 inch diameter than the rear coil spring mounting bolt. The upper and lower coil spring mount must support the coil spring for 360 degrees of each coil spring mount. The upper coil spring seat must be flat. Thrust-type bearing plates with a maximum diameter of 1-1/8 inches will be permitted between the end of the jacking bolt and the face of the spring seat.

20F- 12. 2 SWAY BARS
A. Stock OEM or stock OEM type replacement swaybars may be used in the front and/or rear. The swaybar must be magnetic steel, one-piece, and can be no larger than 1-1/4" (1.250") in diameter. The swaybar must be used as it is manufactured. Modifications to the swaybar are not permitted. Front swaybar must mount under the frame, in the stock location, and attach to the lower A-Frames in their stock location.
B. Bump pad configurations are permitted. Splined sway bars and arms are not permitted.
C. Rubber bushings may be replaced with metal bushings or eye/lollypop type mounts.
D. Heim joints (spherical rod ends) may be used for attaching the sway bar to the lower A-frames.

20F- 12. 3 SHOCK ABSORBERS – One shock per wheel. Coil over Shocks, Adjustable Shocks, or Rebuildable Shocks are not permitted. All shocks subject to SMS Officials approval.
A. The only approved shock will be the Pro WB Series (welded bearing, steel gas cell, non-rebuildable).
B. Front shocks may be mounted on the outside of frame rail.
C. Rear shocks must be mounted to the crossmember within one (1) inch of stock, inside the frame rails.
D. Adjustable shock absorber mounts of any type will not be permitted.
E. The rear shocks absorbers must not angle inboard towards the center of the car, more than 30 degrees from vertical and be within one (1) inch of the original position.

20F- 12. 4 A-FRAMES
A. Upper A-Frame – OEM or aftermarket non-adjustable steel bushing may be used not to exceed the retail value of $55.00 each. Aftermarket must be similar to stock design, and have a cross -shaft. Upper perches may be altered or replaced to accept aftermarket control arm.
B. Lower A-Frames – Must be OEM stock or X-Y-G Stock replacement for frame being used. Bushings may only be replaced with Neoprene only. No steel, eccentric, or mono-balls. The lower A-Frames are not allowed to be altered from OEM configuration, except for the flat surface of the right front Ball joint helix may be cut and moved 10 degrees for ball joint bind clearance purposes only, when Chrysler screw-in type ball joint is used. The only other additions that will be allowed to the A-Frames will be the shock mount and the Sway-bar perch or mounting bracket. The A-Frames must be acceptable to SMS Officials. The only approved aftermarket lower a-frame part numbers are the Hamm's Welding part numbers GHC-1425727 (L-R) & GHC-1425727-10deg.-R, or the Johnson Chassis part numbers JCI-09-02-001 (L-R) & JCI-09-02-002 (L- R).
C. Lower ball joints may be replaced with "pressed-in" stock type extended lower ball joints in stock position or with standard factory stock OEM production Chrysler screw-in type or standard factory stock OEM production Chrysler screw-in type direct replacement ball joints in the stock location on the A-frames.
D. User rebuildable or serviceable ball joints will be permitted. Adjustable and monoball style joints are not permitted. Ball joints must be stock appearing, heavy-duty magnetic steel construction and must be acceptable to SMS Officials. The ball joints must not have any adjustment with the exception of a free play adjustment in the housing for the ball and socket. The total length of the ball joint pin from the top of the ball joint housing to the top of the pin must not exceed 3.375 inches for both upper and lower ball joints.
E. Upper ball joints must be stock OEM. Shimming of the upper ball joint is permitted.
F. Only stock zero offset or stock replacement upper control arm shafts are permitted. Upper A-frame bolts may be replaced for added camber.

20F- 12. 5 SPINDLES AND HUBS – The Stock OEM steel spindle and hub may be changed to heavy duty steel OEM unit. The Coleman steel spindle P/N 19975 or Coleman steel spindle P/N

19976 for right & left sides may also be used. Right and Left side spindles must be a matched pair (matching part numbers). The steering arms and caliper brackets must be steel. The tie rod hole in the steering arm must be equal to the OEM unit. The OEM spindles must be bolt on units and not be altered in any way. The only modification allowed to the spindle will be for lower ball joint installation, the lower ball joint hole may be reamed or tapered to fit the lower ball joint pin. The OEM spindles must match from side to side and be from the same make and model. Track width must remain stock. Track supplied spindles must fit your car. Spindles and hubs must be steel, aluminum spindles or hub assemblies are not permitted.

C. Heavy duty, magnetic steel, tapered wheel bearings must be used. The hub assembly must be magnetic steel, aluminum parts are not permitted. Low drag components are not 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. For other steering rules see the NWAAS rulebook.

20F- 12. 6 TRACK WIDTH – Maximum track width measured outside the tire bulge at wheel center height will be 74 ¾". Metal spacers will be permitted to utilize the maximum allowable track width. Spacers, if used, must be the same thickness left and right, however, the front and rear do not have to match.

20F- 12. 7 WHEELBASE – Wheelbase will be 108" on the left and right side with a tolerance of +/- ¼" on either side. Other cars with longer wheelbases of 110", 112", or 114" will all be held to +/- ¼" tolerance.

20F- 12.8.2 GROUND CLEARANCE – A minimum of five (5) inches of ground clearance must be maintained at all times measured at the lowest point of the frame rail. No part of frame, body, sheet metal or bumper may be lower than 5" from ground. All ground clearance requirements are with the driver in the car.

20F- 12. 9 BODY HEIGHT – Minimum height for the roof is 49 inches measured 10" rearward from the centerline where the windshield and roof meet. See NWAAS rule book plus one (1) vertical inch.

20F- 12.11 WEIGHT TRANSFER DEVICES – The only weight jacking or transferring devices allowed on the car are standard spring pocket jacking bolts, front and rear. Upper rear spring perch may be trimmed only enough to accommodate new pocket. No other types of weight transferring or jacking devices may be used. Handles must be removed from jacking bolts before the car is moved.

20F- 13 STEERING COMPONENTS

A. Stock steering shaft length must be maintained. Tilt steering wheel assemblies and heim joints are not permitted. All steering components must be steel. A collapsible steering shaft is highly recommended.

B. Stock steering pumps and boxes may be interchanged from different years, makes and models. An OEM or stock type aftermarket replacement pitman arm, idler arm and center link must be used.

C. Aftermarket steering pumps are permitted.

D. Remote reservoirs are permitted. For other steering rules see the NWAAS rule book.

20F- 13.1 STEERING WHEEL – A NASCAR approved quick release steel coupling on steering wheel is mandatory. Center-top of steering wheel must be padded with at least 2" resilient material.

20F- 14 BRAKES – Stock type hydraulic brakes, operating all four wheels is required. Stock OEM type single piston steel caliper disc brakes are allowed on front and rear. Any OEM type racing replacement calipers (like the Howe or Wilwood type) are not permitted. Two-piece steel rotors may be used, no aluminum hats or hubs. Only magnetic cast iron or cast steel round circular rotors permitted. Rotors must be vein type with a minimum thickness of 1", and cannot be drilled, slotted or grooved. Only factory dust clean out allowed. The brake rotors must be bolted to the hubs. Floating brake rotors are not permitted. All rotors and brake components subject to SMS Officials approval. Aftermarket master cylinder(s) and pedal may be used but must be of swing pedal design. No drilling or lightening of rotors or drums. An adjustable proportioning valve is permitted. Accu-Brake type systems are not permitted. Only single stage master cylinders are permitted.

20F- 14.2 – BRAKE COOLING No electric blowers will be permitted for cooling purposes in brake duct systems. Additionally, there will be no electric blowers permitted anywhere on the car for cooling (i.e. brakes, rear end, etc.).

20F- 15 FUEL SPECIFICATIONS

A. The fuels listed below are permitted for use in the Limited Late Model division. Any blending of fuels or use of any additives is not permitted.

Brand Name	Grade of Fuel
Sunoco Race Fuel	260GTX

This fuel is available for purchase at SMS.

Several testing procedures will be utilized to insure that all racers use the approved fuel. Fuel samples taken must exactly match all of the manufacturer's printed specifications, or penalties may result.

B. Icing or cooling of the fuel system is not permitted in the garage, pit or racing area.

C. 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.

D. 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.

20F- 16 FUEL SYSTEM – See NWAAS rule book

20F- 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.

20F- 16.2 FUEL CELL CONTAINER – See NWAAS rule book

20F- 16.3 FUEL CELL / FUEL CELL CONTAINER INSTALLATION – The fuel cell container must be centered between the frame rails with a minimum 8-inch ground clearance with the car's frame set on five- inch (5") high blocks under all four outer corners of the frame. If a reinforcement bar is installed per NWAAS rule book. The maximum distance permitted from the center of the rear axle to the center of the reinforcement bar is 37- ½ inches. A single

magnetic steel anti-intrusion plate may be installed on the bottom of the fuel cell framework. It may be no larger than the bottom of the cell, and it may be a maximum of 1/8" thick. For additional specifications see the NWAAS rule book.

20F- 16.4 FUEL FILLER / VENT REQUIREMENTS – See NWAAS rule book

20F- 16.4. 1 FUEL FILLER – A twist in fuel filler cap assembly bolted from the inside of the left rear quarter panel and located in the side as high and as far back as possible or on top as far to the left as possible but not in the deck lid allowed. See NWAAS rule book.

20F- 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 the 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.

20F- 17. 4 ROLL BARS OEM FRAME– See NWAAS rule book. The following are additional requirements and clarifications for the installation of roll bars. All NWAAS rule book specifications must be followed. No plating of the frame. A maximum of 38.875 inches from the center line of the front lower ball joints to the centerline of the roll cage front legs (referred to as bar #2a & #2b) will be permitted. A maximum of 82.625 inches from the centerline of the front lower ball joints to the centerline of the main roll bar (referred to as bar #1) will be permitted. The centerline to centerline of these two bars starting at the front roll cage leg must maintain a minimum measurement of 43 inches and a maximum of 45- 3/8 inches. The main roll bar must be mounted vertical (90 degrees) on the center section of the frame with no offset or setback. The #1 bar must be centered to the chassis. The roof bar (referred to as #3) must be within 4" of the side window and/or door openings on both sides, as well as the front windshield. All roll bars must follow the contour of the body. The #2A & #2B bars must be no more than two (2) inches behind the length of the A-pillar in the stock location. Offset or setback roll cages are not permitted.

20M -18 ROLL BARS X-Y-G FRAME– Roll cage #1 bar must be located a minimum distance of 22-1/2 inches and a maximum 24-1/2 inches forward of the rear axle centerline. Roll bar #1 must be in the same location on the left side and Right side. SMS Officials may request an access hole be added or any obstructions be removed to acquire a straight-line measurement from the back of Roll bar # 1 to the centerline of the rear axle. The main roll bar must be mounted vertical (90 degrees) on the center section of the frame with no offset or setback. The #1 bar must be centered to the chassis. The roof bar (referred to as #3) must be within 4" of the side window and/or door openings on both sides, as well as the front windshield. All roll bars must follow the contour of the body. The #2A & #2B bars must be no more than two (2) inches behind the length of the A-pillar in the stock location. Offset roll cages are not permitted. All inspection dimensions will be measured with the car at 5" ride height.

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 – Contingency Sponsors are a valuable part of 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 particular, the decals must be mounted on the driver's side of the car in such a manner that they are clearly visible in a photograph.