

WHERE THE MOUNTAIN ROARS!

2008 LATE MODEL RULES

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NOTICE: EQUIPMENT IS SUBJECT TO THE APPROVAL OF SHENANDOAH SPEEDWAY. NO EQUIPMENT WILL BE CONSIDERED AS HAVING BEEN APPROVED BY REASON OF HAVING PASSED THROUGH INSPECTION. ALL MEMBERS ARE REQUIRED TO BE FAMILIAR WITH ALL SHENANDOAH SPEEDWAY RULES AND THE RULES PERTAINING TO YOUR DIVISION.

Any modifications not covered in these rules will not be allowed unless approved by the Shenandoah Speedway.

1. COMPETING MODELS

- A. Open to stock appearing automobiles provided they comply with, and adhere to, specifications as outlined for this division.
- B. Any approved car body Make and Model may be interchanged with any approved chassis Make, i.e. Ford body on Chevy frame. All cars must be bilateral symmetrical.
- C. Cars registered as Late Models will compete in the Late Model Division and Not the Limited Late Model Division.

2. GENERAL CAR AND BODY REQUIREMENTS

A. General Car:

- 1. The Five Star Race Car Bodies is the standard guideline used at Shenandoah Speedway; all mounting will use the Five Star "Installation Guidelines."
- 2. Cars must be neat appearing. All panels must fit properly and be free of sharp edges. All panels must be painted.
- 3. Bodies must be standard as produced by aftermarket manufacturer metal, aluminum or fiberglass. Plastic fenders are permitted.
- 4. Flat or slab sided bodies not permitted.
- 5. No lightweight body parts.
- 6. Kevlar or Titanium parts not permitted, except as allowed in these rules.

7. Carbon fiber and ceramic parts not permitted.

8. Exterior coating of headers and exhaust permitted.

B. Floorboards:

1. Floorboard must extend from the front firewall to the main roll bar (roll cage hoop) behind the driver.

2. Stock floorboards and transmission tunnel recommended, but not required.

3. All holes in floor must be sealed.

C. Interiors:

1. Interior panels must be trimmed neatly around roll cage and sealed for fire protection.

2. Interiors with metal over roll cage covered on driver side must be covered with high-density type padding.

3. Interior panels must be painted and must fit properly and free of sharp edges.

4. Interior holes must be sealed.

5. Interior door shelves not permitted.

D. Overall Car Weight:

1. Cars must weigh a minimum of 3100 pounds with a minimum right side weight of 1400 pounds. No adding of fuel, water, oil, or gear lube will be allowed. Wheels and tires must not be changed.

E. Added Car Weight:

1. Added weight must be in block form of no less than 5 pounds.

2. All added weight must be securely bolted in place with a minimum 3/8 or 1/2 inch diameter, grade 5 bolts with locking nuts. No aluminum brackets.

3. All added weight MUST be painted white and the car number must be clearly visible on each piece.
4. Weight may not be added ahead of the front spindles.
5. Weight may not be located inside the driver's compartment.
6. Weight may not be added to the outside of the frame rails, except When lead is enclosed in a weight tray.
6. Any lead mounted behind the rear axle must be a minimum of 2 inches forward of the rear of the fuel cell.
7. Lead enclosed in a weight tray must be immobile and must have two 3/8 or 1/2 inch grade 5 bolts as a secure stop at each end of the weight tray.
8. Devices for shifting weight not permitted at any time.
9. Cars losing ANY added weight or failing to bolt weight in a safe manner on the car will, at a MINIMUM, pay a \$10 per pound penalty. Dislodged weight cannot be returned to cars for weighing after an event.

3. **DETAILED CAR BODY REQUIREMENTS:**

A. Front Air Dam and Nose:

1. Holes for ducting are permitted in the front air dam for air inlet only.
2. Approved front air dams must maintain a minimum ground clearance of 4 inches.
3. The nose may not be altered, with no trimming, holes are permitted for air dams. However if necessary, a like material piece may be attached to the lower edge of the nose solely for the purpose of allowing the front bumper to conform to the 4" ground clearance rule. This piece must conform to the body similar to the stock Five Star nose and may not extend back beneath the nose of the car.
4. All support brackets and bumpers must be mounted behind nose.

5. Shenandoah Speedway Tech officials must approve all attachments.
6. Reinforcement or added tubing may be placed behind approved nosepiece.
7. Nose widths must remain stock as per Five Star guidelines with no sectioning or spacers permitted.
8. Nose or lower side valances may be trimmed for tire radius and minimal tire clearance only.
9. The nose or side valance can be no more than $\frac{1}{2}$ inch wider than the outside crown of the tire on each side at any time.
10. Where nose meets front of hood must be mounted as per Five Star guidelines.

B. Rear Spoiler:

1. A spoiler must be attached to the rear of the deck lid. Up to 6 $\frac{1}{2}$ inches in height by 60 inches in width, maximum. Must be attached and centered on the rear of the car.
2. Spoilers must be solid $\frac{1}{8}$ inch metal or $\frac{1}{4}$ inch clear polycarbonate.
3. The rear spoiler angle must be set between 50 degrees and 60 degrees.

C. Windshields:

1. A clear (non-tinted) Lexan polycarbonate windshield must be used. Minimum $\frac{1}{8}$ -inch thickness.
2. A minimum of three evenly spaced $\frac{1}{8}$ inch x 1 inch metal straps must be mounted securely to the dash and roof panel inside of the windshield. These supports must not block the vision of the driver. The supports must be bolted, top and bottom with $\frac{1}{4}$ inch bolts, to the roof and dash panel at the bottom to secure windshield in place.

D. Rear Window:

1. Only clear standard production $\frac{3}{16}$ -inch thick polycarbonate must be used in the rear window opening.

2. The outside of the rear window must be secured with a minimum of two (2) metal straps on the outside, not less than 1/8 inch thick by one (1) inch wide, evenly spaced, and bolted to the roof at the top and the deck support panel at the bottom acceptable to Track Officials.

E. Side Windows, Quarter Windows, Air Deflectors and Net:

NOT REQUIRED

F. Air Deflectors and A-Post:

NOT REQUIRED

G. Window Net:

1. One 1-inch mesh window net mandatory. The net must permanently be mounted at bottom and have an approved quick release at the top.
2. Window net must be within 5 years of manufacture date.
3. Window net must have manufacture's date tag or will not be permitted.

H. Rear View Mirror:

1. Multi-view, three dimensional type mirrors with a maximum width of 26 inches are permitted.
2. No mirror may extend outside of the body.

I. Dash Panel:

1. All cars must have a complete dash with or without offset, and be the width of dash bar.
2. Dash panel may be fabricated from aluminum.

J. Firewalls:

1. Front and rear firewalls must be sealed. All holes must be sealed and covered.
2. Rear firewall must completely seal the driver's compartment from fuel cell compartment.

K. Doors:

1. Door panels must be fastened in a manner acceptable to Track officials.
2. All doors must be securely fastened to fender and quarter panel.
3. Doors must retain factory configuration.
4. All doors sides must be mounted as per Five Star guidelines to contour of tire.

L. Fenders:

1. Bodies and fenders must cover tires.
2. All fenders must be mounted in a manner to the contour of tire and not concaved behind tires.
3. Fender option - may be made from composite or plastic type material.
4. All fenders must be mounted in a manner to lay flush to front of door with rear of fender to form to the crown of tire.
5. Fenders may only be trimmed at wheel opening for tire radius and minimal tire clearance only.

M. Quarter and Rocker Panels:

1. Quarter panels must be mounted as per Five Star guidelines.
2. Quarter panel Option, may be made from composite or plastic.
3. Quarter panels must be formed so that the front and the rear do not exceed the crown of the rear tires at anytime.
4. Quarter panels rear of tires may not be pulled in past the edge of tire tread.
5. Quarter panels may be trimmed for tire clearance to the radius of the tire only.
6. All quarter panels at B-post must retain stock dimensions and be mounted as per Five Star specifications.
7. Rocker panels skirts must hang straight and not be flared out.

N. Grilles: 1. Openings must retain the same shape and size as the stock production.

O. Roof and Hoods:

1. Flat or Raised 2 ½ inch hoods are permitted. The front edge of the hood must fit into a slot across the entire width of the front of the hood and be painted the same color as the car. The hood must seal tight to the fenders and firewall.
2. The hood must close in the original position and maintain the original configuration. The hood must be made of reinforced fiberglass, aluminum or metal.
3. The hood must have positive magnetic steel pin fasteners, right side, left side, center, and when required rear.
4. Hood scoops will not be permitted.
5. No airflow enhancement devices of any kind leading to or away from the carburetor.
6. No crowning or altering shape of roof.
8. All roofs must be stock configuration and mount in stock location with no alterations or attachments.
8. All roofs must be mounted as per Five Star specifications.

P. Rear Deck Lids:

1. The rear deck lid area must remain standard in all respects. Bodylines and shape of deck lid must not be changed.
2. Rear deck lid must be removable with a minimum of 4 positive fasteners, or may be hinged with a minimum 2 positive fasteners.
3. Dimensions of removable deck lid must be a minimum of 14 inches (measured from front to rear) with a width from quarter panel to quarter panel.
4. Deck lid area must remain flat to the spoiler as per Five Star guidelines.
5. There must be (2) two hook pick up points clearly marked under deck lid area.

Q. Bumpers Front & Rear:

1. May be made of a two (2) piece design, made of a flexible, rubberized plastic material.
2. The rear bumper may not be altered, with any trimming, holes or attachments.
3. Rear bumpers in top quality condition are required at all times.
3. No cutting, trimming, or holes in bumper cover.
4. All rear bumpers must remain with manufactures lower lip at bottom.
5. No rear nerf bars, or external reinforcing bars are permitted.
6. All mounting measurements including Five Star template guidelines must be met.

R. Identification and Markings:

1. Shenandoah Speedway reserves the right to govern the display of decals, identification, and advertising on racecars.
2. Numbers must be at least 18 inches high and neatly lettered on both sides of the car in the center of the door.
3. A number 24 inches high must be painted on the roof, reading from the passenger side. Decals are permissible in place of painted numbers.
4. Block type numbers 6 inches in height must be attached to the right rear tail light area.
5. All cars must display an approved 8-inch white car number decal in the upper-right (passenger-side) of the front windshield.

4. FRAME REQUIREMENTS (CHASSIS)

A. Frame: The frame must be constructed of steel only. The frame must be made using box tubing with a minimum circumference of 10 inches, with a recommended .095-inch wall thickness. The frame must extend from the radiator through to the fuel cell. No part of the racecar may be closer than 4 inches to the racetrack at any time. Offset Frames are not permitted.

B. Suspension:

1. No non-ferrous parts are permitted.
2. Front coil over springs must mount to stock appearing lower A-frames.
3. Strut bars will not be permitted for mounting for coil overs.
4. Rear coil overs must be mounted either inside or outside of rear frame rails. Both springs must be mounted on the rear trailing arms and top of rear-end housing in the same location.
5. Front and rear coil springs must be heavy-duty steel.
6. The front coil spring mounts must be located on the lower control arm or top of rear-end housing in the same location.
7. Heavy-duty bolts (jacking bolts) for transferring weight, raising or lowering the car is allowed.
8. Right side frame adjustable panard bar is permitted.
9. One (1) coil spring rubber insert, not to exceed one (1) full coil, acceptable to Track Officals will be permitted.
10. All coil springs must maintain a minimum outside diameter of 4-3/4 inches and maximum outside diameter of 5-3/4 inches.
11. All upper and lower rear coil spring mounts must be located between the rear frame side rails.
12. The rear coil spring lower mounts must be located on either the rear axle trailing arms or on top of the rear axle housing.
13. The rear coil spring upper mounts must be located and welded on the chassis directly above the lower mounts.
14. A two (2)-link truck arm type and length or a three (3)-link passenger car type suspension will be permitted. Pickup type trailing arms may be fabricated using a minimum two (2) inches by three (3) inches steel box tubing with a minimum wall thickness of .120 inch. Passenger car type trailing arms, 25 inches in length may be fabricated using a minimum 1 1/4 inch by two (2) inches steel box tubing with a minimum wall thickness of .120 inch. Both trailing arms must be the same length and be made in one (1) piece. Standard type rubber or

metal bushings must be used. No adjustable rear trailing arms are permitted. The rear axle housing must be held in the center of the car side by side by a single tube pan hard bar.

15. Truck arms must be bushing or Mona ball. No mix and sizes of bushings, must be the same.
16. Panard bars must be magnetic steel.
17. Adjustable panard bar mounts permitted.
18. No hydraulic spring alignment devices allowed.

C. Shock Absorbers:

1. Heavy-duty shock absorbers may be used if similar to original equipment.
2. Shock absorbers must be available to all competitors.
3. A maximum of one (1) shock absorber per wheel is permitted.
4. Coil over shocks are permitted.
5. Schrader valves are permitted.
6. Single adjustable gas shocks allowed.
7. Double adjustable non gas shocks permitted.
8. Shock shaft diameter must not exceed .630 and the shaft must not have any sleeves or spacers that could limit travel of the shaft into or out of main body.
9. Shocks must be as manufactured by Shock Company.
10. Shock gas reservoir may not exceed 2.600 inches.
11. No heating pads or blankets allowed to heat shocks.
12. No external gas chambers.

D. Shocks: Any Steel or Aluminum Shock Manufacture allowed, including Penske or Ohlin.

E. A- Frames:

1. A-frames must have a stock appearance and made from magnetic steel. No Ballast permitted in frames or trailing arms.
2. Upper and lower A-frames may be altered for tire clearance.
3. Lower A-frames should be stock production for type front sub-frame being used and mounted in stock location. Both A-frames must be the same in length (no Offsets permitted). Fabricated magnetic steel lower A-frames are permitted; provided they maintain stock dimensions.
4. The distance from the centerline of the tread width, front to rear, to the mounting points must be the same.

F. Tread Width and Wheelbase Requirements:

1. Cars must maintain a minimum 105 inch wheelbase on one side and plus or minus $\frac{1}{2}$ inch on opposite side.
2. Wheel spacers are permitted to utilize maximum allowable tread width. Spacers, if used must be the same thickness left and right.
3. Cars must not exceed the maximum allowable tread width of 64.5 inches, front and rear, measured at center of tire, zero toe-in at spindle height.
4. The tread width on the front and rear must be the same dimension at all times.

G. Ground Clearance Requirements:

1. No part of the chassis or body shall be lower than minimum 4 inches at any time
2. Rocker panels must maintain a minimum 4-inch height at all times.
3. Belly pans not permitted.

H. Car Height Adjusting Devices:

1. Front and rear suspension weight jacking bolts permitted.

5. Engine Displacement: Built Engines

A. Engine displacement will be as follows:

GM: 350 cubic inches, plus .060 inches overbore per cylinder. Ford: 351 cubic inches plus .060 inches overbore per cylinder. Chrysler: 340 or 360 cubic inches plus .060 inches overbore per cylinder. Bore x Bore x 7854 x Stroke x Number of Cylinders equals cubic inch displacement.

B. Engine Block: Cast iron heads only. No aluminum, 2 valve per cylinder.

Note: Create Engines Rules soon to be added.

6. DETAILED ENGINE REQUIREMENTS:

A. Engine Location:

1. Crankshaft centerline must be centered within the frame rail and center of tread width, front and rear, with 1/2 inch maximum tolerance.
2. All engines must be located so the center of the forward most spark plug hole a maximum of 1 1/2 inches behind the centerline of the upper ball joints. Ford and Chrysler engines may be set back as follows: All Ford and Chrysler engines must be located so the center of the forward most spark plug hole is a maximum of 2 1/2 inches behind the centerline of the upper ball joints.

B. Engine Ground Clearance:

1. Crankshaft centerline must retain a minimum of 12 inches at all times, and 1 inch maximum tolerance.

C. Engine Mounts:

1. All mounts must be securely bolted.
2. Adjustable mounts are not permitted.

D. Oil Pans and Coolers:

1. All oil pans and coolers must meet with the following requirements:
2. All oil pans must be made of steel and must be approved by Tech officials.
3. Approved oil coolers are permitted.

E. Air Intake: (Air Filter): Air cleaners may not be removed during practice, qualifying or competition. All air cleaners are subject to approval by Tech officials. Air cleaners and air intakes must not alter the outward appearance of the car and must be covered by the hood at all times.

1. Only round dry type paper air filter elements maintaining a minimum of 12 inches and a maximum of 14 inches in diameter will be permitted. The element must maintain a minimum of 1-½ inches and a maximum of 4 inches in height. All air shall be filtered through the filter element. The element, filter assembly, or the area around these items may not be sprayed or soaked with any type of chemical, liquid, powder or gel.
2. Round, commercially manufactured, stamped or spun metal air filter housing will be permitted. Air filter housing must be acceptable to Track Officials. The air filter housing must be centered and set level on the carburetor. Tubes, funnels, or any device that may control the flow of air will not be permitted inside of the air filter or between the air filter housing and the carburetor.
3. No lips or expanded edges permitted.
3. Cold air boxes are not permitted.

F. Pistons:

1. Pistons must be flat top aluminum with two (2) or four (4) valve reliefs permitted.
2. Connecting Rods: Up to 6.250 maximum lengths on all makes. Must be Steel.
4. Rod, Piston, pin and ring combination must weight a minimum 1000 grams in race ready condition.

G. Deck Height:

1. Minimum piston to deck clearance is zero (0). Piston may not protrude above the block deck.

H. Cylinder Head:

1. May use Stock GM Heads or Bowtie, and Stock Ford Heads.
2. Any cast iron cylinder head with a minimum of 56cc combustion chamber.
3. Valve limit all HEADS - Intake 2.02, Exhaust 1.625 maximum.
4. World Products listed below:

Chevrolet Part Numbers allowed:

- A. 042660-2, 042660, 4256B/4256A (Fully Assembled),
4266B/4266A (Fully Assembled)

Minimum 64cc combustion chamber

Intake Valve size 2.02

Exhaust Valve size 1.60

Ford Part Numbers allowed:

- A. 053030-2, 053030, 5303B/5303A (Fully Assembled)

Minimum 58 cc combustion chamber

Intake Valve size 1.94

Exhaust Valve size 1.60

Dodge: (Consult Speedway Tech for Detailed Engine requirements)

I. Cylinder Head Modifications: No angle milling of cylinder block surface or intake surface allowed. Valve angle in head may not be changed. Cylinder heads may not be ported or polished in any way.

J. Valves:

1. valve springs and retainers must be steel. No Titanium valves, springs or retainers.
2. All seat work must be on centerline of valve.

K. Crankshaft: Any stock or After Market Crank. Minimum weight 50 pounds.

L. Camshaft: may be hydraulic or solid flat tapped type cam. No roller cams/lifters.

M. Intake Manifold:

Chevrolet: Edelbrock #2101 or #2116 GM Vortec (Only current design "Performer" manifolds are permitted. Older designs manifolds with the same p/n are allowed, but must be registered at the Track Office prior to racing.

Ford: Edelbrock #2181

Dodge: Edelbrock (will notify of new part number)

N. Carburetor:

- a. 2 barrel 500 Holley #4412 or Holley # 80583-1
- b. One (1) inch aluminum spacer, one gasket to be used on each side. No Non-Metallic Spacers
- c. Must Pass BLP Gages.

O. Fuel Filter: Any approved gas filter may be used. Maximum capacity of 1 quart (US) allowed.

1. Single pass filters only.
2. Glass fuel filters not permitted

P. Fuel Filler Cans: It is required that fuel be stored in an approved container.

8. ENGINE/CAR ELECTRICAL SYSTEM

A. Ignition System:

1. Choice of Stock OEM style type distributors, "After Market "HEI or MSD IGNITION – TRACK BOX part No. 6430 ALLOWED.

1. Track will require driver to run tracks MSD Box when asked. Will put in driver selected chip.
2. All ignition systems are subject to approval of Track Official.
3. Any make of spark plug may be used provided it is stock in appearance and function.
4. Tachometer must be equipped with quick disconnect connector to allow easy removal.
5. The tachometer control or reset switches must be built into the unit. Remote switches will not be permitted.

B. Alternator:

1. An alternator MUST be used.

C. Starter:

1. Starters must remain in stock location.
2. The self-starter must be in working order and located in the bell housing. All cars must start under their own power.

D. Battery:

1. The approved battery must be located in a steel battery box or located in a safe manner with protection for driver and others.
2. The battery mounting must be acceptable to Track officials. Not mounted in drivers compartment.
3. If a battery must be installed during a race, the battery must be installed securely within the battery box.

E. Electrical Switches and Locations: All approved switches must be located within easy reach of the driver.

1. A labeled (minimum ½ inch letters) on/off master switch must be connected to the battery cable in such a manner that would cut off all electrical power to the car.

F. Accessories:

1. On-board computers, traction control devices, automated electronics, recording devices, cam-recorders or filming devices, telemetry devices, automatic lap scoring/timing devices (other than those issued by the speedway), or digital readout gauges are not permitted.
4. Microprocessors or electronic memory chips will not be permitted.
5. Any car found with an electronic traction control device will subject the driver to a penalty of: suspension for 1 year, and/or be fined a minimum of \$500, and/or loss of championship points.
6. All electrical wiring shall be routed in an open manner, visible, and traceable from termination point to termination point. Taping, wrapping or enclosing wires into looms is not permitted. Bundling and securing of wires is allowed using small CLEAR tie wraps only. Termination blocks are recommended for connecting or splicing wires where necessary. Terminal blocks, if used, must be in the open, visible, and easily accessible.

8.ENGINE COOLING SYSTEM

A. General Cooling System:

1. Engine cooling system must be acceptable to Track officials.
2. No icing, Freon type chemical, liquid spraying systems, or refrigerants may be used in, near, or around the engine compartment.
3. No anti-freeze.

B. Water Pump:

1. Any brand aluminum or cast steel mechanical water pumps in the stock location, turning in the same direction of crankshaft rotation.

2. No external re-circulators or pumps.

3. Impellers may be altered.

C. Fan:

1. Fan used for qualifying must also be used in racing event.

2. Electric fans are permitted.

D. Fan Shroud and Ducts:

1. A fan guard must be installed.

2. If ducting is used to direct air into the radiator, it must be concealed behind nose panel and not affect overall appearance of car.

E. Radiator:

1. Radiator must be stock appearing and remain in stock location.

2. Aluminum radiators are permitted.

3. Any approved pressure cap may be used.

4. A radiator protection bar may be used but must not be lower than 4 inches from the top of the radiator and no farther forward than 4 inches from the radiator.

F. Overflow:

1. An approved overflow system is mandatory. Inlet and outlet must be sealed.

2. The reservoir outlet hose must exit outside the body at the right (passenger side) lower corner of windshield area.

9. ENGINE LUBRICATION:

A. Oil: Any oil may be used, however no combustion enhancing additives may be added to the oil.

B. Oil Filter:

1. Any single production type oil filter may be used. It may be remotely mounted, but must be located in the engine compartment.
2. Aftermarket screen type filters are permitted.

C. Oiling System:

1. Dry sump oil systems will not be permitted.
2. Factory oiling systems only.
3. No external pumps are permitted.

10. ENGINE EXHAUST SYSTEM:

A. Exhaust Pipes:

1. Car exhaust system shall have one Magna Flow Performance Muffler (part #12298) installed. The installed muffler will function as a Y-pipe, with the output of each header connected to the dual muffler inputs, and the single output of the muffler connected to the exhaust tailpipe. The specified muffler must remain stock as from the factory. No modifications will be permitted. Modifications to this muffler may result in the loss of all points and /or other penalties as deemed appropriate by Track officials.
2. Tailpipe must turn to face the ground. Exhaust may not exit through the door.
3. Pipes must be securely fastened to manifold or headers and attached to frame.
4. Exhaust pipes must extend past driver and turn down.

B. Mufflers:

1. Approved muffler may be used with the following requirements:

Part No. 12298 Magnaflow

2. Mufflers must be capable of maintaining a maximum of 80 DECIBALS AT 100 FEET.
3. If a car should exceed the maximum decibel level, at any time, it will be disqualified until an acceptable noise level is attained.
4. Mufflers must be in place at all times.

5. Cars losing mufflers or exhaust pipes during an event will not be allowed to continue.

6. All exhaust systems and Track officials must approve installations.

11. DRIVE TRAIN:

A. Bell Housing:

1. Steel bell housing is required. Aluminum bell housing not permitted.
2. Bell housings must be the same design as an OEM-type production bell housing. The bottom of the bell housing may be cut off horizontally a max of one (1) inch below the bottom of the transmission. Cutting on sides is not permitted.

B. Transmission:

1. Any four (4) Speed Manual transmission is permitted. No torque converter.
2. All forward gears and reverse gear must be in working order.
3. 5 ½ inch minimum diameter on clutch.
4. Five (5) speed transmission with gears removed are not permitted.
5. Quick change transmissions are not allowed.
6. Only fire resistant type shifter boots, secured with fasteners, acceptable to Track will be permitted. The shifter boots should meet the SFI 48.1 specifications and display a valid SFI 48.1 label on the outside surface of the shifter boot.
7. Automatic semi-automatic transmissions are not permitted.
8. External oil pumps and oil coolers will not be permitted.
9. Heating pads and/or blankets are not permitted for warming the transmission.
10. Transmission must be located in stock location.
11. Transmission may be interchanged from make to make.

C. Drive Shaft:

1. Only one-piece magnetic steel drive shafts with a minimum diameter of 2.750 inches and a maximum of 3.50 inches. Minimum drive shaft thickness of 0.060 inches.
2. Heavy duty, OEM type, universal joints are mandatory.
3. It is mandatory that two 1/4 inch x 2 inch steel drive shaft guards (loops) front and rear be installed in a safe manner and installed so as to prevent the drive shaft from becoming dislodged and falling onto the race track.
4. Drive shaft hoops must be installed so hoops capture driveline 360 degrees.
5. All drive shafts must be painted white.
6. All drive shafts must have car number painted on tubing.
7. No aluminum drive shafts or components.

D. Rear Axle:

1. The rear axle housing must remain in stock location.
2. Rear axle may be interchanged, make and model.
2. The centerline of the rear end pinion must be within 1/2 inch of the rear hubs, measured from left and right hubs where the wheels bolt on.
3. No cambered rear ends.
4. No tapered or crowned rear axles.
5. Quick change rear ends allowed.
6. Drive plates may be made of steel or aluminum only.

E. Wheels and Lug Bolts:

1. Only approved 15-inch diameter, five (5) lug steel wheels with a maximum 10-inch rim width and a reinforced center are permitted.
2. Wheels must maintain the same width and offset on all four wheels.
3. Wheels must weigh a minimum of 18 pounds.

4. Solid heavy-duty 5/8-inch steel studs and nuts must be used on all four wheels.
5. Wheel studs must protrude past lug nuts.
6. The use of bleeder valves is not permitted.
7. One valve stem per wheel.
8. All tire/wheel balance weights must be on the inside of wheel.
9. Wheel spacer maximum 1/2 inch and one per wheel only permitted.

F. Tires:

1. Only Track approved tires, purchased at Shenandoah Speedway are permitted.
7. Tires will be purchased on race day.
8. Tire soaking is not allowed at anytime.
9. Any violations will be loss of points, fines and suspension.
5. Special events, if any, may not be subject to these rules.

12. BRAKES AND COOLING COMPONENTS:

A. Brake Components:

1. Four wheel hydraulic brakes in good operating condition are mandatory.
2. Four wheel disc brakes recommended.
3. Drilling or coating of any drum or rotor is not permitted.
4. Scalped rotors are not permitted.
5. One adjustable proportioning valve in the driver's compartment within reach of the driver permitted.
6. Master cylinders and reservoirs should be mounted in the engine compartment.
7. When master cylinders are mounted in drivers compartment they must be covered.

8. Electric brake actuators are not permitted.
9. Any brake pedal and master cylinder assembly permitted.
10. No carbon fiber components.

B. Brake Cooling:

1. All brake cooling parts, components, and installation must be acceptable to Track Officials.
2. A maximum of two (2) air ducts per brake, with maximum three (3) inch flexible hose to the brake, may be used for brake cooling.
3. Liquid or gas cooling of the brakes is not allowed.

13. FUEL:

1. Minimum of Five (5) gallons must be purchased at the track on Race Day.
2. All fuel must be 110 octane.
3. Fuel must be automotive gasoline only.
4. Fuel shall comply with ASTM D-4814 entitled, "Standard Specification for Automotive spark-Ignition Engine Fuel", except limited to hydrocarbons only, Class A, B, C, D, or E, but without regard to geographical location or seasonal limitation.
5. Gasoline shall not be blended with alcohols, ethers, or oxygenates and it shall not be blended with aniline or its derivatives, nitro compounds, or other nitrogen containing compounds.
6. No cooling or icing of any fuel or component.
7. Nitrous oxide prohibited. No Canadian Fuels.

14. FUEL SYSTEM:

A. Fuel Cell:

1. All cars must be equipped with an approved fuel cell.
2. Capacity shall be minimum of 12 gallons and maximum 22 gallons.

3. It is mandatory that all fuel cell bladders used be manufactured within the last five years.
4. A fuel cell check valve is mandatory.
5. Kevlar fuel cell bladder allowed.

B. Fuel Cell Container:

1. The fuel cell must be completely enclosed in a steel container (box), minimum 22-gauge.

C. Fuel Cell and Fuel Container Installation:

1. Fuel cell must maintain a minimum of 8 inches off the ground at all times.
2. Cells shall be securely mounted in the trunk area as far forward as possible.
3. Fuel cells must be mounted centered equal distance between frame rails as far forward as possible.
4. A steel framework, welded to frame rails, must be used to mount fuel cells. This framework must be fabricated from a minimum of 1X1X.065 square tubing.

D. Fuel Lines:

1. Only one fuel line from fuel cell to fuel pump is permitted. Maximum diameter 5/8 inch ID.
2. If line runs in drivers compartment, it must be enclosed in a steel tube and must go the most direct route and subject to Track Official approval.

E. Fuel Pump:

1. Electrical Fuel pumps permitted, with safety "Shut-Offs".
2. OEM type mechanically driven fuel pump is allowed.
3. Fuel pump must be mounted in stock location.

15. PRE – RACE INSPECTION:

1. Any pre-race inspection failures or non-compliance with these rules may result in not being allowed to participate or compete in the event. Additional weight or rear of field starts may be imposed. The race director determines the penalty for inspection failure.

16. POST-RACE INSPECTION:

1. Any post-race inspection failure may result in forfeiture of some or all prize money, contingency money and points earned for that event. Any illegal part found will be surrendered to Track officials. No equipment or part will be considered approved by reason of having passed through previous inspections. Pre-race inspections of a particular part or rule do not preclude post race inspections. The race director determines the penalty for inspection failure.

17. PERSONAL SAFETY EQUIPMENT AND ROLL BARS:

A. General Safety:

1. For all safety devices it is the responsibility of the driver, not Shenandoah Speedway, its officers, or its agents to ensure his/her safety device systems are correctly installed, maintained, and properly used at all times.
2. As with all safety items Shenandoah Speedway strongly recommends that the driver carefully study all manufacturer's installation and usage guidelines and adhere to these recommendations to the highest extent possible.

B. Protective Clothing:

1. It is recommended that at all times, the driver wears a driving suit and gloves of fire resistant material that effectively covers the body.

2. It is recommended that the driver's suit be of the best quality fire protection available.
- A. It is also recommended that during an event, practice, or qualifying a driver wears the following: Fire Resistant Shoes and Socks, Fire Resistant Hood, and Fire Resistant Underwear.

C. Fire Control:

1. It is recommended that all cars have a built-in, fully charged, Halon 1211, Halotron-1, or equivalent fire suppression system (not of the dry chemical type), with an operating pressure gauge.
2. Any car not equipped with a built-in fire suppression system must have a fully charged fire extinguisher, a Halon, or equivalent type at least 10-B: C UK rating, with an operating pressure gauge, securely mounted to the right side of the drivers seat, and readily accessible for use.
3. All entrants should have a 10-pound Halon 1211, Halotron-1, or equivalent fully charged fire extinguisher in their pit area.

D. Helmets; Head and Neck Restraint Devices:

1. Snell SA 2000 or newer helmet required.
2. Full face helmets with Lexan face shield recommended.
3. Nomex Helmet Skirt and Nomex covered chinstrap recommended.
4. It is recommended that all drivers wear a HANS or Hutchens head and neck restraint device.

E. Seat Belts:

3. It is highly recommended that the driver carefully study seat belt manufacturer's installation guidelines.

4. All seat belts must be a complete matching set from the manufacturer. No mixing of manufacturers.
5. A quick release seat belt no less than 3 inches wide is compulsory. Both ends of the lap belt must be fastened to the roll cage with high quality bolts, not less than 3/8 inch in diameter.
6. Shoulder harness must be no less than 3 inches in width and must come behind and below top of drivers seat. Where the harness crosses the roll cage, it must pass through a steel guide welded to the cage in a manner that will prevent the harness from sliding from side to side. No inertia reels are permitted.
7. A center crotch belt must be used. It must be a minimum of 2 inches wide and mount to the roll cage or seat mount.
8. Where belts pass through the seat edges, the edge must have a grommet or be rolled so as to prevent belt from being cut.
9. All belts must connect in a single latch, at the lap belt. Latch must be approved quick release type.
10. Belts must be replaced if older than 3 years, and manufacturer or vendor must date belts.
11. All seat belt mounting must meet the approval of the Track officials.

F. Seats:

1. A professional racing seat is required. Approved seat must be made of aluminum and manufactured specifically for auto racing.
2. Seats must be mounted with a minimum of six 3/8-inch grade 5 bolts. Two bolts must be located at the front of seat and two on bottom rear, or two on the lower back of the seat and two at #7 roll cage bar at upper seat back.
3. No portion of the drivers seat shall be within 30 inches of the centerline of rear axle housing.
4. It is recommended that the seat also offer rib protection and have leg extensions.

5. Headrest recommended on side of head.
6. No fiberglass, plastic or homemade seats are permitted.
7. Seats must have a built-in padded headrest behind head.

G. Roll Bars:

1. A full roll cage is required.
2. Roll cages offset on chassis not permitted.
3. Roll cage must conform to body.
4. All door bars except the bottom door bar must be convex of the left and right side of car, and the bottom bar may be straight, minimum of 3 convex bars required on each side of all cars.
5. A minimum of 4 door bars is required on both sides of car. The right side door bars must have at least 3 convex door bars, at the approval of Track officials.
6. If car has an x on the right side, it must also have 3 convex door bars. X's do not have to be cut out.
7. Main roll cage, two rear down bars and two front sub frame bars must be 1 $\frac{3}{4}$ inches x .090 inch minimum round magnetic steel tubing.
8. All joints and connections must be welded. It is recommended that welds be certified. Welds should be made by MIG, TIG, or arc welding. All welds on main cage must be gusseted.
9. All areas of roll cage near driver and within his/her reach must be padded with approved padding.
10. All cars with steel covering over inside door bars on driver's side must be padded.
11. Any roll cage exhibiting poor quality workmanship may be rejected. Rejected roll cages will not be permitted to compete until satisfactory changes or repairs have been performed.
12. It is recommended that the area behind the driver's seat be plated with 1/8 inch or thicker steel.

Any part of equipment found during an inspection or any other time at Shenandoah Speedway that does not meet applicable Shenandoah Speedway standards, must be surrendered to the Track official at that time, and will not be returned. Failing to do so will result in a fine, and/or loss of championship points, and/or definite or indefinite suspension from Shenandoah Speedway.

Track Operator reserves the right to make final decisions in the interpretation of any rules or race procedures at any time. No equipment will be considered as having been approved by reason of having passed through inspection. Track Operator recommends that you carefully study the rules in order to be familiar with all aspects of racing at Shenandoah Speedway. If you are considering a part, modification, or procedure not covered in these rules contact Track Operator before proceeding with any purchase or modification. If you have any questions regarding the rules set forth, contact the Track Operator at 540-652-1108.

In keeping with Shenandoah Speedway commitment to maintaining proper balance in the competition arena, it may be necessary to make rule changes and/or modifications from time to time. These changes are designed to enhance competition, enjoyment and Real Racing.

Good Luck!

-Shenandoah Speedway

