



## 2023 NHSTRA LATE MODEL RULES (Formerly the Street Stock Division)

THESE RULES WILL BE ENFORCED TO ENSURE THAT ALL WHO PARTICIPATE HAVE THE OPPORTUNITY TO BE COMPETITIVE. ANYTHING NOT COVERED BY THESE RULES MUST BE APPROVED BY NHSTRA OFFICIALS. Upon inspection, NHSTRA Officials may penalize, fine, suspend, withhold money and/or points, confiscate parts, or disqualify any competitor for rules infractions. If a competitor is disqualified for using any illegal parts, the competitor may lose all points accumulated prior to and including date of disqualification under discretion of NHSTRA Officials. The use of carbon fiber or titanium parts are not allowed. Any questions regarding rules should be addressed with NHSTRA Officials, prior to assuming legality. It is the competitors' responsibility to read and understand all rules. It is the competitor's responsibility to declare what engine option they are competing under. The NHSTRA Late Model Division is our NASCAR Division II Series and requires ALL competitors to hold a NASCAR license to compete.

The Late Model Division is intended to be a Mid-Level class of race cars. All cars shall maintain stock appearance while utilizing OEM manufactured parts and minimal high-performance parts and equipment.

### 1 - Approved Models:

- A: American made rear wheel drive hardtops 1972 or newer. No convertibles, four (4) doors, or trucks. 3<sup>rd</sup> and 4<sup>th</sup> gen Camaros are not permitted.

### 2 - Bell Housing, Clutch/Pressure Plate, Flywheel:

- A: Bell Housing: 360-degree magnetic steel housing mandatory. No cast steel. Bottom of bell housing (no more than 1/3<sup>rd</sup>) may be removed for inspection of flywheel and clutch.
- B: Clutch: 10.5" OEM Stock Clutch/Pressure plate or OEM-type stock replacement only. Clutch cover and pressure plate must be completely steel. Hydraulic clutch controls permitted.
- C: Flywheel: Steel (magnetic steel) flywheel only. Crate engines must use GM# 14088646 or 14088650 no modifications.
- D: Minimum total weight of Clutch disc, pressure plate, and flywheels is 32.0 lbs. including bolts.

### 3 - Body:

- A: Body- Stock or Stock appearing aftermarket, may be Aluminum, Fiberglass, or Steel. All bodies must appear stock retaining body lines for year, make, and model. Full unaltered front and rear bumper covers required and must match the year, make, and model of body. Rear tail area must be closed. No ABC, Downforce, or Dirt bodies allowed. Five Star Street Stock and AR Sportsman Muscle car body allowed, but must be used complete, no mixing and matching.
- B: Roof Height- Minimum roof height is 49" inches.
- C: Glass- All glass must be removed. The windshield must be replaced with clear Lexan 1/8<sup>th</sup> minimum. A minimum of two (2) 1" inch x 1/8<sup>th</sup> windshield supports must be install to the center on the windshield for support. Vent windows allowed, 6" maximum, measured at the door. Rear quarter windows allowed. Rear windows allowed and must be braced from collapsing. All Lexan (windows) must be clear. No stickers blocking drivers view permitted (NHSTRA Officials approval).

- D: Bumpers- Aftermarket fully enclosed nose and tail covers must be used. Front and rear must be same year, make, and model of body. Bumpers may be reinforced but all reinforcements must remain behind the bumper cover. Front and rear bumper heights must be 16" inches to center. Front bumper cover must meet the 5" inch chassis height rule.
- E: No holes in Hoods. Air cleaners must remain under the hood. Hood must be tight to windshield
- F: Rub rails- Polycarbonate-type (example: Five Star part# 000-2100) are the "ONLY" allowed rub rail.
- G: Spoilers- Rear mounted spoilers allowed, maximum height is 5" inches x 60" wide (5"x 60" maximum). Ends of spoiler may not be boxed and no forward mounting brackets. Spoiler must be of a single blade only and must be clear Lexan. Maximum height for all rear spoilers from ground is 41" inches.
- H: Side Skirts- Side skirts allowed, only between front and rear tires, and must meet 5" inch chassis height rule.

#### 4 - Brakes:

- A: Only standard type steel calipers and rotors permitted. Single piston brake calipers only. Drilling or lightening of Rotors, Drums, or Calipers are not permitted.
- B: All cars must have four (4) wheel brakes working at all times.
- C: Adjusting proportioning valves/brake bias permitted, front to rear only.
- D: Rear wheel disc brakes allowed. Rear drum brakes may be converted.
- E: Aftermarket brake pedals and master cylinders allowed.
- F: No brake fans.

#### 5 - Carburetor Adapter/Restrictor:

- A: Build engine must use unaltered RPM p/n# 1480 restrictor plate at Claremont Motorsports Park and Lee USA Speedway. Built engine, if using a spacer, must use unaltered Canton p/n# 85-050 or 85-060 at Hudson Speedway and Monadnock Speedway.
- B: Crate engines must use Canton p/n# 85-150 unaltered.
- C: Only two (2) paper gaskets, one (1) per side, with a maximum thickness of 0.075" inches permitted

#### 6 - Carburetor Air Cleaner, Filter, and Housing:

- A: Only one (1) round paper air filter with maximum height of 3" inches, and diameter of 14" inches permitted.
- B: Top and bottom of air cleaner must be completely steel or aluminum. Carb hats, ducts, baffles, dividers of any type are not permitted. No functional hood scoops or cowl induction allowed. No cold air boxes.
- C: Hood must be tight to windshield.
- D: No holes in hood, air cleaner must remain under the hood.

#### 7 - Carburetor:

- A: GM Crate (bottle-cap sealed) # 88958602/19432602 - Holley 650cfm 4bbl part# 80541, 80541-1, or 80541-2 carburetor, no modifications allowed other than the removal of choke butterfly and shaft and automatic transmission linkage. Changing of main jets, power valves, accelerator cam, and discharge nozzles is permitted. Idle holes may be drilled in the butterfly's, screws must not be ground flush. Metering blocks must remain stock for the carburetor being used. Allowed metering blocks are p/n's 5925, 11978, and 34-68. All carburetors must pass NHSTRA tech no-go gauges.
- B: Build Engines & (602 break-away bolt): Holley 500cfm 2bbl part# 4412 unaltered. Must have choke horn. The only modifications allowed is the removal of the choke butterfly and shaft. Changing of the main jets, power valve, and accelerator cam, and discharge nozzles is permitted. Idle holes may be drilled in butterfly's, screws must not be ground flush. All carburetors must pass NHSTRA tech no-go gauges.

#### 8- Chassis:

- A: Roll Cage- All cars must have a four (4) point roll cage constructed of seamless mild or DOM 1 3/4" outside diameter x .095 wall magnetic steel round tubing. The cage shall consist of four (4) vertical bars connected

at the top on all sides and shall be adequately cross braced. The base of the upright members shall be welded to the frame of the car. Four (4) curved vertical door bars on the left and three (3) vertical curved or straight door bars on the right is mandatory. Main bar may not have more than 10 degrees of lay back. The rear roll cage upright may not extend past the rear door seam more than two (2) inches. Offset cages are not allowed. Inside front and rear cage bars allowed, one per side, rear bars from center of cage to rear most part of chassis, and front bars from the center of cage to front part of chassis. Roll bars within drivers reach must be padded. All roll cages are subject to NHSTRA Officials approval.

- B: Frames must remain as manufactured. No cutting, altering, or widening of stock frames permitted. All frame suspension mounting points must remain in stock location. Sections may be replaced with tubing that maintain stock location and be approved by NHSTRA Officials. No altering of any mounting bracket permitted. Unibody cars must have subframe connectors. Stock front snouts may not be interchanged. Hamm/Johnson chassis and snouts are allowed with NHSTRA Officials approval.
- C: Firewalls may remain stock or be reconstructed to near original location. All holes in firewall must be covered. Rear Firewall may extend forward but not passed main hoop bar behind driver. Firewalls must be magnetic steel, minimum of 22 gauge (.031"). Interior must be sealed from engine and fuel cell compartments. Crush panels may be made of aluminum, no more than 6" inches from driver.
- D: Floorboards steel (magnetic steel) minimum .031" must remain in stock location with the right-side maintaining transmission tunnel height across to the passenger door. Floors must extend full length of drivers compartment from front to back firewall.

#### 9- Cooling:

- A: Radiator must remain in stock/standard location. Any radiator may be used. Electric fans allowed. All cars must be equipped with an overflow tank located at the right rear of car. Aluminum water pumps allowed. No water pump/alternator racemates allowed.
- B: NO ANTIFREEZE ALLOWED

#### 10- Driveshaft:

- A: Only steel (magnetic steel) driveshafts allowed. Driveshafts must be painted white. It is mandatory to use two (2) circulars 360-degree steel brackets/loop, minimum 2" x 1/8" positioned near each u-joint.

#### 11- Engines: (GM 350/350 PN# 88958602/19258602/19432602 is the NHSTRA engine of choice, but not mandatory for 2023):

- A: 602 (Bottle-Cap Sealed) Crate Engine PN# 88958602/19258602/19432602 GMR 350/350 Circle Track Engine – All engine (bottle-cap) seals must remain intact and un-tampered with at ALL-TIMES. If the engine sustains damage or wear that requires the removal of GM factory installed seal, the engine has then served its life and must be replaced.
- B: 602 (Break-away Bolt- Holley 500cfm 2bbl) – Crate Engine PN# 88958602 GMR 350/350 Circle Track Engine- utilized in factory form without modifications or rebuilt per GM manual #88958668.

#### C: Built Engine:

1. Block- Only V-8 standard production cast iron engine blocks permitted. Maximum displacement: GM & Ford 358; Dodge – 368. Original bore and stroke "combination" must be maintained. Maximum overbore is .040 per cylinder. No internal painting or chemical coatings to engine parts permitted. Only normal engine balancing permitted.
2. Crankshaft – Only stock or direct replacements in nodular steel. Original stroke must be maintained. Absolutely no lighting of any part of the crankshaft permitted. No knife edging. Minimum weights GM- 50lbs, Fords 302- 38lbs, 351- 52lbs, Mopar- 54lbs.
3. Connecting rods & Pistons – Stock or aftermarket rods or forge steel allowed. No billet, Stainless steel or aluminum rods. Must be stock configuration to sizes, locations, and appearance. Rod length must be stock

for engine. No lighting, beam polishing, or exterior machine work allowed other than normal engine balancing. Any rod bolt permitted. Free floating wrist pins permitted. Cast or forged three (3) ring pistons only with all rings in place. Flat top or dish pistons only.

4. Cylinder Heads- Any stock cast iron OEM production cylinder head, including vortec heads with 1.94" intake and 1.5" exhaust valves. No Dart, Bow tie, turbo, No EQs Chrysler W2, or aftermarket cylinder heads allowed. Angle plug heads must have exhaust cross over port. No gasket matching, porting, polishing, acid dipping, or filling of any ports allowed. Valve springs shall not exceed 1.26" on the outside diameter. S/R torques unaltered 043600 allowed. Guide plates allowed. No machining of heads.
5. Compression Ratio Maximum of 10.5000:1
6. Intake Manifold- Edelbrock Performer Series GM PN# 2101 or 2116, Ford PN# 2121 or 2181, Mopar PN# 2176. These intakes must remain as manufactured "Stock out of the Box".
7. Camshaft & Rockers- Flat tapped camshafts only, may be solid or hydraulic. No roller cams allowed. A maximum .460 cam lift when measured at the valve. Camshaft lobe measurement cannot exceed .300" with 1.5" rocker arm ratio. (Example of cam rule: .306" cam lobe x 1.5" rocker arm = .460" maximum lift. .306 x 1.5" = .460"). Roller rockers and guide plates allowed. No shaft mounted rockers or stud girdles allowed. GM 1.5 rocker ratio, Ford 1.6 rocker ratio only.
8. Oiling System- No remote oil filters. No oil coolers. Aftermarket oil pan permitted must keep to stock appearance.

## 12- Engine location:

- A: Engine must be within +/- 1/2" of stock location for chassis being used. No engine offset or engine setback allowed. No engine plates.
- B: Minimum crankshaft height will be 13" inches when measured from the center of the crankshaft to the ground at 5" inch chassis height.

## 13- Exhaust & Mufflers:

- A: Exhaust- Headers are allowed, only steel-type under chassis headers allowed. Step, Crossover, Tri-Y, or custom-made headers are not permitted. No merge or pyramid collectors. Exhaust may not travel through drivers' compartment and must exit underneath car past driver. Exhaust exit must turn down towards ground. No coatings, or thermal wraps allowed.
- B: Mufflers- Mufflers are mandatory. One (1) or two (2) mufflers may be used, but must meet 96dB rule at all times. Mufflers are subject to NHSTRA Officials approval. Mufflers must be in good working condition and securely fastened.
- C: All cars must meet mandated 96 dB requirements at 50' feet. STRICTLY ENFORCED.

## 14- Fuel:

- A: Fuel Cells- Fuels cells are mandatory, 22 gallon maximum and must be securely mounted behind the rear axle and between the frame rails. Fuel cell must be encased in a steel container of no less than 22-gauge steel. Minimum of three (3) steel braces must be used undergoing from front to back and two (2) braces on top for support. The fuel cell must have a minimum of eight (8)" inches clearance at its lowest point. Check ball required on return. Fuel cells must be protected by a rear skid bar. This bar must extend at least one (1)" inch below the lowest point of the fuel cell.
- B: Fuel shut-off- A fuel shut off must be installed, and in good working order within drivers reach, or an in-line positive flow valve or fuel safe (example Oberg PN# SV-0828). If using a fuel shut off, it must be clearly marked Fuel and ON/OFF.
- C: The only fuel permitted is Sunoco GTX 98 octane or Sunoco Standard. It is recommended but not mandatory to purchase Sunoco fuel directly from the track as it will be tested randomly, and track fuel will be referenced. No Alcohol, methanol, nitrous oxide, or ANY other additive may be used. Pump gas not allowed.
- D: Fuel Pump- Mechanical engine mounted fuel pump only. No electric fuel pumps allowed.
- E: Fuel Line- From carburetor to fuel cell must travel in a safe manner under car and subject to NHSTRA Officials approval. Only steel fuel filters may be used.

## 15- Ignition & Electrical:

- A: Ignition- Stock ignition for make and model of car. No magnetos or MSD ignitions allowed. Distributor will have a single (1) wire only for power. Tachs allowed.
- B: Battery- Battery must be securely mounted under the hood or behind drivers' compartment and protected by a non-conductive cover. Only one (1) 12-volt battery allowed. A master battery cut-off switch must be located within drivers reach and clearly marked Battery and ON/OFF.
- C: Starter- Must be mounted in OEM location and in working order.

## 16- Lettering/Appearance:

- A: All cars must be numbered. All numbers must be confirmed with NHSTRA Officials. NHSTRA Tracks reserves the rights to reassign numbers to avoid scoring duplications. Car registration for cars that raced the previous year (minimum of 3 races) will have first refusal of numbers until January 31<sup>st</sup>, then will be first come first serve, if duplicate number requested will refer to previous year's points.
- B: All cars must have numbers on both doors and roof. All numbers must be a minimum of 18" and must be registered and approved. Roof numbers must face the passenger's side. All numbers must be distinctly contrasting to the color of the car. No reflector or metallic numbers. All numbers to be subject to visual approval of NHSTRA Officials.
- C: All cars must be presentable on race day and subject to NHSTRA Officials approval.
- D: All cars must have their total weight and left side weight decal on the right front corner of the roof, and their NHSTRA Safety decal on the left front corner of the roof.

## 17- Mirror:

- A: One (1) maximum three (3)" inch spot mirror allowed. Must be mounted on the left side of driver close to door edge and not extend outside the body. NO OTHER MIRRORS PERMITTED.

## 18- Rear End:

- A: Rear ends must be locked with steel (magnetic steel) spoon. No lockers or similar assemblies. Gear ratio open. Standard or full floater nine (9)" steel rear ends permitted. Center-section must be steel. Solid steel (magnetic steel) axles only. Yokes, hubs, drive plates, and bearing supports must be magnetic steel. No aluminum or light weight parts or polishing allowed, must use stock-type brackets, in stock locations. No cambered rear-ends allowed.

## 19- Ride Heights:

- A: Minimum chassis to ground clearance in five (5)" inches with driver, including front bumper cover and side skirts.

## 20- Safety: **POSTED IN RACE PROCEDURES**

## 21- Seat:

- A: All seats must be constructed of aluminum. NHSTRA recommends seats be full containment type, designed to include comprehensive head surround, shoulder, and torso support, with energy impact form. No holes permitted. Seat must be located inside main chassis rails no further back than trailing edge of door and securely fastened per manufacturer guidelines.

## 22- Steering:

- A: One piece steering shafts not permitted. It is mandatory to use two (2) u-joints on steering shaft, unless a collapsible shaft is used. Connection at the steering box must be changed to a solid u-joint (no rubber). A steel quick release coupling on steel wheel is mandatory. Center of steering wheel must be padded with two (2)" inch fire resilient material.
- B: Stock appearing non-adjustable center links allowed, stock-type steering boxes allowed, stock-type idler arm and pitman arm allowed. Front outer tie rods may be Heim ends with steel adjuster sleeves.

### 23- Suspensions:

- A: Lower control arms must remain stock OEM for make and model. No relocating of lower control arm mounts. Ball joints may be changed with similar types but must have tapered shaft. Aftermarket bushings permitted.
- B: Upper control arm mounts must be in stock OEM location. Upper control arms must be bolted to inside of mount as per stock OEM. Aftermarket upper control arms permitted, aftermarket cross shafts permitted, may have horizontal slots of no more than two (2)", and must maintain an OEM likeness. Maximum cost of upper control arm not to exceed \$100.00 MSRP. Aftermarket upper control arms are allowed to be +/- 1/2" of manufactured OEM upper control arm for make and model being used. No turnbuckle upper control arms permitted. Any tapered shaft upper ball joint permitted.
- C: Front jacking bolts are not permitted. Front adjustable cups permitted. Rear jacking bolts permitted.
- D: Sway bar must be one (1) piece. Sway bar must mount in stock OEM location.
- E: Rear leaf springs must be magnetic steel only. Springs must remain within 1/8" of stock OEM location. Bushings may be aftermarket. Lowering blocks permitted. Shackles may be adjustable above the spring. Slender mounts permitted.
- F: Coil springs must remain in stock OEM location. Fabricated rear coil spring buckets may be used. Steel racing coil springs allowed with a minimum of five (5)" inches outside diameter and a minimum length of nine (9)" inches.
- G: Shocks must remain in stock OEM location. All shocks must be \$155.00 or less MSRP. All shocks must be of steel body configuration and maintain factory OEM mounting unless approved by NHSTRA Officials. All shocks must be 100% sealed and non-rebuildable. No external valves or Schrader valves. All shocks must be run the way you receive them from manufacturer unless approved by NHSTRA Officials. One shock per wheel. Shock must collapse all the way down making contact with the body and lower jam nut at rod end. All shocks will be inspected and can be confiscated by NHSTRA Officials for further research.
- H: No mechanical tie downs or mechanical/suspension device that limits or binds travel. Suspension must have a minimum two (2)" inches of travel in both directions when stationary, at ride height with driver in the car.
- I: Front spindles must be OEM or OEM aftermarket type for make or model, except G-Metric cars are allowed to use Camaro spindles, and GM spindle PN# 18021052 (casting #369055) and GM spindle PN# 18021053 (casting #369056). OEM aftermarket spindle numbers 18021052 and 18021053 are allowed but must be exact match as OEM. No cutting or altering of spindles allowed.
- J: Rear suspension upper control arm may be adjustable with a tolerance of +/- 3/8" from stock length. Rear lower control arms may be strut style with heims with a tolerance of +/- 3/8" from stock length.

### 24- Tires:

- A: Only tire permitted are Hoosier 790's.
- B: No tire softening/conditioners/treatment of any kind allowed. No liquid in tires allowed. Tires will be subject to NHSTRA testing.
- C: See NHSTRA Track Weekly tire rule

### 25- Transmission:

- A: Must be stock manufactured OEM transmission with all forward and reverse gears working from driver's compartment allowed. Any OEM three (3) or four (4) speed manual. No racing transmissions, no internal modifications, no lighting or polishing of any kind permitted, must remain original as produced by OEM.
- B: Aftermarket shifters permitted; multi-lever type shifters permitted.

#### **26- Tread width:**

- A: Maximum tread width allowed will be 72" inches measured from outside to outside of the wheel rim bead flanges.

#### **27- Transponders/Scanners/Radios/Electronics/Cellular Phones:**

- A: Transponder- All cars must be equipped with a transponder and must be operational at all times during practice, qualifying, and features. If at any time your transponder isn't working, you will be Black flagged off the track. Transponder will be mounted on the right rear frame rail (inside or outside) exactly twelve (12)" inches to the rear of the centerline of the rear axles.
- B: Scanners- Each competitor must have a one-way scanner programmed to 464.000 at all times during practice, qualifying, and feature event, so NHSTRA Official/Race Control/Scoring can stay in contact.
- C: Cars will not be allowed to carry "ANY" on board computers, micro-controllers, processors, recording devices, electronic memory chips, traction control devices, or digital readout gauges. Cellular phones are not allowed in cars at any time. Go-Pro type devices must be approved by NHSTRA Officials prior to use.
- D: No 2-Way Radios allowed. No 2-Way Communication allowed.

#### **28- Wheels:**

- A: Any Steel (magnetic steel) with a maximum width of 8" inch x 15" inch wheels only, as measured bead to bead.
- B: Minimum weight 19lbs.
- C: No mixing wheel width sizes allowed.
- D: Pressure relief valves are not permitted.
- E: Metric cars may use up to a maximum 3/4" inch wheel spacer/spacers, as long as it doesn't exceed tread width rule.
- F: Minimum 1" inch lug nuts required on all wheels.
- G: Wheel studs' minimum diameter is 1/2" inch. Studs must even with or beyond lug nuts.

#### **29- Wheelbase:**

- A: Wheelbase must be the same length, driver's side/passenger side, as came manufactured with (OEM). Minimum OEM wheelbase allowed will be 100.4" inches. Shortening, lengthening, or widening is not permitted.

#### **30- Weights:**

- A: All weights are before race, if unable to scale before the race a 1lb per lap tolerance will be allowed.
- B: 602 (bottle-cap sealed) Crate Engine minimum weight 3050lbs, 55.0% left side weight, with driver before the race.
- C: Built Engine and non-bottle cap 602 crate engines minimum weight 3200lbs, 55.0% left side weight, with driver before the race.