

2019 N.H.S.T.R.A MINI STOCK RULES

STAR - LEE - HUDSON - MONADNOCK - CLAREMONT

Section 1. General

1. Competing Models: 1977 thru present mass produced 4 cylinder passenger cars, 2 or 4 door models allowed. No convertibles, mini vans, or trucks. No rear, mid, or opposed engines allowed. No AWD, AWD conversions, or 4x4 models permitted. Preapproval of any questionable make/model required.

2. Overall Weights: All race cars with 1.7 liter or greater engines will weigh a minimum of 2200lbs with a 55% maximum left side weight. All race cars with 1.6 liter and smaller will weigh 2150lbs with 55% left side.

3. All weight rules are general specification. Weights and percentages may be adjusted on a per race basis to balance the lap times if needed for competition purposes. All weight and percentage rules are measured before the race and adjustments may be made at that time. Car with driver will be checked post feature to ensure compliance. NHSTRA scales WILL be the source of the weights.

4. All 16-valve twin cam vehicles will be 2200lbs total with a max 53% left side. All 16-valve vehicles with a displacement of 2.0L or more will be required to be an additional 100lbs of total weight with a max 53% left side. All 16-valve twin cam vehicles with any type of variable valve timing will also be required to be an additional 100lbs of total weight with a max 53% left side. Holley 350 cfm carburetor will be allowed. Any vehicle that did not come equipped with a carburetor will be required to be an additional 100lbs with a max 53% left side.

5. Weight Standards: Percentage overages within the first. 1% will be allowed, 55.01-.09%) **6.** Appearance: All bodies must be neat appearing; tech will have final judgment. All body panels and edges must be smooth to help reduce unnecessary tire cuts. All panels must meet 4" minimum height. (This includes nose, side skirts, and tail pieces) Bodies are allowed to be gutted and small modifications may be done to meet chassis and tire installation. It is recommended bodies appear as stock appearing as possible to allow for fan identification.

Section 2. Bodies

1. Inner Panels: Stock firewall and floor-pan must be intact. Floor-pan may be fabricated but it MUST cover entire floor area between the front and rear firewalls. Floorboards not required to match side to side. Firewalls MUST remain in stock locations. Bodies from any manufacturer can be used. Bodies may be fabricated.

2. Bodies: Roof and pillars MUST be steel; Mustang may use factory replacement fiberglass roof. Doors, fenders, quarters, and trunk-lid may be steel or aluminum. MUST be stock in appearance and size. Hoods must be stock, aftermarket steel, or fiberglass, NO ALUMINUM hoods will be permitted even if OEM. Tail section of car must be closed and no cut-outs or openings are permitted. Aftermarket noses and tails pieces are allowed. Any car using a fiberglass roof will be required to have a steel (22GA minimum) roof plate. All bodies required

to be 4 inches from the ground. ¼" allowance will be given. Installation with dzus or ¼ turn fasteners.

3. Accessories:

1. Spoilers: maximum 58" X 5". MUST be placed aft of trunk lid or aft of rear window base. May be constructed of lexan, steel, or aluminum. Stock spoilers allowed. Metal spoilers must be made from three separate pieces with none of the three exceeding 20 inches in length. Spoilers WILL NOT extend beyond width of the decklid.

2. Windows: Lexan windows may be used. Quarter, and rear windows allowed but not required. Door windows are not permitted. Undamaged stock front windshields may be allowed with prior request and approval. Glass windshield is permitted as long as it is factory safety style glass. **3. Rub rails:** Exterior rub rails are allowed only between the front and rear tire and MUST stay in contact with the body their entire length. Steel rails MUST be secured to the cage in two places. Plastic rails may be riveted to body with a minimum rivet spacing of twelve inches.

4. Roof Rails: 2 Roof rails are permitted lengthways of the car. Rails can be no longer than the steel roof panel. Rails must be no higher than 1½" above the surface of the roof. Rails may be made from steel, aluminum, lexan, or plastic and must be securely fastened to the vehicle.

5. Aftermarket Bodies: AR Bodies Muscle Car bodies allowed; must match chassis. Body must be used in full no mixing and matching of other panels/pieces.

Section 3. Chassis

1. Tubing: Stock chassis may be tubed in front of strut towers, but must remain unaltered from strut or shock location to rocker panel. Chassis may be fabricated with tube beyond rear strut or shock towers. Tubing can be used to connect front and rear sub frames must be identical side to side. Piping is allowed to pass through either firewall. Caster/Camber plates are permitted and the top of the strut tower may be slotted for adjustment.

2. Roll Cage: Main cage must be constructed using a minimum pipe size of 1.5" X .095. Frame tubing must be minimum 2"x2"x.125. Main cage is defined as "any area between the factory firewalls". Drivers door bars must be plated (18 gauge minimum) or covered (.250 minimum) to reduce the risk of driver injury.

3. Strut Towers: Strut and shock towers must remain in factory locations, no movement of any factory placed suspension or chassis mounting points is permitted. No modification of stock sub frames allowed, i.e. cannot be cut open, tubed inside and resealed. Engine cross member must be stock OEM and unaltered.

4. Fuel Cell: Fuel Cell must be enclosed in a steel container. Fuel cell must have a rear crash bar in case of accident. Fuel cell must have fire wall mounted in between the cell and driver.

5. Lead: Lead weight may be added to achieve percentages and overall weight required by the NHSTRA. All lead must be painted a solid color and have the car number painted or decaled on to the lead. Any cars losing a piece of lead during a race will face immediate disqualification.

Section 4. Suspension

- 1. Shocks:** OEM or stock replacement shocks and struts only, Bilsteins Allowed. No racing, or adjustable shocks/struts allowed. No performance or threaded body shocks/struts allowed. Raceland Coilover Kits, height adjustable only are allowed, no damping adjustment provisions are permitted. Maximum 1 shock/strut per wheel, 4 total per car. Coil-over sleeve kits allowed. No full coil-overs. Sleeve kit must attach to unaltered DOT/OEM replacement shock. Weight jacks and adjustable spring cups are legal. Adjustable strut plates are allowed.
- 2. Ride Height:** All cars must meet a 5 inch suspension ride height. Ride height will be measured at factory floorboard next to unibody. If floorboards are not in stock location the lowest point of the frame rail will be 4 inches.
- 3. Springs:** Racing springs allowed. Any Diameter, any height is permitted.
- 4. Tread Width:** Maximum tread width 72 inches measured from bead to bead. Bead is defined as the outside lip of the wheel used.
- 5. Sway Bars:** Any size sway bars can be used, front or rear. Sway bar does not need to be factory for make and model used.
- 6. Bolt-Ons:** All suspension parts (a-frames, spindles, hubs, etc.) must be unaltered OEM. Mustang may use QA1 K-Member.
- 7. Brakes:** Four wheel brakes must be in working order. Brakes must be OEM or OEM replacement type. No exotic, aftermarket or racing brakes allowed. Cars can be converted to rear disk brakes using factory materials, factory materials can be used from ANY make and model. Aftermarket brake pedal assemblies with bias control are permitted.
- 8. Control Arms:** Rear control arms may be fabricated from heim joints and radius rods. RWD may have a ¼" adjustment plus or minus stock length.

Section 5. Wheels (TBD)

- 1. Tires:** Designated Track Tire Hoosier 23 / Hoosier 23.5.

Section 6. Engine

- 1. Engine Identification:** All cars MUST have their engine size and minimum weight post via vinyl decal or paint on either the hood or windshield of the vehicle.
- 2. VVT:** All cars a variable valve timing system will be required to use make specific engines. Cylinder head and block must match. No mixing of VVT engines, heads, or models.
- 3. Block:** Block must be stock for make. 2540cc maximum displacement. **Fords max displacement will be 2340cc**. (Actual displacement, not advertised engine size will determine the minimum car weight) Maximum overbore .040. Compression ratio may not exceed 12:1. No stroking/destroking of engine.
- 4. Heads:** Milling of head is allowed. No porting or polishing of any kind. The cylinder head must be stock for make. The combustion chamber must not be modified at all. Ford 2.3 will be allowed to use Race Engineering Cast Iron replacement head.

- 5. Valves:** Oversized replacement valves are allowed, must be used in conjunction with factory sized valve seats. Stainless Steel OE replacements are allowed. Valves may use narrow stem. Ford 2.3 will be allowed to use 1.89/1.59 valve combination.
- 6. Crankshafts:** Crankshaft MUST be OEM stock, no knife edging or weight removal allowed. No aftermarket cranks. Crankshafts may be balanced. Aftermarket pulleys are allowed.
- 7. Camshafts:** Camshafts max lift .470 (Ford 2.3 8V .550) at the valve, flat tappet or FACTORY roller style valve train. Valve train must match make, model, and year of engine declared. Lift is measured at the outermost portion of valve retainer. VTEC will require camshaft removal for lift inspection. ALL LOBES will be checked on VTEC equipped cars.
- 8. Pistons and Rods:** Must be stock appearing. No light weight piston or rods allowed.
- 9. Carburetor:** Holley 7448 350cfm MAX any brand may be used. Choke plate MUST be removed to allow inspection. 1" spacer or adapter between intake and carb allowed. Carbs are subject to outside flowbench testing for flow capabilities. Carbs found illegal will be confiscated.
- 10. Fuel Injection:** Fuel Injection is allowed. Any size fuel injectors may be used.
- 11. Air Filter:** Air filter may stick above hood but will need to be covered so the filter is not exposed to open air. EFI cars must leave air filter in engine bay, filter must not extend ahead of radiator. Air filter spacer in between carb and filter is allowed up to 1"
- 12. Intake Manifold:** No porting or polishing of any kind. MUST use a stock intake manifold for make and engine used. Gasket matching is legal but you MUST use Fel-Pro Gasket for Engine Declared, maximum gasket match with be ½ inch (0.5").
- 13. Cooling System:** Any radiator may be used and MUST be mounted forward of engine. No anti-freeze.
- 14. Exhaust:** Headers will be allowed; Ford will not be allowed to use Thunder Valley or any 1 ¾" primary tube header. 2.5" maximum exhaust pipe diameter after muffler. All cars will be required to run a muffler. Cars that are deemed too loud for competition will be asked to conform to track/sanction requests at any time. Failure to meet such request will disqualify any finishes made in that event.

Section 7. Transmissions

- 1. Transmissions:** Transmission must be a stock unit for make and model; gear ratios may be swapped from other factory units. Must have 4 forward gears in working condition. 5th gear lockouts may be used but will need to be removed for transmission inspections.
- 2. Driveshaft:** Driveshaft must be steel and painted white. Shaft MUST have 1 driveshaft loop within 18 inches of the forward u-joint.
- 3. Clutch:** Clutch must be functional, single disc, or puck style clutch with a stock finger type pressure plate.
- 4. Flywheel (A):** Must be steel and weigh a minimum of 10 lbs. measured with NHSTRA tools. Must retain stock diameter. Weight will include mounting bolts. Dodge Neon: Factory riveted clutch/flywheel assembly. Must weigh minimum of 22lbs including flexplate and mounting bolts.

5. Flywheel (B): No flywheel rules will be enforced with the acceptance of a 100lb penalty. Cars must declare the Flywheel (B) rule before their first event of the season. Cars that have bypassed the flywheel rule and accepted the 100lb penalty will be identified with the letter 'F' on the windshield.

6. Starter Engagement: Starter must engage the flywheel, small diameter clutches utilizing a flexplate are NOT allowed.

Section 8. Rear End

1. Rear Ends: Rear end needs to be factory for make and model used. No quick change or 9" units allowed.

2. Assemblies: No aluminum components allowed, including brake drums.

3. Control Arms: Control arms may be reinforced, off-set bushing allowed. Fabricated heim joint arms allowed, ¼" adjustment plus or minus allowed.

4. Camber: No camber changes allowed to rear wheel drive solid (non-independent) rear ends.

Section 9. Electrical

1. Ignition: Stock ignition systems only, no magneto or MSD systems allowed. High output coils allowed if stock appearing. Aftermarket distributor may be used. Must be run from factory electronics. NO MSD ALLOWED.

2. Starter: Any starter in working condition. Alternators are optional but recommended.

3. EFI: Fuel Injection computer must be stock OEM style computer, factory computer upgrades allowed. Chips and Flashers allowed to re-tune settings. Must use the actual factory computer unit. ** NO STAND ALONE**

4. Firewalls: All wires and/or fuel lines that cross through any firewall will be required to maintain a rubber grommet to prevent arcing.

Section 10. Safety

1. Racing Seat: A racing seat is required.

2. Restraint Systems: NHSTRA recommends the use of a head and neck restraint system. Hutchins, HANS, Leatt, Neksgen, etc. are all eligible models.

3. Fire Suits: Full 1 or 2 piece single layer minimum driving suit is required. Racing gloves and shoes are required.

4. Helmets: All drivers will be required to present a motorsports accepted racing helmet every season and after every wall impact. Any helmets deemed to be unsafe will need to be exchanged before the driver is allowed to take the track. Helmets must be SA rated with a 2005 date code or newer.

5. Steering Shaft: Aftermarket steering shaft recommended. Must have quick release steering wheel. Steering wheel can be made out of steel or aluminum.

6. Harness: Five Point racing harness required; date must be within 3 years. Harness installation will be inspected. Drivers will not be able to race if the harnesses are installed against manufacturer suggestions.

7. Window Net: Window net required may be ribbon or mesh. Latch must be visibly marked with an arrow in case of emergency. Latch can be spring, buckle, or latch type. Window net must be dated within 3 years of the current race season.

8. Battery: Battery must be located forward of fuel cell. Battery must be secured by a minimum of two fasteners. It is suggested that the battery not be mounted within the engine compartment.

9. Fuel Cell: Fuel cell max 12 gallon capacity. Fuel Cell area must be separate from driving compartment. Fuel lines are not permitted to be run through the driver's compartment. Firewall cannot be made from aluminum. Fuel cell must be in metal container and approved by series officials.

10. Fuel Pump: Electric fuel pump must have switch clearly marked. Electrical on off switch must be located within reach from outside of car. Cars running fuel injection will require an oil pressure shut off switch.

11. Certification: Chassis will need to receive NHSTRA certification before any track time will be given at first event.

12. Fire Extinguisher: All cars have to have a working fire extinguisher.