



PRESENTED BY: **TURN 4** AUTOMOTIVE & PERFORMANCE

2020 RULES AND REGULATIONS

2020 Changes are in RED

Section 1. General

- A. 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, rotary, or opposed engines allowed. No AWD, AWD conversions, or 4x4 models permitted. Preapproval of any questionable make/model required.
- B. Base weights: All race cars with 1.7 liter or greater will weigh a minimum of 2200 lbs with a 55% maximum left side weight. All race cars with 1.6 liter and smaller will weigh 2150 lbs with 55% left side. Ford 2.5 will weigh 2300 lbs and 55% Left Side.
- C. 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. NEMST scales WILL be the source of the weights.
- D. Weight Standards: Percentage overages within the first .1% will be allowed, 55.01-.09%)
- E. Communications: Mirrors and two-way radio communication are allowed. **All cars will be required to monitor the radio frequency used by NEMST. This will allow for quicker line-ups and restarts. Driver or spotter can receive NEMST transmissions. 454.0000. Raceceiver or Scanner will need to be used during all on track activity. Any driver found not monitoring NEMST Race control may be disqualified from the event.**
- F. 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.
- G. Transponders: All cars will be required to use an AMB style transponder. Transponder may be direct wire or rechargeable. Transponder must be mounted with a clear view to the ground. Transponder must be mounted 10 feet from the front most point of the car. Transponder must face the race track. Any car found in violation to transponder mounting will receive a full event disqualification.
- H. Identification: All cars must leave the top 4" of the windshield blank for NEMST chassis identification. When the registration is paid (single race or full season) an identification windshield banner will be made for the car. If the identification banner is not run a forfeit or points and or purse will be given

Section 2. Bodies

- A. 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.
- B. Bodies: **Roof MUST be steel**; Mustang may use factory replacement fiberglass roof. Doors, fenders, quarters, and trunk-lid may be steel or aluminum but 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.
- C. 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. Sub rails: Exterior sub 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.
- D. 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.
- E. Aftermarket Bodies: ARBodies Muscle Car bodies allowed; must match chassis manufacturer. Body must be used in full no mixing and matching of other panels/pieces

Section 3. Chassis

- A. 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.
- B. 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.
- C. 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.
- D. 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.
- E. Lead: Lead weight may be added to achieve percentages and overall weight required by the NEMST. All lead must be painted a solid color and have the car number painted or decaled onto the lead. Any cars losing a piece of lead during a race will face immediate disqualification.
- F. Excessive Tube/Repair: Any cars using excessive tube to reinforce chassis from rust or crash damage will be subject to additional weight penalties. Weights will be handled on a car by car basis by NEMST Officials.

Section 4. Suspension

- A. **Disclaimer:** The rules within this section are made with GRAY AREAS in mind. We expect teams to take advantage of these gray areas but NOT violate the rules specifically written. Suspension mounting points MUST remain STOCK! Control Arms, Spindles, ETC MUST remain STOCK! Items not specifically covered MAY be fabricated and altered for performance enhancement.
- B. **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. **Non-damping adjustable Coilover Kits are allowed, no damping adjustment provisions are permitted on any make or model.** Maximum 1 shock/strut per wheel, 4 total per car. Coil-over sleeve kits allowed. Sleeve kit must attach to unaltered DOT/OEM replacement shock. Weight jacks and adjustable spring cups are legal. Adjustable strut plates are allowed.
- C. **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.
- D. **Springs:** Racing springs allowed. Any Diameter, any height is permitted.
- E. **Tread Width:** Maximum tread width 72 inches measured from bead to bead. Bead is defined as the outside lip of the wheel used.
- F. **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.
- G. **Bolt-Ons:** All suspension parts (a-frames, spindles, hubs, etc) must be unaltered OEM. Mustang may use QA1 K-Member.
- H. **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.
- I. **Control Arms:** Rear control arms may be fabricated from heim joints and radius rods. RWD may have a 1/4" adjustment plus or minus stock length.
- J. **Modified Upper Control Arms:** On cars where no factory camber adjustment is given cars may be allowed to modify factory upper control arms. All control arms will be checked BEFORE the car enters the racing surface and receive NEMST approval or not. Approved control arms will be marked and sealed to prevent further modifications without approval.

Section 5. Wheels and Tires

- A. **Wheels:** 7 or 8 inch wide wheels with any production offset may be used. 13 and 14 inch wheels only. No mixing of rim diameter or width on car. Spacers may be used. NO homemade or altered wheels will be allowed. Racing wheels are required. 1 inch lug nuts are highly recommended on all four wheels.
- B. **Tires:** Competitors may run any racing or DOT treaded 7 inch bias ply or radial. Durometer testing of tires will be conducted throughout the race event starting with the first practice. Any tire found to be softer than 55pts will be deemed illegal and penalties may be issued. There will be zero tolerance on durometer checks conducted by NEMST officials using NEMST tools. All tires must be same brand and compound. Tires can be up to one size different side to side,
- C. **NOTE:** *Each tire will be checked in a minimum of three locations. All locations checked must be 55pts or greater to pass.*
- D. **Specified Tires:** Hoosier 800 23/7/13 and 800 23.5/7/13 and 14 are the specified tour tires and will be for sale at the events. Tires not purchased from NEMST must be registered with a tour official prior to the feature line-up. A \$5.00 per tire fee may be assessed.
- E. **Penalties:** Cars not using Hoosier racing tires will forfeit 25% of the posted purse and all additional awards.

Section 6. Engine

- A. **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.
- B. **VVT:** All VVT equipped cars will add 150 lbs. 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 blocks.
- C. **Block:** Block must be stock for make. 2540cc maximum displacement. (Actual displacement, not advertised engine size will determine the minimum car weight) Maximum overbore .060. Compression ratio may not exceed 12:1. No stroking/destroking of engine.
- D. **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.
- E. **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.
- F. **Crankshafts:** Crankshaft MUST be OEM stock, no knife edging or weight removal allowed. No aftermarket cranks. Crankshafts may be balanced. Aftermarket pullies are allowed.
- G. **Camshafts:** Camshafts 16v max lift .470, 8v max lift .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.
- H. **Pistons and Rods:** Must be stock appearing. No light weight piston or rods allowed.
- I. **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.
- J. **Fuel Injection:** Fuel Injection is allowed. Any size fuel injectors may be used. Any size throttle body may be used for fuel injection. ALL electronic fuel injection (EFI) cars will be required to run a NEMST supplied air restrictor in the intake piping. Air restrictors will be available to tour registered teams prior to the first race. Units must be bought for \$20 from the NEMST and will be swapped out periodically at events. If tampering or modification is discovered the driver will receive a one calendar year suspension from tour competition and be stripped of all points accumulated.
- K. **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"
- L. **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").
- M. **Cooling system:** Any radiator may be used and MUST be mounted forward of engine. No anti-freeze.
- N. **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 to 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

- A. **Engine Setback:** All cars with swapped engines must have transmission output shafts inline with center of front hubs.
- B. **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. Cars with swapped engines may use transmission that matches the engine, if it differs from the model.
- C. **Driveshaft:** Driveshaft must be steel and painted white. Shaft MUST have 1 driveshaft loop within 18 inches of the forward u-joint.
- D. **Clutch:** Clutch must be functional, single disc, or puck style clutch with a stock finger type pressure plate.

- E. Flywheel: (Option 1) Must be steel and weigh a minimum of 10 lbs. measured with NEMST tools. Must retain stock diameter. Weight will include mounting bolts. (Option 2) Flywheel May be ANY MATERIAL 8 LBS minimum weight, MUST BE SFI CERTIFIED. Dodge Neon: Factory riveted clutch/flywheel assembly. Must weigh minimum of 22 lbs including flexplate and mounting bolts.
- F. Flywheel (B): No flywheel rules will be enforced with the acceptance of a 100 lb 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 100 lb penalty will be indentified with the letter 'F' on the windshield.
- G. Starter Engagement: Starter must engage the flywheel, small diameter clutches utilizing a flexplate are NOT allowed.

Section 8. Rear End

- A. Rear Ends: Rear end needs to be factory for make and model used. No quick change or 9" units allowed.
- B. Assemblies: No aluminum components allowed, including brake drums.
- C. Control Arms: Control arms may be reinforced, off-set bushing allowed. Fabricated heim joint arms allowed, 1/4" adjustment plus or minus allowed.
- D. Camber: No camber changes allowed to rear wheel drive solid (non-independent) rear ends.

Section 9. Electrical

- A. 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.
- B. Starter: Any starter in working condition. Alternators are optional but recommended.
- C. 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**
- D. 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

- A. Racing Seat: Full Containment racing seat must be used. Bolt on containment systems are allowed. Containment system is defined by a 1-piece 2-side reinforced head rest, and 2 reinforced shoulder rests. Headrest must be mounted to chassis or in accordance to manufacturer specifications.
- B. Restraint Systems: NEMST requires the use of a head and neck restraint system. Zamp, Hutchins, HANS, Leatt, Neksgen, etc are all eligible models. A foam neck brace does not constitute as a head and neck restraint system.
- C. Fire suits: Full 1 or 2 piece single layer minimum driving suit is required. Racing gloves and shoes are required.
- D. 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 2010 date code or newer.**
- E. Steering Shaft: Aftermarket steering shaft recommended. Must have quick release steering wheel. Steering wheel can be made out of steel or aluminum.
- F. 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.
- G. 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.

- H. 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.
- I. Fuel Cell: Fuel cell max 12 gallon capacity. Fuel Cell area must be separate from driving compartment. Fuel lines permitted to be run through the driver's compartment as long as they are fully encased in conduit and labeled. Firewall cannot be made from aluminum. Fuel cell must be in metal container and approved by series officials.
- J. 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.
- K. Certification: Chassis will need to receive NEMST certification before any track time will be given at first event.
- L. Chassis: All cars that compete in NEMST on tracks over ½ mile in length will be required to have roll cage piping in front of the front struts and beyond rear firewall.
- M. Fire Extinguisher: All cars recommended to have a working fire extinguisher.

Procedures:

- Raceceiver or scanner will need to be monitored during all on track activity
- NEMST officials will have final say on all lineup, finish, and technical decisions.
- Lapped cars will go to the rear of the field during every caution.
- Lapped cars will be directed to top or bottom (will be discussed in drivers meeting).
- Under 5 laps to go will get 1 chance at double file restart.
- Winner of first heat will draw number of rows inverted for feature. (Maximum 7 rows)
- Top 3 cars to tech after heats/qualifying; Top 5 after feature.
- Flagman starts the race. Once green is waved the track is open for competition.
- No racing back to the yellow. Field will be reverted to last completed lap.
- Cars will not be allowed to race if they miss the initial start.
- No fault policy: Any cars involved in the bringing out of caution will be put to the rear.
- If a caution is brought out intentionally, driver will be placed 1 lap down.
- If you are not ready to line up when called upon you may be placed at rear of field.
- All previous winners during current season can start no higher than 11th position.
- Leader will have option of inside or outside during all restarts. Must start on inside during initial start.
- Cone Rule: Cone restarts will be used for the first half of each event. Drivers will be able to choose the high or low side when the cone is displayed. Drivers must stay in the lane they choose. No caution, lapped, or pit cars may use the cone.
- There will be a minimum speed rule that is explained at each drivers meeting. Minimum speed will be announced at drivers meeting. Cars consistently not meeting minimum speed will be black flagged.

Disclaimer;

These rules were created to help provide equal competition among a diverse field of cars, drivers, and teams. These rules may be revised by NEMST during the race season should it be deemed *necessary*. When a rule change is deemed necessary, an E-Mail alert will be sent to all teams listed on our contact list. Changes will also be listed on our website. These changes will be effective one week after they are posted. Any cars found to be non-compliant may be assessed penalties which may include fines, loss of laps, loss of purse, (partial or full) and loss of series points.

Questions can be forwarded to:

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