

## COYOTE MODIFIED

### CLASS OVERVIEW

Coyote Modified is a power-adder limited category that requires the use of a Coyote 5.0L engine with few restrictions and a 305ci maximum engine size. It is designed to reflect the latest technology and modifications in the ultra-high-performance street market. Entries are required to race on stock suspension with a 28-inch by 10.6-inch or smaller bias-ply slick or a 275/60/15 drag radial tire.

**Note:** This set of class rules is presented to all competitors under the assumption that any modifications not specifically written within these rules shall be deemed illegal, unless the competitor has the expressed written consent from the NMRA Tech Director.

### RACING FORMAT

This class will be an all run heads-up field, **NHRA Pro Ladder** on a .400 Pro Tree.

| <u>POWER ADDER</u>               | <u>MAX CID</u> | <u>BASE WEIGHT</u> |
|----------------------------------|----------------|--------------------|
| Nitrous (Up to 2 stages)         | 315            | 2700               |
| Roots/TVS 2.3L                   | 315            | 2950               |
| Roots/TVS 2.65L                  | 315            | 3050               |
| Twin Screw 2.9L                  | 315            | 3150               |
| Turbo 68mm (T4 Housing & Flange) | 315            | 3175               |
| Turbo 76mm (T4 Housing & Flange) | 315            | 3350               |
| Twin Screw 3.6L                  | 315            | 3250               |
| Centrifugal Superchargers *      | 315            | 3250               |

### Note:

\***Centrifugal Superchargers** are allowed a maximum inducer diameter of 3.57 inches and a maximum air inlet outside diameter of 3.76 inches.

All weights are with driver and rounded down to the nearest five pound increment. If actual engine CID is over the 315cu.in. maximum, there will be a 3lb per cu.in. Weight penalty assessed to your individual base weight.

### WEIGHT ADDITIONS/DEDUCTIONS

2015 and newer Ford Mustang (S550) may deduct 25lbs from their original base weight. All entries running an OEM Ford intake manifold may deduct 50lbs from their original base weight.

## REQUIREMENTS & SPECIFICATIONS

### ENGINE: 1

#### **BLOCK**

Any OEM, Ford Racing, or NMRA approved cast aluminum block permitted.

#### **HARMONIC BALANCER**

SFI Spec 18.1 balancer is required.

#### **ENGINE MOUNTS & LOCATION**

Engine/motor plates and mid-plates are permitted. Engine block and cylinder heads cannot be in contact with the firewall.

#### **ENGINE COATINGS**

Permitted

#### **CRANKSHAFT**

Stock or aftermarket crankshafts are permitted.

#### **CONNECTING RODS**

Stock or aftermarket connecting rods are permitted.

#### **PISTONS & PINS**

Stock or aftermarket pistons and pins are permitted.

#### **PISTONS RINGS**

Stock or aftermarket piston rings are permitted.

#### **TIMING CHAINS**

Stock or aftermarket timing chains are permitted.

#### **CAMSHAFT**

Any camshaft permitted.

#### **LIFTERS/LASH ADJUSTERS**

Any lifters/lash adjusters permitted.

## **CYLINDER HEADS**

Coyote 5.0 cylinder heads required with being permitted.

## **INTAKE MANIFOLD**

Any factory-type, mass-produced intake manifold (OEM 5.0L, Boss, and Cobra Jet) permitted. Nitrous entries are permitted to use any fabricated intake manifold. All entries are permitted to use the MMR Part #402227, Edelbrock Victor II and Holley Sniper #829032 intake manifolds.

## **POWER ADDER**

Any supercharger drive (including gear drives) system is permitted. Supercharged entries are prohibited from sourcing fresh from the grille or a hole in the bumper and/or hood. Turbocharger location/placement in front of the grill or popular "front-mount" style with a hole in the bumper/spoiler or hood for a fresh air source is prohibited. No restrictions on nitrous oxide systems. Boost controllers and nitrous controllers are permitted. Vortech V-28 and ProCharger F3 style transmission superchargers are prohibited.

The maximum turbocharger size permitted is 76.9mm or 3.028 inches. Turbine size limited to T4 housing only. Compressor wheel/impeller must only be constructed of cast or billet aluminum. Turbine wheels are only allowed to be constructed from Inconel material. Turbocharger size will be verified by one or both of the following methods:

1. By measuring the housing bore at the leading edge of the impeller wheel. The maximum diameter of the housing bore at the leading edge of the impeller wheel may not exceed 2mm more than the maximum allowable turbocharger size permitted in this class.
2. By measuring the impeller inducer wheel where the leading edge of the inducer wheel meets the housing. The wheel/blade contour from the inducer to the exducer must be continuous without steps.

## **INTERCOOLING**

Centrifugal superchargers and turbochargers are required to use air-to-air intercoolers. The use of water/methanol injection kits as a form of intercooling is prohibited. Roots-style and twin screw superchargers are allowed to use air-to-water intercoolers. Air-to-water intercoolers are required to be the factory supplied intercooler from either the supercharger or vehicle manufacturer.

## **OILING SYSTEM**

Any factory type oiling system permitted. External Oil Pump permitted. Dry Sump oiling Systems are prohibited.

### **COOLING SYSTEM**

Any radiator (required), water pump and cooling fan/fans permitted.

### **EXHAUST SYSTEM**

Any tubular headers and mufflers required.

### **FUEL SYSTEM**

Any electric fuel pump permitted. Electric fuel pump must shut off with vehicle's ignition switch or master cut-off switch. Fuel lines may be changed to any size line with in-line fuel filters and fuel regulators permitted. Factory gas tanks and aftermarket fuel cells are permitted. When using a fuel cell, a rear firewall of a minimum .032 inch aluminum or .024 inch steel must be installed to totally seal driver compartment from fuel cell.

### **EFI SYSTEM**

OEM or any commercially available mass-produced aftermarket fuel-injection system permitted. Any size/type of fuel injector permitted with a maximum of 8 injectors located in the stock location.

### **THROTTLE BODY**

Centrifugal supercharged and turbocharged, equipped vehicles are required to use a 90mm or smaller throttle body. Cobra Jet intakes, roots superchargers and twin screws are permitted to use any commercially available throttle body. Nitrous equipped entries are permitted to use any commercially available throttle body. External modifications to the throttle body to allow for a throttle cable are permitted.

### **THROTTLE LINKAGE**

Throttle control must be operated by the driver's foot

### **FUEL**

Gasoline as outlined here is the only acceptable fuel for use in this eliminator. The NMRA reserves the right to check gasoline at any time during competition. Gasoline, as defined by the NHRA rulebook, is a mixture of hydrocarbons only. The average dielectric constant (D.C.) for the hydrocarbons that comprises gasoline is 2.025. This is defined as a reading of "0" on the fuel-check meter. NMRA allows no greater reading than a "0" on the fuel check meter. Failure to pass fuel check is grounds for disallowance of the run during competition and disqualification from the event during eliminations. No oxygenated fuel's permitted.

### **CLUTCH, FLWHEEL & FLYWHEEL SHIELD**

Clutch and flywheel meeting SFI Spec 1.1 or 1.2 up to a twin-disc maximum is mandatory. Steel flywheel shield meeting SFI Spec 6.1 is mandatory. Flywheel shield cannot be modified for clutch adjustment and/or cooling holes.

### **MANUAL TRANSMISSION**

OEM or aftermarket OEM-style transmissions (Tremec) allowed (O.D. not required) and reverse may be used. Aftermarket 4-speed transmission with an H-pattern is permitted. All gear changes must result directly from the driver's foot. Pneumatic, hydraulic, electric, etc. shifters are prohibited. Floor-shift conversion kits are permitted. Clutchless transmissions are prohibited. Clutch must be used to change gears in a conventional manner.

### **AUTOMATIC TRANSMISSION**

Any aftermarket OEM automatic transmission allowed. Aftermarket case must meet SFI Spec 4.1 and 30.1. Modifications to shifting pattern are permitted provided full shift pattern is retained. Functional neutral safety switch is required. The use of trans-brakes is permitted. Lockup converters are prohibited.

### **DRIVELINE**

Any steel, aluminum driveshaft or carbon fiber driveshaft is permitted. Driveshaft safety loop is required.

### **REAR END**

Any OEM automotive type rear end permitted.

## **BRAKES, STEERING & SUSPENSION: 3**

### **BRAKES**

Front and rear hydraulic brakes are required. Automated brakes are prohibited. The application and release of the brakes must be a function of the driver. Dual reservoir master cylinder is required. Line-lock is permitted only on the front wheels using one line-lock button and solenoid. Any other electrical, pneumatic, hydraulic, etc. switch in braking system is prohibited.

### **STEERING**

Any American automotive type steering system permitted.

### **SHOCKS/STRUTS**

Stock replacement type shocks and struts are required. Coil-over struts are permitted. Front shocks/struts must mount in stock location. Shocks/struts must be stand-alone and cannot be

adjustable during a run. Rear coil over shocks are permitted. Electronic programmable shocks/struts are prohibited. Spindle mount type struts are prohibited.

### **FRONT SUSPENSION**

*Post 1978 and Newer Vehicles:* Stock, aftermarket or tubular type K-member permitted. K-member must mount in its original location. K-member may be notched for oil pan clearance. Factory strut/shock towers are required. Bolt-on type caster/camber plates are permitted. Factory or commercially available control arms are permitted.

*Pre-1978 and Older Vehicles:* The use of commercially available bolt-on front suspension kits for engine fitment is permitted. Factory strut/shock towers are allowed to be modified for engine fitment and must maintain an OEM appearance.

### **REAR SUSPENSION**

Stock rear type suspension is required. Racing style 4-link and ladder bar type suspensions are prohibited. Stock type suspension may utilize any commercially available shocks, springs, leaf springs or factory style 3-link/4-link suspension systems for the particular year/make/model of car being used. Leaf springs are allowed to be moved inboard. Torque arm style suspensions are only permitted on OEM equipped vehicles. Bolt-on traction devices, Panhard bars and anti-roll bars are permitted. Factory attachment points on the rear axle are allowed to be relocated.

### **WHEELIE BARS**

The use of wheelie bars is permitted.

## **FRAME: 4**

### **CHASSIS**

All vehicles must have a chassis that meets the guidelines set by SFI for their respective speed and elapsed time. A valid NHRA serialized sticker is mandatory at an NHRA Member Track.

### **FRAME**

Front and rear frame rails must remain in the stock locations. Front frame rails are to remain unaltered. Rear frame rails may be notched for tire clearance only. Notching rear frame rails for rear end clearance/ride height purposes is prohibited. Sub frame connectors are permitted.

### **WHEELBASE**

Entries must retain stock wheelbase dimensions of + or – 1 inch. Maximum wheelbase variation from left to right is 1 inch.

### **GROUND CLEARANCE**

A minimum of 3 inches from the front of the vehicle to 12 inches behind front spindle centerline is mandatory. A minimum of 2 inches for the rest of the vehicle is mandatory (except for oil pan and exhaust headers).

## **TIRES & WHEELS: 5**

### **TIRES**

The use of 28-inches tall by 10.6-inches wide bias-ply slick required or 275/60/15 drag radial. Tire tread may not extend outside of the fender.

### **WHEELS**

Aftermarket racing wheels permitted. Spindle mount type front wheels are prohibited.

## **INTERIOR: 6**

### **UPHOLSTERY**

Must have full factory type upholstery, including carpet, door panels, headliner, and factory dash. Driver's seat is required and must be in the stock location. Aftermarket front seats are permitted and must be upholstered. Rear seat may be removed.

### **STEERING COLUMN/WHEEL**

OEM or stock type steering column required. Steering column must have a factory appearance. Removable steering wheel is permitted.

### **PEDALS & PEDAL LOCATION**

Stock type pedals and linkage in the factory location are required.

## **BODY: 7**

### **BODY**

Body must retain original appearances and profiles for year, make and model being used. OEM body shell must be intact. Light weight body panels are restricted to hood, bumpers, deck-lid/truck-lid or hatch and dash. Aftermarket bumpers are permitted and require factory/replacement headlights. Front fascia must maintain factory profiles and require pre-approval from the NMRA Tech Department. Hood and deck-lid/trunk-lid may be hinged or lift off style. Alterations or aerodynamic modifications are prohibited.

### **HOOD SCOOPS**

The use of aftermarket forward facing hood scoops is prohibited. The use of cowl induction style hoods are allowed on any vehicle with a maximum height of 6 inches. Cowl height will be checked from the tallest point of the hood to the fender line.

**COWL AREA**

Complete OEM cowl is required.

**GRILLE**

Grille must be full production for make, model and year being claimed. Covering in front of or behind the grille is prohibited.

**BUMPERS**

No body components, bumper add-ons, sill plates, chin spoilers, body kits, license plate frames, etc. are permitted to be added to the nose of the vehicle. "Outlaw" style bumpers are prohibited.

**FIREWALL**

Stock, unaltered firewall is required.

**FENDER SPLASH PANS**

Full, factory OEM or aftermarket inner fenders are required. Aftermarket inner fenders must retain a factory appearance. OEM and aftermarket splash pans or inner fenders can be trimmed to allow a maximum of 2 inches clearance around headers.

**WINDSHIELD & WINDOWS**

OEM glass or NHRA approved Lexan is required and must maintain a Ford OEM appearance. For example: Optic Armor replacement windows.

**FLOOR**

Complete stock floor in stock location is required. Manual transmission vehicles are only permitted to modify the transmission for shifter clearance.

**WHEEL WELLS**

Aftermarket style mini-tubs are permitted.

**WING/SPOILERS**

All entries are permitted to use rear wing/spoilers. Wing/spoilers are allowed a maximum length of 26 inches. Any adjustments to the wing/spoiler during a run are prohibited.

**STREET EQUIPMENT**



OEM headlights and taillights for year/make/model of vehicle being used must be intact and operational.

## **APPEARANCE**

All cars in competition must be painted or wrapped. Advertising graphics are permitted on the body. In order to be eligible for the NMRA official contingency program, all contingency sponsors' decals must be easily visible and located on the outside of the vehicle. Failure to do so can result in the driver forfeiting all claimed contingencies for that particular event. The NMRA does require all entries to run the following decals:

1. NMRA Windshield Banner: Decal needs to be located on the top of the windshield or just above the windshield located on the body.
2. NMRA Drag Racing Series: Decals (2) must be located on each side of vehicle. Either on the side windows or decals can be located on the body right beside the side windows.
3. Class Sponsor: Decal must be located on the passenger's side lower portion of the windshield.
4. VP Racing Fuels: Official Fuel decals (2) required. Must be located on each side of vehicle. (In a contingency decal manner)
5. Aerospace Winners Circle: Decals (2) must be prominently displayed on each side of vehicle. Failure to do so can result in the winning driver forfeiting his/hers Winner's Trophy & Payout.
6. Class & Competition Numbers: Numbers must be easily visible/legible and located on the front, back, and both side windows

## **ELECTRICAL: 8**

### **BATTERIES**

Battery may be relocated and must be an automotive type.

### **IGNITION**

Any battery operated ignition system permitted. Distributor-less ignition systems are limited to one coil per cylinder only.

### **MASTER CUTOFF**

A master cutoff switch is mandatory on all vehicles with a battery located in the trunk.

### **STARTER**

Aftermarket starters, in stock location permitted.

## **SUPPORT GROUPS: 9**

### **COMPUTER/DATA RECORDERS**

The use of data recorders is permitted.

### **BRACKET RACING AIDS**

The use of any bracket racing aids such as optical sensors, delay boxes, shutter boxes, throttle stops, etc. are prohibited. The use of any device (electrical or mechanical) that allows a driver to ascertain the position of their vehicle to the starting line is prohibited.

### **PRESSURIZED BOTTLES**

All pressurized bottles must meet D.O.T. 1800lb minimum specification.

### **TOW VEHICLES**

The use of tow vehicles is limited to being towed to the staging lanes. Vehicles must drive on/off or manually be pushed on/off the scales.

### **CREW MEMBERS**

Each crew member must have the proper starting line credentials and must wear matching attire.

**DRIVER: 10**

### **DRIVER**

The driver when in the vehicle, from the ready line until the vehicle is safely stopped on the return road, **is required to have all safety restraint systems (including the helmet) on and be securely fastened in the vehicle at all times**

### **CRENDENTIALS**

A Valid state or government issued driver's license beyond a learner/s permit level is mandatory for cars running 10.00 or slower. A valid NHRA competition license is mandatory for cars running 9.99 or quicker, at a NHRA Member Track. A valid NHRA or an IHRA competition license is mandatory at an IHRA Member Track.

**Note:** It is ultimately the competitor's responsibility to familiarize themselves with the NMRA class requirements as well as **all NHRA safety requirements**. The competitor agrees they bear the ultimate responsibility when it comes to safety and how it complies with the NMRA and NHRA rule books. The competitor also agrees that no one else other than the competitor is in the best position to know about how their particular race car has been constructed and how to safely operate it.