

**4/5/2024 Ver 2 update bold and highlighted**  
**2024 X275 Drag Radial Rules**

**CLASS OVERVIEW**

X275 is a heads-up class designed for small tire, single power adder small block and big block engine combinations to compete on the eighth mile. Centrifugal Superchargers, Turbochargers and Nitrous Combinations are restricted to current specific dimensions/sizes to ensure overall class parity. All entries have the option to run either a 275 or 28 x 10 drag radial tire or 28-inch by 10.6-inch bias slick on any type of rear suspension.

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 Event Director. All parts and assemblies subject to tech inspection. Rules can and will be adjusted for parity. There will be no new products allowed for the 2024 racing season.

**RACING FORMAT**

This class will be an All-run, heads-up - NHRA Pro Style Ladder on a .400 Pro Tree. **All racing decisions will adhere to the Duck X Productions and Radial Outlaws Race procedures.**

**ENGINE POWER ADDER BASE CID BASE WEIGHT**

2024 X275 Rules Revisions

SB NOS 4.400 BS 9.5 deck 2325 lbs.

SB NOS 4.400 BS 9.75 deck 2350 lbs.

SB NOS 4.400 BS 9.76 deck to 10.2 2400 lbs.

SB NOS 4.400 BS less than 570 cubic inch over 10.21 deck 2500 lbs.

SB NOS 4.500 BS must be 520 cubic or smaller 2550 lbs.

BB NOS 4.84/4.900 BS cast conventional head up to 615 cubic inch 2600 lbs. LU permitted

BB NOS 4.84/4.900 BS cast non-conventional head up to 615 cubic inch 2650 lbs. LU permitted

BB NOS 4.84/4.900 BS cast conventional head 616 – 631 cubic inch 2700 lbs. + 50 LU

BB NOS 4.84/4.900 BS cast non-conventional head 616 – 631 cubic inch 2750 lbs. +50 LU

(Jet Limit maybe imposed on the two BB NOS Combos outlined below TBD 2024)

BB NOS 4.84/4.900 BS any intake/any head/any block up to 10.7 632 – 640 2800 lbs. +50 LU

BB NOS 4.84/4.900 any intake/any head/any block up to 10.7 641 – 650 2850 lbs. +50 LU

SB 102 Blower SVA Inline Head 2725 lbs. add 25 for 105/106/**102R** blower

SB 102 Blower Non SVA Inline Head 2750 lbs. add 50 for 105/106/**102R** blower

SB 102 Blower Non Inline/Canted Head 2800 lbs. add 50 for 105/106/**102R** blower

SB 102 Blower Hemi (Includes Hammerhead Ford) 3100 lbs. add 75 for 105/106/**102R**

SB 871 Blower not permitted on Hemi 3000 lbs.

V6 88 Turbo Buick 2550 lbs. (Cast Head/Cast Block/M1 permitted) add 25 lbs. for nitrous (jet TBD)

I6 Import 88 Turbo 2875 lbs. (auto permitted M1/Intercooler/ 103 x 113 turbine/nos permitted at 2023 jetting)

I6 Diesel 88 Turbo 3300 lbs. (nos permitted with .093 jet/ 105 or 108 x 114 turbine permitted)

Mod 88 Turbo 2875 lbs. (.180 slot/103 x 113 turbine/factory intercooler permitted add 50 lbs.) add 50 lbs. for .250  
SB 88 Turbo SVA 2800 with M1 and .250 slot - add 50 lbs. for 105 or 108 x 114 turbine  
SB 88 Turbo Non SVA Inline 2875 with M1 and .250 slot - add 50 lbs. for 105 or 108 x 114 turbine  
SB 88 Turbo Non Inline 2950 with M1 and .250 slot - add 50 lbs. for 105 or 108 x 114 turbine  
SB 88 Turbo Hemi (Hammerhead Ford deduct 50 lbs. from base) 3075 with M1 and .250 slot/add 50 lbs. for 105 or 108 x 114 turbine

### **Weight deduction or additions**

Deduct 50 lbs. Cast Carb Style Intake on boosted combo

**Deduct 50 lbs. for no ram air on boosted combo**

Deduct 100 lbs. 365 and smaller push rod boosted combo

Deduct 75 lbs. 85/142.5 X 103/113 mm w/.250 slot turbo

Deduct 150 lbs. 80/142.5 x 103/113 mm turbo w/.250 slot

Deduct 50 lbs. for cast 4 bbl. intake on BB NOS Combo

Deduct 25 lbs. for single 4 bbl. Carb/TB or 4 opening inline TB w/sheet metal or cast tunnel ram intake on BB NOS Combo

No Boosted combo will be less than 2700 lbs. regardless of deductions

Add 50 lbs. for Mod Motor 105/113 or 108/113 turbine TBD

No SB Nitrous Combo will be less than 2300 lbs. regardless of deductions

Add 25 lbs. for 4 link (except SB NOS and Sub 365 cu inch push rod/V6/I6/I6 diesel)

Add 50 lbs. for lock up on any boosted combo (not permitted on hemi/hammerhead combo)

### **NOTES:**

Maximum CID for all small block boosted entries is 480 inches.

Max CID for all 4.400 small block nitrous entries without penalty is 520 4.500 BS small block entries is 520 see additional notes in SB NOS Weight section

Maximum CID for 4.84/4.90 nitrous big block entries is 650 inches

Maximum Deck Height for all boosted/blown small block combinations is 10.000 inches.

Maximum Deck Height for nitrous small block 10.2

Maximum Deck Height for All Big Block Combinations is 10.700 inches.

6cyl/4cyl combinations are permitted intercooler and Nitrous with gasoline as fuel.

(Prohibited with M1 as fuel unless using auto transmission)

Boosted diesel combinations may only use nitrous oxide as a second power adder. (jet limit .093 )

## REQUIREMENTS & SPECIFICATIONS

### ENGINE: 1

#### BLOCK

Any aftermarket cast iron or aluminum engine block permitted. Billet engine blocks are permitted. Billet blocks are permitted to be used with billet or cast cylinder heads (except Hemi). Factory OEM bore spacing for particular engine brand being used is required for all entries. Diesel combo exempt.

#### HARMONIC BALANCER

SFI Spec 18.1 balancer is required.

#### ENGINE MOUNTS & LOCATION

Engine block and cylinder heads cannot be in contact with the firewall.

#### CYLINDER HEADS

Any aftermarket cylinder head is permitted. Small block entries are permitted to use billet cylinder heads. Billet cylinder heads are permitted to be used with cast or billet engine blocks. The use of billet cylinder heads with billet blocks for Hemi is prohibited. Big block entries are permitted to run any cast conventional and unconventional style heads with prior tech approval. Twin spark plugs per cylinder are permitted for Factory OEM applications (Gen III Hemi). Diesel combo exempt.

#### INTAKE MANIFOLD

Any intake manifold is permitted. Except on Big Block conventional or Big Block unconventional stock bore space, nitrous combos, these combos will only be permitted a single opening intake manifold out of any material. **(see weight section for additional information)**

#### NITROUS

Import I6 entry with automatic transmission limited to single direct port system mounted on intake runner. Diesel I6 entry .099 jet max.

Small Block Entries: Allowed to use any multi-stage system.

Big Block Entries: Allowed to use any single-stage system with a maximum of one nozzle per intake runner.

Big Block & Small block nitrous are permitted water/meth injection. All EFI Big Blocks will only be allowed 2 nitrous solenoids for a dry nitrous system and will only have 1 line per nozzle/per cylinder. (Using both sides of the fogger nozzle on a dry EFI NOS BB combo is prohibited (Cold nitrous ok)

#### **TURBO AND SUPERCHARGER NOTES:**

All air must enter through the inducer minor – I.E. the smallest inlet dimensions called out in the rules. Applies to turbocharger map groove that must be 90\*. Any other means of air entry into the turbo or supercharger not permitted. Map groove or additional means of air entry into centrifugal superchargers prohibited. Any new products requested for the class must be vetted through the Radial Outlaws committee prior to December 2023 for the 2024 season.

#### CENTRIFUGAL SUPERCHARGERS

Centrifugal superchargers are allowed a maximum impeller inducer diameter of 4.200 inches with a maximum exducer outside diameter of 6.00 inches (2022 factory dimensions for all products in

use). Supercharger impeller must only be constructed of cast or billet aluminum. All Centrifugal Superchargers will be smooth bore and zero map grooves/surge slots that allow additional air. Supercharger is permitted a fresh air source from either the front bumper or grille area of the vehicle. Factory dimensions only for F3D-102/F3D-106/**102R** and V30-102/V30-105

## TURBOCHARGERS

Single turbocharger limited to 88mm maximum. \*Garrett GTX GEN II/GTR/PTE XPR/GENX/Harts/Bullseye/HPT/**CRT** (using current X275 exhaust/turbine measurements). Turbocharger size will be verified by measuring the housing bore at the leading edge of the impeller wheel and must maintain the contour of the compressor housing. (Stepped compressor wheel prohibited) Inducer minor dimensions may not exceed 80.9/85.9mm/88.9mm and Exducer backing plate and blade tip to tip dimensions may not exceed 133mm on MID FRAME turbos except where noted. Exducer backing plate dimensions may not exceed 133mm. The Exducer tip to tip major diameter may not exceed 142.5mm. On mid-frame turbo claiming 80.9/85.9/88.9 on tip to tip inducer measurements the inspection tool must capture .200 of the blade tip to be eligible for the latest deductions in weight. (Tech insp. discretion) The maximum diameter of the housing bore at the leading edge of the wheel may not exceed 2 mm more than the maximum allowable turbocharger size permitted. Inserts or reducers to achieve inlet or outlet dimensions prohibited. **Compressor map groove will not exceed .180** of an inch (unless otherwise noted in the weight section) @ 90\* perpendicular to the inlet and must be maintained throughout the entire circumference of the groove. Compressor inducer must not be visible through the map groove or **surge slots from any angle or a straight on line of site view**. Adjustable map groove rings prohibited. Any turbocharger entry may be asked to remove the compressor cover and/or turbine housing for inspection. The turbine wheel may not exceed 114mm X 108mm on ANY turbocharger. Turbine wheels are only allowed to be constructed of Inconel material. Billet aluminum compressor wheel/impeller permitted. Any inconsistent modifications to compressor or turbine wheel, blades, hubs, cover, or housing, beyond accepted commercially available manufacturing process, is PROHIBITED. No reduction or milling permitted on the compressor or turbine retention nuts. (Compressor hub nut .650 or 19% of hub minimum diameter and turbine retention nut diameter minimum is .850) No bore-less shaft turbochargers permitted. Welded covers not permitted on any 80/85/88 permitted in X275. Cover revision from March 2020 applies: Please note all turbos will have a cast 1 piece cover. No inserts, welding, or two piece covers permitted. **Cross bolts within 2 inches of turbine discharge flange grade 5 or better and compressor housing ballistic blanket will be required by June 1, 2024.** **SFI approved** Compressor housing and inlets must be manufactured solely from a single continuous casting. Any turbo not meeting this criteria will be deemed illegal and will not be permitted to compete in X275.

## INTERCOOLING

All boosted gasoline, diesel or E85 entries are permitted to use one intercooler. Intercoolers can either be air-to-air or air-to-water. Water and/or ice are the only agents allowed to be used with intercoolers. The use of any other agent to assist in the cooling of discharge and/or inlet air for boosted applications is prohibited. Use of intercooler with M1 (Alcohol) is prohibited (except on 6cyl/4cyl with M1 or Factory intercooled V8 and automatic trans).

## METH INJECTION

Meth injection permitted. The use of a single nozzle/injector in any engine combination forward of throttle body/carburetor in the charge tube is permitted but must be within 6 inches of throttle body or carburetor and must supply fuel directly from intake mounted fuel rail (diesel combo permitted stand-alone fuel supply).

#### OIL RETENTION DEVICE

All entries are required to have an oil retention device. The device can either be a custom built ballistic blanket or a "belly" style pan.

#### COOLING SYSTEM

Any cooling system permitted. Radiators are not required.

#### EXHAUST SYSTEM

Any exhaust system permitted. Exhaust may exit underneath car or out the front fenders but must not affect timing or staging beams.

#### FUEL SYSTEM

Any electronic, mechanical or belt driven fuel pumps are allowed. Electronic fuel pumps must shut off with the master electric cut-off switch. Fuel cell must have a pressure cap and be vented to the outside of the body. Front mounted fuel cells must meet SFI Spec 28.1 and be mounted between the frame rails or enclosed in a round tube frame. A round tube frame must be constructed of a minimum of 1 ¼-inch O.D. x .065-inch chrome moly tubing. Artificial cooling or heating of fuel (i.e., cool cans, ice, Freon, etc.) prohibited. Circulating systems that are not part of the normal fuel pump system are prohibited.

#### FUEL INJECTION

Any aftermarket electronic or mechanical fuel injection may be used.

#### THROTTLE BODY

Any aftermarket throttle body permitted. Nitrous and Boosted applications are limited to a single throttle body and N/A entries are permitted two.

#### CARBURETOR

Aftermarket carburetor is permitted. Spread or Split carburetor is permitted.

#### THROTTLE LINKAGE

Throttle control must be operated by the driver's foot

#### FUEL

VP Racing Fuels Gasoline, Q16, M1, C-85, and E-85 are the only fuels permitted. Diesel combinations must use VP Racing Fuels Torque Diesel (Car must be equipped with fuel sample valve). Event Tech Director reserves the right to inspect fuel at any time during competition. Failure to pass Fuel Check is grounds for disallowance of the run during competition and disqualification from the event during eliminations. Fuel is checked using various means. Samples given to Fuel Check Technical Inspectors are compared to data taken from known fuel samples provided by VP, adjusted for temperature,

and within a tolerance determined by Event Tech Director. Failure occurs when the sample readings fall outside those tolerances.

## **DRIVETRAIN: 2**

### **CLUTCH, FLYWHEEL & 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**

Aftermarket transmissions with a maximum of 5 forward speeds are permitted. Clutchless transmissions are permitted. All gear changes must be a direct action of the driver. Pneumatic, electric, hydraulic, etc. shifters are prohibited. (Import exempt)

### **AUTOMATIC TRANSMISSIONS**

Any OEM or aftermarket automatic transmission is permitted. Lockup convertors permitted. Trans-brakes are permitted. Pneumatic, electric, hydraulic, etc. shifters are permitted. Bruno converter style transmission prohibited. Any entry with lock up will carry the lock up weights regardless of use.

### **DRIVELINE**

Any steel, aluminum or carbon fiber driveshaft meeting SFI 43.1 spec is required.

### **REAREND**

Any automotive type rear-end is 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 production type steering system permitted.

### **SHOCKS/STRUTS**

Aftermarket stock-type shocks/struts permitted.

### **FRONT SUSPENSION**

Factory type front suspension only. Coil over shocks are allowed. Aftermarket replacement control arms are allowed. Aftermarket K-Members/Commercially available sub-Frames allowed. (Must have prior approval from tech) Strut towers must be in factory location with factory sheet metal attaching factory frame rail to top of strut tower, can be notched, windowed, or trimmed for header clearance but must maintain factory sheet-metal attachment.

Pre-1978 and Older Vehicles: The use of aftermarket bolt-on front suspension kits for engine fitment is permitted. Factory strut/shock towers are optional in pre-1978 vehicles using an aftermarket bolt-on front suspension kit.

#### REAR SUSPENSION

Stock-type, ladder bar, and OEM COPO/Drag Pak/Cobra Jet suspension systems are permitted. NHRA SS GT/Super Mod FWD conversion keeping rear frame rail permitted. 4 link permitted on SB NOS Combo without penalty. \*see weight add

#### WHEELIE BARS

The use of wheelie bars is not 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

Stock frame required from the front engine/motor plate to the back of the rear wheel tub. Back-halved cars are prohibited. Front and rear sub frames may be joined together. Horizontal and vertical notching of rear frame rail is permitted for tire/rear end clearance.

#### WHEEL BASE

All entries must maintain a wheelbase of +/- 1inch from OEM specifications.

#### 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

All entries have the choice to either use a 28-inch tall by 10.6-inch wide bias slick or a 275/60/15 or Pro Bracket drag radial tire. Tire tread may not extend outside of the fender. Any racing wheel permitted.

### **INTERIOR: 6**

#### UPHOLSTERY

Interior must maintain a factory appearance. Any aftermarket racing style seat is permitted. Driver's seat must be located in the stock location. Passenger seat is not required. Door panels are required. Floor and transmission tunnel where visible must be carpeted or upholstered.

### **BODY: 7**

#### BODY

All Vehicles must retain its original appearance, profiles, and dimensions must be used for year being used. OEM body shell must be intact. Light weight body panels are restricted to hood, front

fenders, doors, deck-lids/trunk lid, hatch, and bumpers only. All front ends must be of factory dimensions. Any beam tripping devices forward of the bumper are prohibited. Composite roof panels are permitted on 2005 and newer vehicles. One piece frontends will be legal but must have a means of removal for safety in the event of a fire. (Track tech official will have final say) A hood must be used: scoop or hood must cover the entire induction system. Forward facing hood scoops/turbo or supercharger inlets are permitted. Alterations or aerodynamic modifications are prohibited. Any aftermarket/modified front bumper/valence must have prior approval from the Event Tech Director tech. **Pre-65 body and/or any A or B Body will receive a 50 lbs. deduct.**

#### HOOD SCOOPS

Forward facing hood scoops are permitted for nitrous assisted entries and may not extend above the roof line. Vehicles that are equipped with an EFI system are not required to run a hood scoop. Carburetors must be completely covered by the hood or hood scoop. Sensors, transducers, vents, wiring, hoses/lines, etc. are prohibited from being inside the hood scoop.

#### COWL AREA

All entries are required to have an OEM cowl area, except 4th Gen GM F-body vehicles.

#### GRILLE

Factory Grille or facsimile (painted or decal) permitted.

#### FIREWALL

Stock, factory firewall location is required. Notching and smoothing of firewall is permitted but must be identifiable as being in the factory location. Factory OEM fiberglass firewalls (Corvette) are permitted to replace the factory firewall with a minimum of .024 thick steel located in the factory location. No part of mid-plate may attach (without a stand off) or support the firewall.

#### FENDER SPLASH PANS

Fender splash pans may be altered.

#### WINDSHIELD & WINDOWS

All entries are permitted to use Lexan windows.

#### FLOOR

All entries are required to have stock floor pans on both the driver's side and passenger's side of vehicle. Transmission tunnel may be removable and must be made of either .024 inch thick steel or .032 inch thick aluminum. Removable floor panels are prohibited. Patching permitted.

#### WHEEL WELLS

All entries all permitted to use steel, aluminum, or carbon fiber wheel tubs.

#### 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

All entries must have operational headlights and/or fog lights and taillights.



## APPEARANCE

All cars in competition must be painted or wrapped. Advertising graphics are permitted on the body. In order to be eligible for the X275 points championship program within Radial Outlaws, all 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 championship points for that particular event. The X275 points championship program requires that all entries run the following decals:

1. Championship Windshield Banner: Decal needs to be located on the top of the windshield or just above the windshield located on the body.
2. Championship Series License Plate: Plate must be located on the front of the vehicle
3. Class Sponsor(s): Decal must be located on the passenger's side lower portion of the windshield.
4. Class & Competition Numbers: Numbers must be easily visible/legible and located on the front, back, and both side windows.

## **ELECTRICAL: 8**

### BATTERY

A maximum of two batteries is allowed.

### IGNITION

Any battery operated ignition system and distributor drive system is permitted.

### STARTER

All entries must be self-starting with an on-board starter.

### MASTER CUTOFF SWITCH

An operational master cutoff switch is mandatory.

### SUPPORT GROUP: 9

### COMPUTER/DATA RECORDERS

Computer/data recorders are permitted and must stand alone and to be only used for information gathering purposes.

### BRACKET RACING AIDS

The use of any device (electrical or mechanical) that allows a driver to ascertain the position of their car on the track prohibited.

### PRESSURIZED BOTTLES

A maximum of one pressurized container (excluding nitrous and fresh air systems) per vehicle is permitted. All pressurized bottles must meet D.O.T. 1800lb minimum specification.

### TOW VEHICLES

The use of tow vehicles is permitted.

DUCK X, Radial Outlaws, and RTRA Motorsports reserves the right to adjust the rules at ANY TIME.