



## 2024 Rusty Diamond Cores Pro 4's Rule Book

**COMPETITORS/PARTICIPANTS - IMPORTANT, PLEASE READ:** All rules within, are at the discretion of the Race Director and Technical Officials. Any stock or aftermarket part must remain in stock location and unaltered for that part unless otherwise stated within the rule. Removal of ID or part numbers makes the part illegal. If something is not covered or not clear within the rules, **"DO NOT ASSUME IT IS LEGAL"**, you must call the Tech Official and an amendment may be made, if necessary. This is in an attempt to keep the competition even and the cost of racing low.

### **A. Body**

- 1.) Any 3 or 4 cylinder compact and sub compact cars with a maximum wheelbase of 109". No midsized or full frame vehicles allowed (such as but not limited to Camaros, Firebirds, Thunderbirds, Crown Vics, Vans, SUVs, Trucks, etc.). Please call for clarifications on approved vehicle makes and models.
- 2.) Numbers must be clearly visible. 0-99 and in contrasting color on both doors and roof at least three (3) inches wide and eighteen (18) inches tall. Additional numbers should be placed on the right front and right rear of the vehicle for easy recognition by officials. Body, paint and appearance must be kept in presentable condition. The addition of a letter(s) such as (x, NY, etc.) is at the discretion of the track director. Letter(s) is to be placed within the number body or to the left of it and be distinctly contrasting to the number color.
- 3.) Remove all glass (except windshield, if desired may be replaced with Lexan (polycarbonate, NOT Plexi-glass)). No rear windows. Side/Quarter 'B' to 'C' Pillar windows allowed to be filled in with polycarbonate or sheet metal.
- 4.) Remove all interior plastics, carpet, and sharp objects within interior. Use 20-gauge minimum sheet steel for all holes in firewalls, covering dash or council. Dashboard may be removed. No sheet metal screws allowed.
- 5.) Factory OEM accelerator, brake pedal and components are to remain in Factory OEM location. The interior floor must be complete and free of excessive holes and rust.
- 6.) All doors must be welded shut. Panels running from front fender to rear quarter are allowed.
- 7.) All cars must retain stock roof, A and C pillars. All cars must be fitted with stock appearing hood, trunk and / or rear hatch. Aftermarket type bumper covers are allowed.
- 8.) Rear spoiler allowed at the rear top edge of the trunk lid or hatch. Not to exceed (4) inches in overall height or extend over the edge of the rear body panels in overall length. Front spoiler or splitter may be used but cannot extend forward of the leading edge of the bumper cover. Ground effects or side skirts may not be lower than (2 ½) inches above ground. No additional under body air enhancement devices will be permitted.
- 9.) All cars must have a Weight Display Tag (WDT) on the top left side of the hood or upper left corner of the windshield. The WDT should be a bright colored piece of decal or duct tape. The car's engine displacement and minimum weight should be clearly displayed. Any weight Penalties should be noted here and added to the minimum weight.

10.) Spot mirrors allowed. Maximum (3) inch round spot mirror mounted to the left of the driver. A rear-view mirror is allowed. Mirrors will be removed on an individual basis by track officials if used for the wrong reasons.

## **B. Bracing, Roll Cage, Seat and Safety Equipment**

1.) A full roll cage is required. The driver's compartment must be complete with a min. of 3 door bars on the driver's side and 2 bars on the passenger side. An 'X' may be used with additional cross bar on passenger side. A full HALO bar is required. All roll bars within reach of the driver must have roll bar padding.

2.) Each roll bar must have two braces running rearward from top of roll cage at approx. 45-degree angle welded to frame or foot plate bolted through floor to another plate. Additional bracing is recommended to the front and rear of the driver's compartments. No bars shall continue through the fire wall to the front of the vehicle.

3.) Drivers' door plating is mandatory. Minimum thickness of (1/8) inch. Plating must go from front down bar to main hoop down bar.

4.) All roll bars must be minimum (1 1/2) inch O.D. ERW or DOM, .095 minimum wall thickness. All roll bars must be welded or bolted to the cars unibody construction.

5.) Roll Cage Suggestion - Stitch weld heavy wall tubing along the top of the rocker panel extending from the foot box back behind the driver's seat. This will provide a strong brace for roll cage support bars. All welded joints are recommended to have gusset min. (1/8) inch thick steel.

6.) A full containment seat is mandatory. Must have SFI rated head rest with padding. Seat must be secured to roll cage with a minimum of 4 (1/2) inch grade 8 bolts. The seat shall not be bolted through the car's OEM sheet metal floor. Extra bracing and plating may be required.

7.) All cars must have a driver's window net meeting current SFI.27.1 specifications and be installed according to the manufacture specifications. Must be equipped with a metal quick release mechanism. The release should be clearly marked on the outside of the car to be visible to safety personnel. Must be in good condition with no rips, tears, or fraying.

8.) All cars must have an SFI 16.5 or 16.6 rated Seat belt restraint system and be installed according to the manufacture specifications. Safety harness must be SFI 16.5 or 16.6 rated seat belt restraint system. Must be a minimum (2) inch thick belt, quick release 5-point restraint system. A minimum (1 1/2) inch wide sub belt strap is mandatory. All safety belts must be in good condition and subject to safety inspection. The shoulder harness must be connected to the roll cage. All lap belts must be mounted behind the seat and attached to the roll cage according to manufacturer specifications. No belts shall be bolted through the car's OEM sheet metal floor. Seat belt webbing may not come into contact with any sharp or blunt edges. Maximum 5 years old.

9.) Driver must wear a fire-resistant uniform meeting the SFI 3.2A/5 specification and display a valid SFI 3.2A/5 label.

10.) Each driver must wear fire resistant accessories that effectively cover the remaining parts of the body. Shoes and gloves should meet the SFI 3.3 specification and display a valid SFI 3.3 label.

11.) Drivers must wear a full-face helmet with a valid SA2020 rating. M rated helmets are not allowed and will be confiscated and returned after the races are over. Helmets must be worn in accordance with the helmet manufacturer and / or supplier.

12.) HANS or Head and neck restraints systems are mandatory and must meet current SFI 38.1 specifications. NO foam collars are allowed.

13.) Fire extinguisher must be securely mounted within reach of the driver. No Zip-tie mounts.

14.) Collapsible steering columns are allowed. Must be mounted in OEM steering column location. No center mounting. A removable racing steering wheel is allowed.

## C. Chassis and Suspension

- 1.) Control arm mounting points must remain in the OEM factory stock location. Control arms may be modified, or aftermarket production. Strut towers may be modified to accommodate camber adjustments.
- 2.) Rear steer / Electronic 4-wheel steering is not permitted. No skew of the front end to rear end is allowed. Rear toe out/in is not to exceed a tolerance of (+/- 1/4) inch. This will be checked using toe plates, string from the front wheels, or a laser level style tool. Toe links and trailing arms may be replaced with aftermarket radius rod style parts and heim joints. Solid suspension bushings will be allowed.
- 3.) Aftermarket springs will be allowed. Spring Height Adjusting sleeves will be allowed. 3-piece sleeve adjusters only. The sleeve must be removeable from the shock body. No Coil Over integrated adjustable shocks allowed. Struts or shocks with threads permanently made into their bodies are not allowed.
- 4.) No made for racing (Penske, Afco, Pro, QA1, Skunk works, etc.) shocks or struts allowed. Aftermarket replacement shocks / struts MSRP may not exceed \$125 per. No external schrader valves, nitrogen or other refillable gas, or adjustability. (1) spring and (1) shock per wheel. No external shock reservoirs.
- 5.) Lift chains or hook points must be available on the front and rear of the car. Please label lift chain or hook point area if hidden under covers. All bumper covers and body panels must be on the car during competition.
- 6.) Maximum (6) degrees of camber +/- per wheel. Tolerance (+/- 0.25) degrees.
- 7.) Minimum frame ride height of (5) inches. Tolerance (- 1/4) inch. Frame ride height will be measured with the driver in full gear in the driver's seat. The "frame" means any part or parts of the chassis which suspension components attach to, examples (cradle, sub frame, etc.). The body must have sufficient clearance for the inspector to measure frame ride heights with the car static. The car can not be jacked up or lifted by the driver or crew member for the inspector to check frame ride height.
- 8.) Minimum bumper ride height of (2 1/2) inches. Tolerance (- 1/4) inch. Bumper ride height will be measured with the driver in full gear in the driver's seat.
- 9.) Electronically controlled devices such as traction control and adjustable electronic power steering controls are not allowed.
- 10.) No brake Bias adjusters allowed within reach of the driver. All brakes must work (front / rear).
- 11.) Any Rear-Wheel-Drive vehicle is required to have 2 (2) inch driveshaft hoops installed.

## D. Engine and Transmission

- 1.) (1)14-volt battery only. OEM alternator and pulley size only. MSD boxes, controls, components, parts, etc. are not allowed.
- 2.) A Battery Shut Off is mandatory. It must be clearly labeled at the ON and OFF positions.
- 3.) 3 or 4-cylinder engines only. No rotary engines. Supercharged, pro charged, or turbo chargers are not allowed. No chemical power adders of any kind (nitrous oxide, benzene, nitromethane, etc.) allowed. 4-cylinder engines may be pushrod, OHV, SOHC, or DOHC. OEM stock variable cam timing is allowed. The maximum allowed displacement is (2.5) liters.
- 4.) Cars must use an OEM engine type and brand matching the make of car (Example: Any Honda engine in any Honda model.)
- 5.) No aftermarket blocks, crankshafts or cylinder heads allowed. Cylinder heads must be a stock casting for the engine brand used (Example: Honda to Honda) No aftermarket heads.

- 6.) No engine swaps of non-stock engine types from other makes or models of vehicles allowed. (Example: No GM engine in a Ford).
- 7.) Throttle body must be attached to intake manifold at stock location. (1) additional throttle return spring is mandatory. Aftermarket intake manifolds are allowed. Must be a mass-produced part. No custom or home-made log style manifolds allowed.
- 8.) Throttle body EFI or multi-point EFI allowed. A maximum of one fuel injector per cylinder is permitted.
- 9.) No carburetor fuel systems allowed.
- 10.) OEM style starter must be used and operational at the start of each night's event.
- 11.) INTERNAL ENGINE MODIFICATIONS, such as, but not limited to, porting, polishing, decking, after-market rods, pistons, and camshafts, ARE ALLOWED.
- 12.) Automatic or manual transmissions. No 4-wheel drive or AWD systems allowed. No CVT transmissions allowed. All forward and reverse gears must work. No undersized, multi-disc, or mini-clutch packs allowed. Only (1) clutch disc and (1) pressure plate allowed.
- 13.) Any car with a transmission or rear differential equipped with a Limited Slip Differential will incur a (50) pound weight penalty. Must be pre-designated and displayed on the Weight Display Tag (WDT).
- 14.) No driver-controlled engine, variable valve timing control, or transmission tuning devices allowed. A Laptop in the pits is permitted. Any driver caught with a laptop, cell phone, or tuning device within the car while under racing conditions on track will be subject to expulsion.
- 15.) Radiator must have an overflow catch can, ( $\frac{1}{2}$ ) gallon minimum in size. No anti-freeze permitted. Racing coolant / radiator cooler additives (Example: Watter Wetter) are permitted.
- 16.) No oil system or water system coolers are allowed in the driver's compartment.

## **E. Fuel and Fuel Systems**

- 1.) Factory fuel tanks secured in front of the rear axle may remain in stock location or be replaced with small fuel cell (12) gallons or less capacity.
- 2.) Factory fuel tanks located behind the rear axle must be replaced with approved fuel cells and safely secured within the trunk area. The trunk floor may be removed for clearance. Bottom of cell may not be lower than the center line of the rear wheels and be supported by parallel or 'X' bar bracing. If the fuel cell is exposed, it needs to be protected by a rear hoop. A rear fire wall minimum (20) gauge steel must be installed if the rear seat back area is open. The fuel cell must not be visible from outside of the vehicle and must be fully covered.
- 3.) Fuel delivery system must be approved line and braided high-pressure hose and fittings. No plastic fuel filters. No rubber fuel lines may run through the driver's compartment.
- 4.) An electric fuel pump shut off switch must be within reach of the driver and CLEARLY LABELED to be visible to safety personnel.
- 5.) No fuel coolers or cooling devices allowed.
- 6.) Fuel is restricted to pump 87 / 89 / 90 / 91 / 93 gasoline or 110 racing gasoline. A maximum of 18% ethanol content allowed as sold within the US. Tolerance (+ 2) %. NO alcohol, methanol, ethanol, or E85 fuel is permitted. Any car suspected of using alcohol, methanol, ethanol, or E85 will be disqualified. No fuel additives (benzene, nitromethane) allowed. Use of benzene or nitromethane will result in expulsion. All cars must be able to produce a ( $\frac{1}{2}$ ) gallon fuel sample from the fuel cell, or directly from the fuel rail for technical inspection when requested. Failure to do so will result in immediate disqualification.

## **F. EXHAUST**

- 1.) After-market exhaust manifolds or headers allowed.
- 2.) A complete exhaust system, consisting of a single tube extending from manifold or header exit to an exit point behind the driver's seat. Exhaust may exit right or center of the car. If the exhaust exits in the center of the car, it must be turned down towards the track. If the tip is within (6) inches of the fuel cell, there must be a heat shield between the fuel cell and exhaust tip. Maximum exhaust tubing diameter is (3) inches and it must be the same diameter from header/manifold collector or flange / reducer to the system exit. NO open headers allowed. Exhaust may be welded or bolted, but NO exhaust leaks are permitted the entire length of the exhaust. An official's discretion in the interest of safety has the sole discretion in determining what constitutes a leak. Exhaust must be routed under the floor pan, and no part of the exhaust system may enter the driver's compartment. No dual exhaust systems are allowed.

## **G. Tires and Wheels**

- 1.) Tires: The Falken Azenis RT660 or RT615K DOT tire are recommended for use. Any size available for public purchase is allowed. If using a different brand tire, it must be a minimum of 200 tread wear. HOOSIER or AMERICAN RACER tires are not allowed.
- 2.) Track width maximum measured to the outside of tire, may not stick out past the body more than (2) inches. A (1) inch rub rail may be bolted tight to the body to protect tires and paint.
- 3.) Steel racing wheels are MANDATORY. No stock steel or alloy wheels are allowed. Aero, Basset, and Sherwood wheels are recommended.
- 4.) All wheel backspacing must be the same on all 4 wheels. All rim and tire sizes must be the same on all 4 wheels.
- 5.) 7" maximum wheel width allowed. (3) inch to (4) inch backspacing only.
- 6.) Aftermarket wheel studs and (1) inch lug nuts are suggested.
- 7.) Wheel spacers are not allowed.

## **H. Weight**

### **(AFTER HEAT OR FEATURE RACE WITH DRIVER AND NO ADDED FLUIDS)**

- 1.) 56% Left side maximum weight. Tolerance (+ 0.5%)
- 2.) Minimum Weight:
  - a. (ALL) SOHC engine cars 1800 lbs. minimum weight.
  - b. (1.9) liter or smaller DOHC engine cars 2000 lbs. minimum weight.
  - c. (2.0) liter or larger DOHC engine cars 2300 lbs. minimum weight.
  - d. (ALL) OHV engine cars 2300 lbs. minimum weight.

Tolerance (- 5) pounds.

- 3.) Weight Penalties:
  - a. Any engine utilizing variable cam timing, VVT, V-TEC, MI-Tech or any other adjustable cam timing components, factory or after-market shall incur a (100) pound weight penalty added to its minimum weight.
  - b. As outlined in Section D-13, Any car with a transmission equipped with a Limited Slip Differential will incur a (50) pound weight penalty added to its minimum weight.
  - c. Dominant cars may be subject to weight penalties as seen fit by the tech inspectors.



4.) All cars must have a Weight Display Tag (WDT) on the top left side of the hood or upper left corner of the windshield. The WDT should be a bright colored piece of decal or duct tape. The car's engine displacement and minimum weight should be clearly displayed. Any weight penalties should be noted here and added to the minimum weight.

5.) All weight ballast must be painted white with car # and boldly labeled. Bolted weight must have minimum of two grade 8 bolts with (2) inch by (2) inch plates as washers, one on the bottom and one on the top pinching the floor pan. The permissible location of ballast weights is at the discretion of the tech Inspector. Weight should be mounted safely away from the driver.

## **I. Transponders**

1.) All cars must run a Mylaps transponder and be mounted in the RR area of the car no farther forward from the front edge of the RR tire, be mounted vertically and no higher than (18) inches from the track surface. This will be subject to change.

## **J. Technical Inspection**

1.) Any car that is required to go to the tech building after a heat or feature race must report direct from turn 2. If you go to your pit stall, miss the immediate right-hand turn, or go anywhere else aside from the TECH BUILDING, you will be disqualified. The winner is to report immediately after victory lane.

2.) After completion of a heat race, the top 3 cars will report to the tech building to be scaled for minimum weight and left side weight percentage compliance.

3.) After completion of a feature race, the top 3 cars will report to the tech building and a 4<sup>th</sup> car will be selected from the lead lap at random.

4.) The driver is to remain in the car until notified by the tech inspector that he may exit the car. Only (3) persons allowed in the tech barn per car. The driver and (2) crew members. Compliance with the tech inspectors in a timely manner is mandatory. Any yelling / shouting / fighting / or controversial conduct will result in immediate disqualification from the event, forfeiture of points and prize money, and possible suspension.

5.) Only after all cars are found to be legal will cars be allowed to leave the tech barn.

6.) Any parts deemed illegal or not conforming to these rules will be confiscated.

## **K. Lancaster Motorplex General Rules**

1.) All drivers must adhere to Lancasters 2024 Stock Car Procedure Book as outlined on their website.

2.) All cars must pass a Lancaster Motorplex Safety Inspection before being allowed to compete.

3.) Any procedures and rules as stated above may be changed or amended at the discretion of Lancaster Motorplex.

4.) Weekly points will be awarded. There will be a season end points fund purse for the Top-10 drivers. The season will consist of (6) points paying races, May 11<sup>th</sup>, June 1<sup>st</sup>, June 15<sup>th</sup>, August 3<sup>rd</sup>, September 7<sup>th</sup>, and September 28<sup>th</sup>.

Any questions can be directed to Charles Palmer at (716) 289 6931, Ben Russo at (716) 225 7865 or Jeff Szafraniec at (716) 989 7083.