

**FuelTech**

# LDR

**LIMITED DRAG RADIAL**



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2023 WORLD CHAMPION



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2023 E.T. RECORD HOLDER  
3.849

2024

COMPETITION

RULEBOOK

# LIMITED DRAG RADIAL

## DESIGNATION:

The class designation is LDR. All entrants must display this designation on both sides of their car with car number.

## CHAMPIONSHIP POINTS SERIES:

Refer to [RadialOutlaws.com](http://RadialOutlaws.com).

## FORMAT:

This is a 1/8th mile, heads up category running on a .400 Pro tree with a maximum of a 32-car field, professional pairing ladder. This is a single power adder class only!

## SAFETY:

All NHRA/IHRA and Local Track Safety rules apply for car and driver, including the use of **an oil retention device and/or engine diaper is MANDATORY**. *Any competitor causing an oil down that does not have an oil retention device will lose 20 points.*

## BODY:

The car must retain its original appearance, profiles, and dimensions. No aftermarket one-piece bodies. OEM door jamb and quarter panels must be used. No modified front ends to achieve maximum NHRA/IHRA overhang, must stay within original body dimensions. Must retain factory body lines with removable composite components as in hood, front bumper, front fenders, doors, and deck lid. Any beam tripping devices forward of the bumper are prohibited. Aftermarket front bumpers ("Ex. Snowplows or Valances") cannot have more than 2 inches of overhang over the stock bumper dimensions, failure to abide by this rule will result in disqualification. Aftermarket wings and spoilers are permitted. A hood must be used; scoop or hood must cover entire induction system. Exceptions are throttle bodies or carburetors on naturally aspirated and nitrous oxide assisted engines along with intake manifolds/throttle bodies on boosted engines. Those may protrude through the hood for clearance, if needed. Forward facing hood scoops/turbocharger/supercharger inlets are permitted. OEM/Lexan windows are permitted. Front ends must be within the spirit of the rules and legality is at the discretion of the race director. Firewall must originate in the **stock location**; factory firewall can be modified, and aftermarket firewall is permitted. See maximum overhang weight table, below in the weight additions/reductions section.

## CHASSIS:

Door cars only, no pro mod or full tube chassis. Double frame rail permitted, if located inside of stock frame rail. Backhalf style cars are permitted. No Wheelie Bars. Any rear suspension is permitted. Factory front frame rails are mandatory, they can be modified. Frame rails must start at stock firewall location and must extend to the center of the front spindle. Factory equipped 'bolt-in' subframe cars are permitted an aftermarket bolt-on front end (Ex., Smith Racecraft) for '62-'74 Nova and '67-'81 Camaro/Firebird, must bolt in. Factory wheelbase for year/make/model must be maintained, (+/- 1 inch). A minimum height of 3 inches from the front of the vehicle to 12 inches behind front spindle center line is mandatory. A minimum height of 2 inches for the rest of the vehicle is mandatory (except for oil pan and headers).

## BALLAST:

Any material used for the purpose of adding to a car's total weight must be permanently attached to the car's structure and must not extend in front of or behind the rear of the car's body. No liquid or loose ballast permitted (water, sandbags, rock, shot bags, metal weights, etc.). Removable weight must be securely mounted to the frame or frame structure by a minimum of two 1/2-inch diameter steel bolts per 100 pounds, or one 3/8-inch steel bolt per 5 pounds. All other weight bars, pucks, etc., must use a minimum two 1/2-inch diameter SAE Grade 8 bolts for attachment per 100 pounds.

## ENGINE/POWER ADDERS:

All engines must have a diaper, belly pan or oil retention device. The cubic inch limit for any Big Block combination is 910 cubic inches. All **SMALL BLOCK** engines are limited to 4.600 bore spacing and 570 cubic inches on naturally aspirated or nitrous assisted combinations. All boosted small block entries are limited to 4.600 bore spacing, 10.200-inch deck height and 505 cubic inches. **Nitrous oxide** is permitted to run any type of multi-stage nitrous system with no restrictions. Nitrous entries must have bottle securely contained in a bottle bracket. Maximum bore spacing for all boosted combinations is 5.000 or less. **Turbocharger** combinations are limited to a maximum 122mm single turbo

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or a set of 88mm twin turbochargers. Hemispherical headed big blocks are **prohibited** to use twin turbochargers as their selected power adder. *Refer to weight addition/reduction section below for twin turbocharger clarification.* The maximum specifications for a single turbocharged combination are **COMPRESSOR WHEEL** (inducer-122mm tip to tip, exducer-159mm maximum) and **TURBINE/EXHAUST WHEEL** (inducer-130mm maximum, exducer-114mm maximum). The maximum specifications for a twin turbocharged combination are **COMPRESSOR WHEEL** (inducer-88.9mm maximum, exducer dimensions-134mm maximum, measured at the backing plate), (non-extended exducer tip-to-tip measurements may not exceed 135mm), (extended exducer tip-to-tip measurements may not exceed 142.5mm) and **TURBINE/EXHAUST WHEEL** (inducer-113mm maximum, exducer-103.5mm maximum). The maximum diameter of the housing bore at the leading edge of the wheel may not exceed 2mm more than the maximum allowable turbocharger size permitted. Compressor map groove will not exceed .250 of an inch. Turbochargers will be verified by measuring the housing bore at the leading edge of the impeller wheel and must retain the contour of the compressor housing, stepped or clipped compressor wheels are prohibited. Inserts or reducers to achieve inlet or outlet dimensions are prohibited. Any inconsistent modifications to compressor or turbine wheel, blades, hubs, cover, or housing is PROHIBITED. Boreless shaft turbochargers are prohibited. Boreless compressor wheels are prohibited. Machined turbine hubs are prohibited. Compressor wheel tip-to-tip must be able to be captured by the checking tool, a minimum of 0.200-inches. **Supercharger** combinations are limited to a single centrifugal supercharger at a F4-140 maximum, with inducer measuring 5.47-inches or 138.9mm and exducer measuring 7.22-inches or 183.39mm, small block and big block. The only F4 transmission blower allowed is the F4-140. Maximum size on all twin centrifugal supercharged combinations is base F1X, (F1X-12 is prohibited). Any modification to factory impeller, housing or housing size is strictly prohibited. Roots superchargers are restricted to a 14-71 maximum. Screw superchargers are permitted as a C-Rotor design with 92% overdrive as the maximum. Dual power adders are strictly prohibited across all combinations. All forms of power adders (nitrous, turbochargers and superchargers) must be commercially available to the general public for purchase and use.

## **INLINE 6-CYLINDER/INLINE 4-CYLINDER COMBINATIONS:**

Inline 6-Cylinder/Inline 4-Cylinder combinations are permitted under the following guidelines: a maximum of a 106mm single turbocharger with gasoline or methanol only as fuel of choice. Nitrous oxide is permitted as dual power adder for this combination only with a .067 nitrous jet limit. Intercoolers are also permitted with gasoline or methanol combination. Any transmission is permitted. Weights can be found in the weight table.

## **ELECTRICAL:**

All entries must be self-starting from inside the vehicle. A master cut-off switch is mandatory on the rear of the car with an on/off sticker. Any electronic ignition system is allowed, see below for weight additions/reductions. Computer/Data Recorders are permitted.

## **EXHAUST:**

~~Mufflers or inserts are required on all cars except for turbo cars.~~ Exhaust may exit underneath car or out the front fenders/valance but must not affect timing or staging beams.

## **CO2 SYSTEM AND LINE:**

The first TWO feet (minimum) of the line coming from the CO2 bottle must be 1/4" plastic line with push-locks. No braided steel lines direct from the CO2 bottle to ensure no nitrous oxide is being used. Braided steel line may be used after the first two feet of plastic/push-lock line to protect the line running through the firewall and/or around exhaust system.

## **INTERCOOLER/WATER INJECTION:**

Any intercooler is permitted on gasoline combinations only. Must be securely mounted to chassis or mounts with preferred hardware. Water box must be contained in a safe environment with a top to enclose water/ice during the run. Intercooler combined with a methanol fueled combination is prohibited. Water injection is permitted on gasoline combinations, cannot contain any amount of methanol, ethanol, or any other additive, must be pure water in the injection system.

## **TRANSMISSION/DRIVELINE:**

Any transmission permitted. Any converter permitted. Lock-Up Transmission/Converter is permitted on naturally aspirated, nitrous oxide and diesel combinations only, prohibited on turbocharger or supercharger combinations. Boosted combinations may not have a lock-up transmission or torque converter in the car, even if not in use. Removal of lock-up mechanism and clutch hub does not define a converter as a non-lock-up unit. Must use non-lock-up length bellhousing of 6.5 inches, measured from mid-plate to mounting face of transmission.

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## FUEL:

Any gasoline, E85 or M1 permitted. M5 is prohibited. No nitromethane or additives.

## WHEELS/TIRES:

Any brand DOT 275/60-15 Drag Radial. Mickey Thompson 295/65-15 Drag Radial (PN: 3558) and Hoosier 295/65-15 DR2 (PN: 17316DR2) will also be legal tire options. Must stay on the same tire throughout the entire event.

## WEIGHTS:

*All weights are minimum with driver in car.*

## NATURALLY ASPIRATED:

- Small Block - No Minimum
- Big Block - No Minimum

## NITROUS OXIDE:

- Small Block - 2,200 lbs.
- Big Block (4.840 Bore, Any Transmission) - 2,475 lbs.
- Big Block (5.000 Bore, Any Transmission) - 2,500 lbs.
- Big Block (5.200 Bore, No Lockup Transmission) - 2,700 lbs.
- Big Block (5.200 Bore, With Lockup Transmission) - 2,775 lbs.
- Big Block (5.300 Bore, Up to 910 CI Maximum, No Lockup Transmission) - 2,860 lbs. (-25)
- Big Block (5.300 Bore, Up to 910 CI Maximum with Lockup Transmission) - 2,935 lbs. (-25)

## TURBOCHARGER:

- Inline 4 Cylinder – 2,650 lbs.
- Inline 6 Cylinder – 2,700 lbs.
- Small Block, Single Turbo - 2,625 lbs.
- Small Block, Twin Turbo - 3,075 lbs.
- Big Block, Single Turbo - 2,775 lbs. (-50)
- HEMI/HEMI Headed Big Block, Single Turbo – 3,025 lbs
- Big Block, Twin Turbo – 3,275 lbs.
- Diesel, 6-Cylinder (Cummins) (106mm Maximum Turbo, .099 Nitrous Jet Limit, Lock-Up Permitted) – 3,325 lbs

## SUPERCHARGER:

- Small Block, Roots - 2,650 lbs.
- Big Block, Roots – 2,875 lbs.
- HEMI, Roots – 2,900 lbs. (-25)
- Small Block, Screw – 2,850 lbs.
- Big Block, Screw – 3,050 lbs.
- HEMI, Screw – 3,275 lbs.
- Small Block, Single Centrifugal (ProCharger F1, F3D or Equivalent) - 2,650 lbs. (+25)
- Small Block, Single Centrifugal (ProCharger F2 or Equivalent) - 2,675 lbs. (+25)
- Small Block, Single Centrifugal (ProCharger F3R or Equivalent) - 2,700 lbs. (+25)
- Big Block, Single Centrifugal (ProCharger F1, F3D or Equivalent) - 2,850 lbs. (+75)
- Big Block, Single Centrifugal (ProCharger F2 or Equivalent) - 2,900 lbs. (+75)
- Big Block, Single Centrifugal (ProCharger F3R or Equivalent) - 2,950 lbs. (+75)
- HEMI/HEMI Headed Big Block, Single Centrifugal (ProCharger F1, F3D or Equivalent) – 3,050 lbs. (+50)
- HEMI/HEMI Headed Big Block, Single Centrifugal (ProCharger F2 or Equivalent) – 3,100 lbs. (+50)
- HEMI/HEMI Headed Big Block, Single Centrifugal (ProCharger F3R or Equivalent) – 3,150 lbs. (+50)

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## WEIGHT ADDITIONS/REDUCTIONS:

- 25 lb. Weight Addition for any Small Block, boosted combination, with bore spacing over 4.510 and capped at 4.600. (-25)
- 25 lb. Weight Addition for any Big Block, Twin Turbocharged All-Billet Combination (Block and Cylinder Heads).
- 50 lb. Weight Addition for any Transmission with four (4) or more forward gears in use (must be approved by tech official).
- 200 lb. Weight Addition for the ProCharger F3R-140 and F4X-140 Centrifugal Supercharger. (+25)
- 300 lb. Weight Addition for HEMI Headed Small Block Combination.
- 50 lb. Weight Reduction for Conventional Headed BBC Combinations on Methanol/E85.
- 75 lb. Weight Reduction for Conventional Headed BBC Combinations on Gasoline.
- 50 lb. Weight Reduction for Boosted Combination with Cast Wedge Cylinder Heads.
- 50 lb. Weight Reduction for Non-Extended Tip Compressor Wheel turbochargers on Twin Turbocharged Combination Only. *(Competitors may be asked to remove compressor cover for verification at any time by technical inspection team)*
- 75 lb. Weight Reduction for BB-Nitrous, 5.3 Bore Space with 11.8 and shorter deck height.
- 100 lb. Weight Reduction for Single Turbocharger, V8 combination with 98mm and smaller inducer compressor wheel.
- 100 lb. Weight Reduction for Single Centrifugal Supercharged, small block combinations with inducer sizing of 123mm and smaller.
- 50 lb. Weight Reduction for Centrifugal Supercharger Combination on Gasoline.
- 50 lb. Weight Reduction for Leaf Spring Rear Suspension.
- 25 lb. Weight Reduction for Triangulated Stock-Style Suspension with upper bar 35% shorter and not parallel to the lower bar, upper bar must travel at a minimum of 45 degrees from housing to chassis mount (must be approved by tech official).
- 25 lb. Weight Reduction for vehicles originally equipped with torque arm suspension (must be original configuration and location).

## MAXIMUM OVERHANG WEIGHT BREAK TABLE:

- 41-45" Overhang – No Weight Break
  - 36-40" Overhang – 10 lb. Weight Reduction
  - 31-35" Overhang – 20 lb. Weight Reduction
  - 26-30" Overhang – 30 lb. Weight Reduction
  - 21-25" Overhang – 40 lb. Weight Reduction
- This would be based on centerline of the most forward front wheel to tip of factory front bumper, this does not include the front valance.

*\* Rules are subject to review at any time. Refer to RadialOutlaws.com for the Latest and Most Up-To-Date Class Rules for Limited Drag Radial. \**

**Updated: February 2nd, 2024**