

# 2024 TNT Motor Swap 1/2-Ton Truck Demolition Derby Rules

## General Preparation:

- Any full-size 1/2-Ton pickup, suburban, or full-size SUV (Bronco, Durango, etc). 4-wheel-drive (4WD) vehicles will be allowed but must have front drive shaft completely removed.
- All interior plastic, upholstery, trim panels, etc must be removed. Nothing to remain in the bottom of the doors or trunk. This includes all carpet material. No broken glass inside of doors or other loose material anywhere inside the vehicle.
- All outer hardware must be removed. (**Example:** All glass, door handles, mirrors, chrome, molding, fiberglass, etc.)
- All flammable material must be removed.
- ALL airbags must be completely removed. Unplugging/cutting airbag wires only not allowed!
- The ECM/PCM can be relocated and secured. Securing engine computer may not strengthen vehicle in any fashion. Spray foam is okay to secure.
- All seats except the driver's seat and the passenger seat must be removed from the vehicle. This includes all fold-down seats. Rear seats must be completely removed from the vehicle. Area where seats were removed must also be empty and clear of material.
- All seats except the driver seat and the passenger seat must be removed from the vehicle. This includes all fold-down. Rear seats must be completely removed from the vehicle. Area where seats were removed must also be empty and clear of material.

## Body Preparation:

- Must run wire, chain, seat belt, or a bar in the front windshield area from roof to cowl, welded or bolted to sheet metal only. If using a bar it may not contact cage or engine. Bar may be 2" square tube maximum and may only attach 4" maximum onto roof and cowl.
- Drivers door can be welded solid. All other doors may have a total of 12" maximum of weld on verticle seams only. No welding of horizontal seams on any doors except driver's door. Driver's door MUST be outlined with white paint.
- If doors are not welded they may be secured shut in (6) locations each with #9 wire, seat belt, or 3/8" chain.
- Must have a 12" x 12" hole cut in hood. If you have it flapped, make sure a potential fire can be extinguished. If using exhaust through hood, header holes may count as hole, but must be large enough to extinguish fires safely.
- Hood sheet metal must remain over top of fans, if hood is removed, fan(s) must also be removed.
- Exterior door plate is allowed on the driver's door only. Exterior plate is allowed in addition to interior cage/protection, this is highly recommended.
- A 3/4" maximum size store-bought washer may be welded to sheet metal in each #9 wire location.
- Changing the front (2) body bolts at the core support allowed. They may be replaced with (1)

piece of 3/4" maximum threaded rod and a 2" x 2" x 1/4" tube spacer each side. Core support spacer may be 6" tall maximum. Core support spacer may not be welded. Threaded rod may go through hood, but hood must still be opened for inspection.

- Maximum of (3) nuts, (3) store-bought washers, and (3) 5" x 5" x 1/4" maximum washers per mount allowed for core support mounts. 5" washers may not be welded in any location. Thread rod replacement mounts must be vertical only, no angled or bending.
- Securing hood will be done directly once vehicle passes inspection. 5" x 5" x 1/4" maximum plate washer used on top side of hood at threaded rod locations, these may not be welded.
- There are (2) options to body mounts. Bodies and frames must match the same era.

**Option 1:** If all the body mounts remain stock, you may change/add (6) total body mounts using 3/4" threaded rod max, these may pass through (1) layer of the body sheetmetal, 12" long maximum either to pre-existing holes or mounted to the side of the frame with a 3" vertical 1/2" weld only. These are to remain vertical and not be tied into any part of the cage. If using 1/2" or smaller threaded rod at core support mounts with (2) nuts and (2) washers each, these do not count against your changed/added body mounts.

**Option 2:** OR you may change out all body mounts with 1/2" bolts, 3 store-bought nuts and washers per bolt, 3"x3" maximum washers. The body mounts may only go through one layer of the body sheet metal. No adding body mounts. No other attaching body to frame. Absolutely no body welding other than specified in rules.

- Hoods may be secured in (6) locations using double-wrap #9 wire, seat belt, 3/8" chain, or 6" long pieces of 2"x 2" x 1/4" maximum. If bolts/threaded rod are used through hood at core support mounts, these count as (2) hood securing locations. The angle iron may only be welded to sheet metal on hood and fender only. Maximum of (2) 1/2" bolts allowed at each of securing location. (2) locations of wire, seat belt, or chain may run down to front bumper.

- Fenders and quarter panels/box sides max be cut/trimmed for clearance only. No welding or bolting on fenders allowed.

- Truck tailgates are allowed to be dropped from their stock positions.

- Tailgate/rear gate/hatch may be secured with (2) options:

**Option 1:** Tailgate/rear gate/hatch may be secured using double wrap #9 wire, seat belt, or single 3/8" chain in (6) locations maximum. These locations may not go around the frame. (2) maximum locations may go around rear bumper. If using this securing method, no welding is allowed.

**Option 2:** OR tailgate/rear gate/hatch may be secured using (4) 3" x 3" x 1/4" plates maximum. Plates may not be welded to bumper or frame. If using this securing method, no wire, seat belt or chain allowed.

- No homemade truck beds or flat-beds allowed.

- Truck bed must be in stock position. No pushing down bed sides. No creasing or pre-bending allowed to tailgate/rear gate/hatch, rear quarter panels, or bed sides.

- **Trucks:** Bed must be attached to cab with (2) options:

**Option 1:** Bed may be secured to cab using (4) 3/4" maximum bolts/threaded rod. These must only go through cab/bed sheetmetal and use 4" x 4" x 1/4" maximum washers. Washers may not be welded. If using this method, no welding is allowed.

**Option 2:** Bed may be secured to cab using 3" x 1/4" maximum flat bar. These

locations may be welded to cab and bed sheet metal 3" maximum each. These may not extend over top of, or be welded across any door seams. If using this securing method, no bolting is allowed.

- Sunroofs must be covered, no exceptions.
- Absolutely no added material or additional reinforcing of any kind can be done to body. No body seam welding. No other body welding is allowed at all unless it is specifically mentioned within these rules.

### **Steering & Suspension:**

- Aftermarket steering columns are allowed. No aftermarket hydraulic steering systems. 3/4" maximum steering column shafts allowed.
- All suspension and steering must be stock to make/model you are running. No alteration to suspension or steering! No over-sized or altered tie-rod ends are allowed. No exceptions!
- No welding of leaf springs or on any suspension parts. Front suspension cannot be changed to leaf springs.
- A-Arms must be factory. No aftermarket A-arms or added metal plates or welding.
- No changing out the rear end components to heavier/aftermarket parts. Must be OEM parts only!
- Coil springs may use wires or clamped into place. Leaf springs may use (2) OEM style clamps or single wrap of #9 wire to hold leaf pack together, (1) in front of axle, (1) behind axle. Leaf packs must use OEM stagger and spring amount.
- Vehicles must have suspension bounce. Ride height measured from bottom of frame in front and back is maximum of 26", minimum of 19". Twist in coil spring spacers are allowed.

### **Tires & Brakes**

- Vehicle must have working brakes at all times and have the ability to stop.
- Any tire/rim combo is allowed.
- (4) wheels max per vehicle, no dual tires.
- No split rims or studded tires. No studded or liquid filled tires.
- Wheel weights must be removed.
- Tubes and outer tire flaps/skins are allowed.
- Valve stem protectors are allowed but must be deemed safe. No bead locks allowed.

### **Frame/Bumpers**

- All bumper rules apply for front and rear bumpers. There are (2) options for bumpers:
  - Option 1:** Any year bumper is allowed but must be an automotive car bumper. Bumper ends may be cut off and capped with 1/4" steel OR ends folded around and welded. Bumpers may also be seam welded, 1/2" weld bead maximum. Bumpers may be loaded but must be within factory envelope of the bumper. Capping over lamp holes is allowed with 1/4" maximum material with 1" overlap.
  - Option 2:** A 4" x 4" x 1/4" maximum tube may be used as a bumper. Ends must be cut off flush, not angled or sharp. Tube bumpers may be no wider than 6" past outside edge of each frame rail at mounting position.

- Absolutely no chrome "skinning" of/or aftermarket, replica, or homemade bumpers allowed.
- Bumpers may be welded on using a 4" x 4" x 1/4" maximum mounting plate flat onto the end of the frame OR by using the stock bumper brackets that came with the vehicle, not both; 1/2" weld bead maximum.
- (2) additional 4" x 4" x 1/4" maximum bumper plates per side is allowed. These plates must contact bumper and be used to attach bumper to frame. 1/2" weld bead maximum.
- No other material or weld on frame, bumpers, or mounting other than described in rules! No sharp edges or protruding points. No other welding to frame anywhere is permitted!
- No shortening, shaping, pre-bending, notching of frames.
- **Pre-Ran Vehicles Only:** You will be allowed (4) 4" X 4" X 1/4" "Fix-It-Plates" total. 1/2" weld bead width maximum, must have at least a 1/2" gap between plates, this also includes the welds. Do not add more than (4) plates per vehicle! Once these plates are welded on, you will not be allowed to remove/move them to run again in the future.
- Trailer hitch/receivers must be cut off flush with frame mount brackets. Rear step-bumper must have trailer ball plate removed.

### **Drivetrain**

- Any motor/transmission combo allowed. Engine swaps are allowed. (**Example:** Chevy engine/transmission in a Ford vehicle). Swapping from fuel injection to a carburetor is allowed.
- Lower engine cradles are allowed, lower cradle must mount/stop below cylinder heads. Cradles may utilize a basic front plate and pulley protector, but all must stop below cylinder heads.
- Lower mount may also be changed but may be no larger than OEM mount mounting pad. Lower mount may be welded to frame with 1/2" weld bead maximum. Do not get excessive in this area!
- You may use a single 3/8" chain or double wrap #9 wire to hold down engine/engine mounts in (1) location per side. If using chain you may weld (1) link to frame per side.
- A basic "skeleton" style transmission brace is allowed. No other protectors allowed, (**Example:** Distributor protector, full mid-plate, steel bell housing, etc).
- Exhaust must exit straight down under vehicle past drivers seat, or straight up through the hood.
- 3/8" chain or double wrap #9 wire may be used around crossmember and transmission to secure.
- Crossmember may be stock OR 2" x 2" x 1/4" maximum tubing. A 4" x 4" x 1/4" maximum crossmember mounting plate on each side is allowed, these may be welded with 1/2" weld maximum. No other welding or reinforcing crossmember or mounts allowed.
- 8 lug maximum rear axle allowed. Must bolt into factory mounts in vehicle. No aftermarket trailing arms or brackets. No bracing allowed on rear axle.
- Welded differentials or lockers are allowed.
- Stock type or slider driveshafts allowed.
- Aftermarket shifters and brake/gas pedals are allowed.
- Radiator must mount in factory location or be removed.

- No homemade radiators or reservoir tanks allowed.
- Radiators can be spray foamed in place. A 1/8" maximum radiator guard. It may be held in with (4) 3/8" maximum bolts or (4) 1" welds. Radiator guard may not extend further than 2" past any part of the radiator in any direction. Guard may not be used to reinforce any other part of the vehicle, if this area is excessive, it will be cut.
- Electrical fans are allowed.

#### **Cage/Driver's Compartment**

- The battery may be relocated to the front passenger floorboard or passenger seat area. It must be securely fastened and covered.
- Driver door panel can be left in place or suitably replaced. Driver's door must have padding of some type.
- Driver's door may be foamed for protection.
- Drivers door protection is required. We cannot emphasize enough that cannot have too much door protection.
- Driver's seat must be securely bolted to the floor. Must have a working and approved driver's seat belt or harness.
- Must run wire, chain, seat belt, or a bar in the front windshield area from roof to cowl, welded or bolted to sheet metal only. If using a bar it may not contact cage or engine. Bar may be 2" square tube maximum and may only attach 4" maximum onto roof and cowl.
- A "floating" 4-bar/4-point cage is also recommended. Cages must not exceed 6" in front of the front doors and may not exceed past the passenger area of the cab of trucks, or 10" past the the B-pillar of suburbans/SUVs.
- All cage material must not exceed 4" x 4" maximum material (or equivalent **Example:** 2" x 6").
- Cage may be welded and/or bolted into place.
- Cage may have (1) straight, vertical down-bar from door bar to floor sheet metal or frame rail on each side. Recommended to mount at doors straight down, these down-bars may NOT be used as kickers! Gussets are allowed but must be on inside of cage and attach to cage only.
- Cage must be 5" off of the floor and cannot be higher than 5" below the window sill of the doors. Cage must be 3" minimum away from any part of the drivetrain. Cage must stay within driver's compartment of vehicle with exception of fuel tank tray/protector for trucks.
- A rollover bar may be used. Rollover bars must be welded to rear of door bars and/or rear side-to-side bar of cage. Rollover bars must go straight up vertically must not be angled and have a single bar across the roof attaching uprights. Bar over roof may be attached to roof in (2) locations in front of the bar with 4" of weld or (2) 3/4" maximum bolt with 4" maximum washers.
  - **Standard Cab Trucks:** Roll over bar may be used in center of vehicle from cowl/dash bar up to roof, straight back and then down to bar behind seat. This bar must be in front of the front side of the bed. This bar cannot attach to the frame.
- Stock fuel tank must be removed and replaced with an approved marine tank/fuel cell. The tank may be mounted in the cab or to the very front center of the truck bed, and be securely bolted. If the fuel tank is in the cab it must have a maximum distance between it and the battery possible and covered. Fuel tanks for suburbans/SUVs must be behind front seat area and securely fastened to floor or mounted to cage mid-vehicle
- A fuel tank tray/protector may be used but not extend more than 24" past the fuel tank in any direction. Tank tray/protector may be bolted/welded to sheet metal only, not to the frame in any way. Tank tray/protector must be at least 10" in front of center point of rear axle assembly.
- All fuel tank/fittings must be leak proof. Auxillary electric fuel pumps are allowed with a shut off switch within reach of driver, preferably left side of the steering column and labeled so officials may also shut off

in case of emergency. Metal/braided stainless lines only inside cab. All lines inside vehicle must be covered.

- Pump gas only. No exotic fuels allowed.
- Aftermarket shifters and fuel/brake assemblies allowed.

**This should be a simple but safe build. If you have any questions with the rules, CALL FIRST. Do NOT assume anything, do NOT play any grey areas. PLEASE READ AND ADHERE TO THE GENERAL DEMOLITION DERBY RULES. All classes must follow those general rules as well that is posted onto the website. The official's decision is final. Call or text Logan Sorensen @ 231-343-8868 for building or repair questions!**