

# BETHEL MOTOR SPEEDWAY

COUNTY ROUTE 141 – WHITE LAKE, NY

## 4 CYLINDER TRUCK RULES – 2021

(Last Updated 4/19/21)

**1. GENERAL** The 4 Cylinder truck division has been created as an affordable, stepping stone class. The intention of the division is to allow more experienced drivers from the 4cyl FWD divisions to transition to the RWD divisions, while gaining experience in RWD car control. Any truck which deviates from the intentions of this class will be disallowed at the discretion of the speedway management. All modifications made to the trucks in this division must be for safety reasons only. Any truck deemed overly dominant will be impounded by the Speedway management for a thorough tech inspection. So that this inspection can be completed to Speedway satisfaction, vehicle will be held until inspection is complete which can and will be beyond that night's racing events. Track Officials and management reserve the right, at their discretion, to place weight and/or other penalties on cars deemed to be overly dominant, in order to keep the competition fair.

**2. SAFETY EQUIPMENT:** While cost is a major factor in the rules and specifications for this division, the speedway vigorously recommends all participants to utilize all available safety gear. The following items are the minimum required and of course participants are encouraged to use additional safety equipment available to them.

### **REQUIRED SAFETY EQUIPMENT:**

2.1. Snell SA 2015 or newer crash helmet (securely strapped on at all times). "M" prefix Snell rating helmets are NOT allowed.

2.2. SFI or FIA approved full long sleeve firesuit in good condition. Suits with holes will NOT be permitted. In the event of a fire, Track Officials reserve the right to disallow future use of the firesuit worn at the time of the fire.

2.3. 5 point racing style seat belt and shoulder harness worn tight and secure at all times. Lap and shoulder belts must be 3" wide, except that 2" shoulder belts are allowed ONLY with Hans type head and neck restraint.

Seat belts will be inspected by Track Officials, and must be dated within five years (i.e., in order to be legal for the 2021 season, the date stamped on the belts can be no older than 2016). Seat belts without a legible date stamp on them will NOT be allowed.

2.4. Driver's side window net.

2.5. Properly installed 4 point roll cage.

2.6. Neck Collar or HANS type head and neck restraint mandatory; HANS type device is HIGHLY recommended. As per manufacturers' specifications, recertification of HANS type head and neck restraint systems every five years is mandatory; date of manufacture or recertification can be no older than 2015.

2.7. SFI or FIA approved racing gloves and shoes.

## 2.8. Aluminum Racing Seat.

**HIGHLY RECOMMENDED SAFETY EQUIPMENT:** Fire retardant underwear, helmet sock, and factory-manufactured head and neck restraint system such as a HANS device.

### 3. ELIGIBLE TRUCKS:

3.1 The 4 cylinder truck division is open to any normally aspirated compact/mid size, 4 cylinder, rear wheel drive passenger truck.

3.2 Maximum engine displacement is 2500cc.

3.3 Excluded are cars, mini-vans, four wheel drives, full size trucks, and front wheel drives.

3.4 No superchargers, turbochargers, or hybrids allowed.

3.5 All trucks are subject to approval by speedway management.

Any truck deemed to be outside the intentions of the division will be disallowed at the discretion of the speedway management. If you have any question as to the eligibility of your truck, please ask management to approve it before you waste valuable time and materials constructing a truck which may be disallowed.

Any truck deemed not structurally sound (i.e. excessive rust of the frame or unibody, etc.) will be ineligible to compete. The decision of Track Officials and speedway management will be FINAL.

### 4. WEIGHT:

4.1 The minimum weight after race, weighed as raced with driver in the truck wearing helmet and all safety gear, no fuel added, will be one pound per cubic centimeter (cc) of engine displacement, with the following additional requirements:

a. Add 100 pounds if more than two valves per cylinder.

b. Add 100 pounds for dual overhead camshaft.

c. The absolute minimum weight for any truck with less than 2,000 cc engine displacement will be 2,000 lbs.

(Example: A truck with a 2,500 cc engine, 4 valves per cylinder, and dual overhead cams must weigh a minimum of 2700 lbs.)

Bethel Motor Speedway management reserves the right to change or adjust minimum weight requirements as a revision to these rules in order to ensure fair competition, and to add additional minimum weight requirements for any truck that is found to be overly competitive.

4.2 Minimum weight must be clearly marked on the left side of the hood of each car in letters no less than 2" high and in a contrasting color that can be easily seen by technical inspectors as the car approaches the scales. Any truck not marked must meet the highest weight specified for this division. Incorrect weight markings can result in disqualification.

4.3 Any truck adding weight must have all additional weight painted white in color, must be marked with car number, and must be attached with a minimum of two (2) GRADE 5 or better bolts, ½" diameter or larger, with locking nuts (no lock washers).

## **5. BODIES:**

5.1 All bodies must be steel and remain completely stock as manufactured. Body style must match chassis and engine being used. Chevy match Chevy – Ford match Ford, etc. Absolutely no interchanging of bodies. No homemade, aftermarket, or flat sheet metal body parts will be permitted. Stock O.E.M. or comparable aftermarket sheet metal only.

5.2 A maximum of TWO trucks in any single division will be permitted to have the same number. It will be FIRST COME, FIRST SERVED with a paid purchase of a Bethel membership. The FIRST driver to purchase a membership will be allowed to maintain simply a number, while the SECOND driver will be required to have both a number AND distinguishing letter on their truck. When two trucks have the same number, they will be required to either (a) paint the trucks in contrasting colors, or (b) put different colored numbers on each truck. The WHOLE number will be required to be a different color - different outlines will not be acceptable (in the case of non-team trucks with the same number, if both trucks have the same color number, the SECOND driver to register the number will be the one that has to change the color). Check with the office before putting vinyl or other lettering on the truck to avoid an unnecessary expense, in case someone else registered the number first. ADDED LETTERS on the roof and sides of the truck must be a minimum of 8" high to stand out. Added letters must be included next to the number in ALL locations on the truck (rear, front, doors, roof, etc.) and must be easily visible.

5.3 Body and interior must be completely stripped of all glass (except windshield), trim, lights, molding, etc. ALL AIRBAGS MUST BE COMPLETELY REMOVED, including the inflator module. No gutting or skinning of body panels allowed (except doors, and only if equipped with optional curved door bars extending to outer skin). Any truck deemed to be excessively lightened by gutting/skinning of body panels will be disallowed at the discretion of speedway management.

5.4 Doors and tail gates must be securely bolted, and welded shut. Hoods must have the stock style latches removed and be secured shut with quick release type hold downs (hood pins recommended). No bungee cords or chains allowed on hoods.

5.5 Side rub rails are optional and must be a maximum of 1" thickness metal mounted flush against body with closed ends, and must angle in at the ends. Any bolts exposed on the outboard surface of the rub rail must be carriage bolts with rounded heads. Rub rails are allowed for body preservation purposes ONLY, and are not to be used to reinforce the car. Open ends, sharp edges, or protrusions are not allowed.

5.6 The wiring harness must be fully accessible for inspection. Any truck closing off an area of the wiring harness to permanently seal it, or otherwise prevent inspection, will be disqualified, and not allowed to compete until further inspection can be completed.

The ODBII port for diagnostics MUST be relocated at least 18" outside of reach of the driver, to the center of car. No passenger, or driver side access, without actually getting inside of truck. It must be solidly mounted, clearly visible, and marked with a bright color paint or tape.

5.7 Fenders may be reasonably radiused for additional tire clearance.

5.8 Bumpers must be stock O.E.M. style steel, aluminum, or plastic. No tubing or pipe bumpers or reinforcements allowed. Original bumper may be replaced with different stock bumper which is compatible in size and width for the truck it is fitted to. No sharp edges on bumpers, bumper corners may be attached to fenders with sheet metal guards to avoid hooking and gouging. All bumpers must be securely fastened by bolting and/or welding, and must additionally be chained to the truck's frame.

5.9 Full front windshield mandatory. Windshields may be retained as long as any defects (crack, scratches, etc.) do not interfere with the driver's vision. If the stock windshield is removed, it must be replaced with full width heavy gauge wire mesh screen with at least one center support or full Lexan windshield with two minimum 1/8 inch x 1 inch center supports (inside and outside) from the dashboard to the roof. Straps must be solid, no pipe strap allowed. If for any reason the windshield gets broken, it must be replaced or taken out and replaced with heavy gauge wire mesh screen with at least one center

support or Lexan with two center supports (inside and outside) from the dashboard to the roof as described above. NO plexiglass allowed. Lexan windshield, if used, must be secured with rivets or threaded bolt with locking nut (no lock washers). No self-tapping screws or ZIP ties.

## **6. FRAMES AND SUSPENSION:**

6.1 All frames, uni-bodies, sub-frames, etc., must remain completely stock as manufactured. Stock wheelbase and ride height is to be maintained, wheel base must measure the same on both sides. No lowering or torching of springs. No spring spacers or blocks of any kind. No modifications to the shock/strut towers will be allowed (except for the repair of rusted sections). 4 inch minimum ride height.

6.2 Springs, shocks and struts must be stock "O.E.M." components only! Aftermarket "Quick Struts" will be allowed, provided they are exact duplicates of the OEM units. Maximum of ONE bump stop allowed per strut, and must not exceed stock size. No slotting of strut plates to increase camber/caster settings. Unaltered cambered bolts allowed for alignment purposes only! No jacking bolts allowed. All ball joints, control arms, sway bars, stabilizer bars, track (pan hard) bars, or other suspension locating devices must remain completely stock as manufactured, with all components functional and no modifications allowed. Mounting of sway bar links must match position side to side. NO LEFT OR RIGHT SIDE BIASED bushing stacking. Sway bar **MUST** remain hooked up and functional.

6.3. The maximum camber on front wheels will be +/- 5 degrees.

6.4. Steering must remain stock as manufactured. Stock steering pump, rack (or box); column, tie rods, and spindle arms must remain completely stock as manufactured. A quick release type steering wheel (optional) is allowed on the stock column. OEM steering locks **MUST** be removed or disabled.

6.5. Brakes must be operable and effective on all four wheels (car must lock all 4 wheels upon inspection). All brake components must be stock "O.E.M." parts as manufactured. No modifications allowed to master cylinder, calipers, rotors, hubs, axles, drums, etc. Rear disk O.E.M. brakes will be permitted if they were originally installed. The emergency parking brake mechanism must be removed.

## **REAR SPRINGS AND SUSPENSION:**

All rear suspension must be stock for the frame utilized. Coil for coil, leaf for leaf, etc...

Leaf springs may not utilize multiple holes in front mounts for height adjustments. Rear shackles may NOT be adjustable (no sliders or slippers, shackles **ONLY**). Lowering blocks permitted. "Chrysler" dimension leaf springs are not allowed on GM or Ford frames. No mono-leaf springs allowed.

Coil springs must be maintained in stock locations on top of rear axle tubes. OEM Stock coil or leaf springs **ONLY**. NO racing springs of any kind.

No weight jacking or spring height adjusting bolts allowed. No hydraulic weight jackers allowed. Existing trucks with rear weight jackers may be eligible, at Officials' discretion, providing the jacking bolts are either removed or welded to prevent adjustments.

Stock type rear trailing arms are required in link type suspensions. No moving of trailing arm mounts allowed. Bolts must be stock size and no less than grade 5. No smaller size bolts in place of larger bolts anywhere in rear suspension.

Torque-arm and truck-arm style rear suspension is prohibited.

Any stock type rear sway bar is allowed.

## **REAR AXLE:**

Stock type rear axle assemblies **ONLY**. No full-floater, Quick-change, or full size truck rear axles allowed. Independent rear suspension is prohibited. No cambered rears allowed.

Rear axle housing must match frame, GM for GM, Ford for Ford, etc...

No alteration of rear end housing in any way is allowed. All stock mounting must be maintained.

Limited slip and factory posi-traction differentials are permitted. Welded spider gears or a steel mini-spool is allowed. No "locker" or ratchet rears permitted. Ring & pinion may be changed.

Stock, or aftermarket steel axles shafts are required. Must be stock type axles. No full-floating hubs allowed. It is recommended that integral rear ends (where the axles are held in by "C" clips) be welded to prevent the axles from pulling out.

## **7. ROLL CAGE AND COCKPIT:**

7.1 The driver's compartment (cockpit) must be completely stripped of all glass (except windshield), seats (except driver's approved racing seat), upholstery, headliners, insulation, excess wiring, lights, plastic trim, door panels, consoles, etc. (The dashboard may remain - optional). If truck is equipped with air bags they must be removed. All items such as shifters, steering columns, dash boards etc., that the driver's head, arms, knees could come in contact with must be adequately padded for safety. No sharp edges should be left in the driver's area.

Front loop allowed in unibody trucks: 1 brace to each strut tower, but not connected across the motor.

Tow Hooks must be provided.

7.2 All gauges, tachometers, etc. MUST be mounted below the dash line and out of the driver's direct line of sight. Gauge mounting is subject to inspection and approval by track officials.

7.3 Fire walls and floor pans must have all holes securely sheet metaled over to isolate the driver from the engine compartment and gas tank area.

7.4 Seat installation must be approved by the speedway. A racing style aluminum seat is mandatory. Must be securely fastened (bolted) to the roll cage and/or frame. No floorboard installations. A minimum of six (6) bolts are required, four (4) in the seat area and two (2) in the backrest; minimum 3/8" diameter, Grade 5 or Grade 8, with flat washers and locking nuts. No carriage bolts or lock washers.

The seat must be positioned completely to the left of the center line of car. A high back seat or padded roll bar headrest is mandatory.

A support from the roll cage cross bar to the back of the top of the seat is mandatory.

7.5 Seat belt installation must be approved by the speedway. A racing style 3" wide 5 point seat belt (in good condition) is required. (2" shoulder straps allowed ONLY with HANS type device.) Seat belts will be inspected by Track Officials, and must be dated within five years (i.e., in order to be legal for the 2021 season, the date stamped on the belts can be no older than 2016). Seat belts without a legible date stamp on them will NOT be allowed.

Seat belt & harness must be securely fastened to the frame or cage and NOT to floorboards or sheet metal components of truck. The shoulder straps of the seat belt must be solidly mounted to the shoulder height crossbar in the roll cage. All mounts MUST be in direct line with the direction of the pull. Bolts MAY NOT be inserted through belt webbing for mounting. Seat belts will be rejected if not in good condition. Refer to Minimum Safety Requirements in General Rules, for proper installation of seat belts & harness, with diagrams.

Lap belts should be mounted to roll cage. The lap belt straps may be bolted into the original seat belt mounts at the floorboards (as long as original mounts are not rusted or otherwise damaged). Lap belts may not be installed into un-reinforced floorboard areas or to the seat. The sub-marine strap may be 2"

width and must be mounted to the cage loop that is required under the seat. Additional roll cage material may be added as an option, so that lap belts can be mounted to cage.

**SEAT BELTS MUST BE WORN TIGHTLY AND SECURELY AT ALL TIMES WHILE ON THE SPEEDWAY. ALL DIVISIONS - NO EXCEPTIONS!!**

**\*\*\*THE FOLLOWING ROLL CAGE CONSTRUCTION AND MOUNTING METHODS ARE REQUIRED BEFORE ANY CAR CAN COMPETE IN THE 2021 SEASON. IF THESE METHODS ARE NOT IN PLACE, YOU WILL NOT BE ALLOWED TO PRACTICE OR COMPETE\*\*\***

7.6 Roll cage construction must be approved by the speedway. A minimum 4 post roll cage is mandatory. Additional bars are allowed in the cockpit area as an option. All roll cage bars are to be constructed of heavy wall steel tubing (minimum 1-1/2" outside diameter and 0.095" wall thickness). Absolutely NO black iron pipe to be used at all in the cage. No angle iron, channel, exhaust, soft galvanized, or threaded pipe will be permitted. Heavy wall tubing is the ONLY acceptable material! The cage bar thickness will be measured with a thickness gauge. Any cage found to have less than the minimal wall thickness, even with the proper roll cage material, will be disallowed from competition. NO EXCEPTIONS! All roll cage joints must be fitted, notched, welded (no brazing or soldering) and gusseted to acceptable roll cage construction standards.

In unibody trucks, wherever the main roll cage posts meet the floor pan of the unibody structure on each side, a minimum 1/8" thick 3" x 6" steel plate or angle channel must be attached to the car's structure, under the main roll cage down posts.

In full frame trucks, the 4 upright cage posts MUST be welded to the frame, not the floor or rocker sheet metal.

A main hoop shall be installed just behind the driver extending from rocker panel to inside of the roof panel. The roll cage must be the full width of the truck inside the door jamb area. A mandatory bar shall be installed at shoulder height, full width behind the driver's seat. This bar will serve to locate the shoulder straps of the seat belt and will support the back of the driver's seat. A crossbar at the front in the dashboard area is recommended. The main hoop of the roll cage must be connected to the front uprights of the roll cage with a bar at least 2" above the driver's head (with helmet on) on each side of the roof area. Additionally, there must be 2 horizontal supports in the driver's side door. If doors are gutted, then door bars must be curved to extend to the inside of door skin. If straight bars are used in the door area, then door must remain un-gutted (complete door frame shall remain for extra protection). All roll cage tubing must remain in driver's compartment. No roll cage tubing shall extend into engine compartment. All roll cage bars which the driver's head could contact must be padded with racing style padding.

7.7 Window net on the driver's side window is mandatory. A string ribbon, or mesh racing style net will be required. Window net must be solidly attached at the bottom (no tie wraps) to horizontal door bar. At the top, the window net MUST be latched to the cage on both ends. The window net must have a quick release mechanism, so that the driver's compartment can be accessed quickly (seat belt type latches or similar required).

**8. ENGINES AND TRANSMISSIONS:**

8.1 ONLY stock as manufactured four (4) cylinder gasoline engines with a maximum displacement of 2,500 cubic centimeters will be allowed. Carbureted or fuel injected will be permitted. No turbo charged, supercharged, or hybrid engines will be permitted. Engine must match body and chassis, Chevy to Chevy - Ford to Ford, etc. Absolutely no interchanging allowed. The engine you use must have been available as OEM from the vehicle manufacturer in the model and year of the truck. Must maintain all stock dimensions and continue to utilize all stock O.E.M. components (including, but not limited to ECM, air cleaner, air filter, induction system, intake manifold, cylinder head, valves, camshaft, pistons, cylinder bore, crankshaft stroke, exhaust manifold, water pump, starter, alternator, flywheel and clutch, etc.) No altering, enlarging, or interchanging of injectors. Injectors must be stock to make and model. OEM fuel injection or carburetor for year, make and model ONLY. No carburetor spacers or adapter plates

permitted. Stock rev limiters are optional. No machining, grinding, porting, gasket matching, etc. of any engine component. No porting and polishing of heads. Cylinder heads can be cut to a degree, but MUST maintain the OEM mill markings. Any head determined to be over milled/cut, will be confiscated and disallowed. Maximum compression of 200 PSI on any cylinder. NO EXCEPTIONS! Absolutely NO aftermarket or high performance parts allowed.

No Aluminum flywheels. The air conditioning compressor and condenser and the air pump and catalytic converter may be removed. Extra capacity radiator may be installed as long as frame does not require notching and hood still closes properly. No water additives of any kind. No Anti-Freeze – Water Only!! No Heater Cores in cockpit area. No Coolant running through cockpit area at all! Any engine deemed to be over competitive, or outside the intention of this class may be disallowed at the discretion of the speedway management.

8.2 Automatic or standard transmissions will be permitted. All transmissions, torque converters, and clutches must remain completely stock, with all gears including reverse functioning. No interchanging or modifications of any kind will be allowed. No machining of any drivetrain parts.

8.3 Batteries must be stock 12 volt only. Location of battery may be changed to protect it from being damaged in an accident, but it may not be located in the driver's compartment. All batteries must have an acid resistant cover over the top.

The speedway must approve all battery mounts, and they must be securely mounted and held down with sturdy metal brackets - no bungee cords or ratchet straps.

8.4 Exhaust systems must utilize a single stock style muffler. Glass packs ARE allowed. Maximum inlet and outlet = 2 1/2". Catalytic converters may be removed. Exhaust systems must be securely mounted and sufficiently quiet. If truck is determined to be too loud during a race it may be black flagged and removed from the race at the discretion of the speedway management.

Exhaust must exit behind the driver's door; exit must be on left side or pointed toward the track surface.

8.5 Engine computers must be stock for year, make and model. All engine computers must be stock and unaltered. Can move computer to a location where it is protected from damage. Officials will need to know location of computer and have easy access for inspection. Any computer that shows signs of tampering with will become property of the Speedway. Driver will lose all points & money for that night, and may be subject to suspension and/or fine.

## **9. FUEL SYSTEMS:**

9.1 Fuel shall be standard pump gasoline only. If during inspection any fuel is found which has a colorful dye such as blue, purple, red, orange, etc. like racing fuel often has, it will be considered to contain racing fuel and therefore the offending car will be disqualified. No other fuel additives are permitted.

9.2 Fuel tank installation must be approved by the speedway. Racing style fuel cells are MANADATORY. The stock fuel tank MUST be removed. Fuel cells must be contained in a metal enclosure and be securely mounted as far from the rear bumper as is practical. Maximum size 22 gallons. All fuel cells must have tip-over check valves with additional check valve (PCV) on fuel tank vent. Fuel cell must be securely mounted, centered between the frame rails and behind the rear end. Bottom of cell may not be mounted lower than centerline of rear axle. Plastic fuel cells must be mounted in steel container.

A protection bar equivalent to the roll cage MUST be installed behind the fuel cell (inside the body).

9.3 Fuel pumps must have Fuel Pump Kill Switch separate from the main ignition switch, clearly labeled, and located within reach of the driver.

9.4 Fuel lines routed through the driver's compartment must be either steel or made of high pressure type braided hose and fittings, or standard hose contained within a metal sleeve (such as electrical conduit).

## **10. TIRES AND WHEELS:**

10.1 Wheels must be stock O.E.M. steel one piece, with a maximum diameter of 14" or 15" (nominal) and a maximum width of 8" (nominal). All wheels on the car must be the same size and offset. No mixing and matching from other production cars to gain any other offset than intended by the manufacturer. NO cutting and welding of wheel centers to gain a greater wheel offset. Wheels as provided from the car manufacturer only. Steel aftermarket racing wheels allowed. Max 8 inch width. All aftermarket wheel offsets MUST be the same size and offset on all four corners of the vehicle. For stock steel wheels: It is HIGHLY RECOMMENDED that the right front wheel may be reinforced to handle the extra loads encountered in racing. Each wheel must be attached with all lug nuts that the hub is intended for. (1" lug nuts MANDATORY). No car will be allowed to race with broken or missing lugs. No 4 lug nuts with 5 studs. Any car found to have four lug nuts on a five lug rim will be immediately black flagged off of the track.

10.2 Tires must be stock type radial ply with a maximum tread width of 8". No snow lugs, retreads, camber-cut, or made for racing tires will be allowed. All 4 tires on the car must be the same diameter and series. Any car suffering a flat tire must leave the racing surface immediately, or be disqualified at the discretion of the speedway. Tires must have tread wear rating of 225 or higher. No tire softener permitted.

Tires with exposed cords or belts will not be permitted on the track.

Sidewall markings MUST be legible on at least one side of the tire, and you may be asked to remove the tire for inspection if the outer sidewall markings are not legible. Any tire that does not have legible markings on at least one side is prohibited, and its use will result in disqualification.

## **11. SCANNERS**

Scanners are required, and to be mounted behind and out of reach of driver. No other form of one- or two-way communication permitted. Scanners must be in working order at all times. CHECK your batteries! Any car found to be without a working scanner may be black flagged and disqualified from the event at the discretion of speedway management.

TAKE PRIDE in the trucks you build. We want to make this track a place that we all can be proud of. Make your team as professional as possible.