



2023 Thunder Truck Rulebook

DISCLAIMER: the rules and/or specifications set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. By making an application for a competitor permit, it is deemed that the competitor agrees to become familiar with these regulations and abide by the directions set forth and prescribed by management. No express or implied warranty of safety shall result from publications of, or compliance with these rules and/or specifications. They are intended as a guide for conduct of the sport and are in no way a guarantee against injury or death to participants, spectators or others.

THE INTERPRETATION OF THESE RULES WILL BE SOLELY THE JUDGEMENT OF THE TRACK OFFICIALS AND TECH STAFF IN CHARGE AND THEIR DECISION WILL BE FINAL.

Any part of the truck not specifically mentioned or covered in these rules must remain stock. Stock parts are those found in the OEM parts book, not those found in high performance or off road racing books.

Any thunder truck being checked will be allowed to have only one driver and two crew present in the tech area. Any harassment from any driver or crew to any FTMS official may result in an automatic disqualification, thus forfeiting all points and monies earned that night.

DISQUALIFICATION DECISION FOR ANY REASON WILL BE DEEMED FINAL.

Interpretation of these rules will be solely up to the judgement of the officials in charge of the area in question. The track reserves the right to impound non-complying components with no compensation to the owner. Non-compliance with the specifications outlined herein may subject violating teams to disqualification, loss of points and monies, and or a fine.

IF IT DOESN'T SAY YOU CAN DO IT, ASK THE TECH DIRECTOR FIRST.

SAFETY EQUIPMENT:

All safety equipment must be inspected and approved by tech officials prior to the vehicle going on the racetrack. Safety specs for the thunder truck division may differ to standards at other tracks because of the speedway's sizes.

BELTS:

Five point safety belts and shoulder harnesses are mandatory and anchored with grade 8 hardware only. Belts must have been manufactured in the last 5 years and carry an SFI rating and pass tech inspection. The speedway strongly recommends belts within a 3 year manufacturer date. Seatbelts must be securely fastened to cage and/or frame and in good repair with no visual damage.

FIRE CONTROL:

Cars must have a 2 ½ lb minimum fire extinguisher with steel or aluminum head mounted in a steel mounting bracket and bolted down within the driver's reach with their belts fastened. Fire extinguisher must be serviced and inspected each year and dated no earlier than Jan 1st of the current year.

FIRE SUIT:

Minimum SFI 1 rated nomex or proban single layer or greater fire suit is mandatory.

GLOVES AND FOOTWEAR:

Fire retardant gloves are mandatory. Fire retardant race shoe is mandatory. NO NYLON SNEAKERS

FUEL SHUT OFF SWITCH:

fuel/ignition "on/off" switch must be mounted in the centerline of the vehicle and clearly labeled in such a manner that the engine can be turned off from the outside of the vehicle in the event of an emergency.

HEAD AND NECK RESTRAINTS:

As of 2019, all top racing divisions are recommended to have a head and neck restraint system to enter the speedway surface.

HELMETS:

Full face snell SA 2015 or greater.

ROLL CAGE:

1 ¾" x .095" round tubing only. Cage must be directly welded to the frame. All welds must be complete and safe and gusseted. No offset cages (cage to body must be 2" clearance). No heat made or tube wrinkled bends. A 6 point frame mounted cage is mandatory (2 rear down tubes) plus 4 driver door bars and passenger side "x" must be utilized. Cage must be padded in the driver's immediate area. A center front bar (dash to top hoop) 1 ¾" mandatory. Front hoop is optional.

SEAT:

Driver seat must be a proper approved racing seat securely attached to the roll cage with minimum 3/8" bolts. Head rest side plates are strongly recommended.

WINDOWS AND NET:

Driver's side window net is mandatory and must be good in condition and in proper working order. 1/8" lexan windshield and rear window with bracing are strongly recommended. Bracing is mandatory. No glass near windows.

TRUCK BUILD RULES:

All trucks should be stock to year, make and model with no extensive modifications. This includes all engine components, drive train, suspension, and cooling system unless otherwise stated below.

BODY AND APPEARANCE:

Any 2WD V8 engine pick up truck (no dual wheels)

All unnecessary glass, plastic and trim, and air bags must be removed. Cab mounts should be stock appearing and location.

Cab, firewall and cowl must remain stock.

Pedal and braking system components and location must remain stock and unaltered.

Hood and rad saddle should remain stock in appearance and in stock location.

Steering column can be modified (removable steering wheel optional)

Truck box interior (bed) can be removed to mount fuel cell but must have adequate body width support bars for fuel cell and steel or aluminum "tonneau" cover to contain box of truck (no open areas allowed).

Inner fender panels can be removed.

Tailgate can be gutted and covered with a steel or aluminum panel.

Front panel, headlight and grill area can be fabricated (steel, aluminum, or plastic).

Stock front bumpers should be retained in stock position.

Rear bumpers can be stock, 1 3/4" round steel tubing or aftermarket plastic in stock location.

5" body height min (steel/aluminum skirt extensions allowed below factory body).

Steel handmade side panels can be made below the measurement line.

5" below the window frame bottom/box rail top shall be used for the measurement line for side panels.

PAINT AND LETTERING:

All trucks must be neatly painted and lettered. Driver's name must be presented at the top of the front windshield (3" high). All trucks must have numbers readable by the scorer tower in order to be scored.

SPOILER:

Spoilers are optional. Spoilers cannot exceed the width of the truck. Maximum 6" high. Can be made from lexan or aluminum, and can be braced forwards or backwards.

BATTERY:

Must be anchored securely in a steel battery box located between the centerline of the rear axle and the rear of the cab. 12 volt electrical system only.

BRAKES:

All brake components must be OEM stock as produced. Stock type OEM brake rotors only.

CHASSIS AND SUSPENSION:

All suspension points must remain stock and in stock location for truck model. Any OEM suspension part can be adjusted without altering factory location point or mounting hole. Load bolts are allowed and adjustable shackles are allowed.

SHOCKS AND SPRINGS:

Steel shocks only. No split valve, adjustable, air, gas or rebuildable shocks. Racing springs can be used.

COOLING SYSTEM:

Size and type of radiator can be altered, cooling fans can be changed or modified. Must use water only, no antifreeze.

DRIVELINE:

All components must remain OEM stock unless otherwise stated in rules. Welding or locking of rear gear is allowed. Final drive is allowed. 9" floaters are allowed. All ECM's must be readable but can be flashed and altered. 1" thick driveshaft hoop mandatory.

2023 driveline allowances for pre-existing thunder trucks:

Any "non-stock to truck" rear end housing

Any "non-stock to truck" carburetion or fuel systems must utilize a 2 barrel holley model 4412 carburetor, no HP models allowed.

Aftermarket intake (add 25lbs)

Any "non-stock to truck" engine can utilize an unaltered and unopened GM 602 "crate" or a 2022 FTMS street stock legal "SPEC" engine only

50lbs weight break for automatic transmission

EXHAUST:

Stock, unaltered and factory manifolds to truck model being used. Any size exhaust, 96 decibel maximum mufflers mandatory (must exit behind driver on right side). Headers allowed.

FRAME:

No major modifications or alterations from factory specs for truck models being used.

FUEL AND FUEL CELL:

Unleaded pump gas only (93 octane max) or unaltered low lead AV fuel. No alterations or additives. An approved racing fuel cell must be within the rear frame area and securely fastened and protected. Fuel cap must be tethered to prevent loss.

MIRRORS:

Rear view mirrors are optional. Optional side mirrors are permitted but must not extend or protrude outside the vehicle.

RADIOS:

1 way radios only.

TIRES AND RIMS:

Any steel factory or aftermarket rim can be used. 8" width and min 3" backspace. Racing rims allowed. American racer 8" 4 groove sold at the track only. Tires and wheels should not protrude outside of the body (2" max allowance per side). Note: Any 8" towel city tires can be used up for the 2023 year, but the tires we will be continuing with will be the 8" American Racer 4 groove tire.

WEIGHT:

3500lbs base weight before penalties (after race with driver in the seat).

COMPETITION AND FAIRNESS:

All weight and added weight must be painted white with truck #. Track tech reserves the right to modify or alter weights in the interest of fair competition.

NOTE: FTMS WILL BE ADOPTING DELAWARE SPEEDWAY’S ENGINE RULE PACKAGE.

GM 602 CRATE ENGINE:

Gm 602 crate may be used in any approved make or model of car in competition. If at any time when the engine is being repaired and or the oil pan is removed an inspection plug of 1 ¼” must be installed prior to the engine be re-sealed either by an approved speedway vendor or the speedway itself.

Only approved, sealed, unaltered engines.

No changes, substitutions or modifications to engine.

All chevrolet crate engines must be sealed by a FTMS approved engine builder.

New and repaired crate engines must be sealed by a FTMS approved engine builder.

It is the competitor’s responsibility to have paperwork of where the engine was purchased and competitor’s will be held accountable for alterations to the engine.

Approved engine part replacement: a double roller timing chain set may be installed by an approved FTMS repair facility. The timing chain set must be installed to factory timing settings. Engine must be sealed by an FTMS approved repair facility. Engine seals must be obtained from the tech director.

BUILT ENGINE:

NO INTERCHANGE OF ENGINE BETWEEN MAKES. MUST BE A FORD ENGINE IN A FORD, CHEV IN CHEV, DODGE IN DODGE.

MAKE	ENGINE	MAX OVERBORE	MAX DISPLACEMENT
CHEV	350 CU IN	.045	358 CU IN
DODGE	360 CU IN	.045	368 CU IN
FORD	351 CU IN	.045	360 CU IN

CYLINDER BLOCK:

All engine blocks must be a product of the manufacturer of the make for the engine being used in competition. Aftermarket engine blocks will not be permitted.

The engine block must retain all engine dimensions with the exception of the maximum allowable overbore and the surfacing of the engine block deck.

Angle cutting of the engine block will not be permitted.

Aluminum blocks will not be permitted.

Only iron cylinder sleeves may be used to repair.

Must maintain stock lifter bore. Dodge - .904 in, ford - .875 in, chev - .842 in.

Repair sleeving of lifter bores permitted to a max of 4.

Deburring of block permitted. Excessive grinding, lightening polishing, painting, or coating internally, screening or vent stacking is not allowed.

Crankshaft must be stock OEM type. Must have factory I.D. # that are legible through inspection hole in the oil pan (except chrysler). Only standard magnetic steel or cast iron production design crankshafts will be permitted. No lightening, knife edging, or polishing allowed. Balancing okay.

Harmonic balancer stock iron elastomer type only. No aftermarket or aluminum. Must maintain stock dimensions and weight.

Connecting rods. Stock type I beam rods only of stock length for manufacturer. Gm - 5.7", ford - 5.956", dodge - 6.125". Must be magnetic steel, iron, or powdered metal. No titanium, aluminum, stainless or exotics.

Must use OE type insert bearings. No rollers.

Piston. Stock type or flat top three ring pistons with all rings in place. Must use stock pin and mounting (pressed fit if equipped). Must not protrude through the deck.

Head gasket. Any composite gasket allowed. MUST MAINTAIN 9.5-1 COMPRESSION RATIO MAX. to be determined by tech officials. Whistler results are FINAL.

CAM SHAFT:

Mandatory flat tappet camshafts. Max valve lift .510" measured at valve with zero lash.

No mushroom lifters. No rocker rollers.

Must use stock type timing chain and gears.

Must use manufacturer's firing order.

CYLINDER HEADS:

Only stock OEM cast iron heads allowed. Absolutely no deburring, grinding, acid dipping, acid porting or polishing of intake or exhaust ports allowed.

Must use 11/32" stem. No undercut valves. No hollow valves. No titanium, no sodium.

Max valve size: gm - 1.94" intake and 1.50" exhaust, ford and chrysler - 1.94" intake and 1.60" exhaust.

Must use OE type valve spring and retainers. Max diameter 1.255" for standard spring, 1.310" for beehive spring.

Stock rollers, push rods, and valve train to be used. Guide plates on ford and gm optional.

Shafts mandatory on chrysler. No aluminum, titanium, or exotic metals allowed.

Ford may use windsor jr. 180 #053030 o stock iron heads.

***No gm camelback or angle plug heads. No aluminum heads. Gm may use engine quest CH350 C or RHS 12407 or dart iron eagle S/S165.

INTAKE MANIFOLD:

Chev engines must use edelbrock part #7101 or #7116 or gm part #12366573 or stock cast iron 2BBL intake manifold (no marine intake manifolds)

Dodge engines must use edelbrock part #7176 or mopar part #P4876335 or stock cast iron intake manifold.

Ford engines must use edelbrock part #7181 or stock cast iron intake manifold.

Manifold must remain stock and unaltered. No port matching, grinding, acid dipping, or porting.

Two adjacent intake bolts on each side of the manifold must be drilled for sealing.

No foreign materials allowed that will alter the atomization of the fuel.

OIL PAN:

Any OEM factory production oil pan permitted. No altering of stock oil pan permitted. Windage tray may be used. Oil filters must be directly attached to the block. Minimum ground clearance must be retained. OR

Aftermarket racing type kick out pan permitted. The oil pan must be wet sump type and must be manufactured using a production type pan with only a wet sump reservoir added to the bottom. All bolt holes and bolt hole flanges must be visible. Kickouts will not be permitted between the bolt on flanges and the top of the added sump. Spacers other than sealing gaskets will not be permitted between the oil pan side rails and the engine block surface. Must be made of magnetic steel only.

1 ¼ " NPT inspection hole mandatory or oil pan may be subject to removal for inspection. Inspection hole must be located so crankshaft numbers can be inspected.

Transponder Location:

168" from the front of the car. Must be mounted facing downwards.