

## V8 THUNDERSTOCK RULE BOOK | 2018

*This is a protest Division No Radios /  
Raceceivers are mandatory!*

### **SAFETY:**

Track officials may inspect any car and equipment at any time for compliance.

No radios or audible communication devices. No in-car lap timers.

No electronic enhancing devices-No traction control. No Rev limiters. No adjustable timing boxes.

All cars will have an extensive safety inspection before being allowed to race. Upon the first time, visiting track with a car that has not previously raced during current calendar year, please immediately bring car to the Tech inspection area and request an initial safety check. Please bring all required safety gear to be inspected at this time. This includes helmet, suit, gloves and any Head and Neck limiting devices.

All required safety equipment and apparel must be in use anytime car in on track and may be inspected at anytime.

**Fire suit with SFI minimum rating of "1". No holes or torn fire suits allowed. Fire resistant gloves and shoes must be worn at all times when car is on track.**

**A helmet with a minimum Snell rating of 2005 must be worn at all times when car is on track.**

A minimum four-point roll cage is required. Must be steel tubing, a minimum of 1 ½" (1.50") outside diameter with minimum of 0.095" wall thickness. No square tubing or galvanized pipe allowed. All rear and front roll cage tubes must sit on original frame. Front and rear down bars allowed. Minimum of 4 bars on driver's side. 3 bars on passenger side. No exceptions.

**It is required to have a .125" Steel plate covering driver's door bars. May bolt or weld on.**

Roll bar padding recommended around driver. All cars must have a fire extinguisher minimum 2 lbs. with a working and visible gauge securely mounted within easy reach of the driver. Complete fire suppression systems are recommended.

Window nets are required on the driver's side of the car and must be securely mounted. Window net must be operational from inside and outside of the car. Drivers must be able to exit both sides of the car.

A single quick release 4-point harness (minimum 3" belts) dated 2013 or newer is required in all vehicles. All required belts must be in use anytime the car is on the track. Racing harness must be securely attached to the roll cage.

Drive shaft must be stock steel, painted white and include the car number. Drive shaft loop will be a 5" diameter steel loop.

1" wide and ¼" thick. It must be securely mounted to the frame 12" from the front universal. Must have one on rear drive shaft.

All lead ballast must be painted with car number and secured with one ½" bolt per 50 lbs and (2) ½" bolts per 100lbs. If any weight falls off the car during competition, car is disqualified immediately, even if car still is over required weight

It is your responsibility to make sure your ballast stays in your car for everyone's safety.

Penalty weights must be painted red. If any weight falls off your car on the track at any time you are immediately disqualified from the event.

All cars must have front and rear hook ups for towing. Must be able to support car.

If it's not stated in the rules it doesn't mean, it's approved. Please consult with tech official for approval.

All tech decisions are final. The track reserves the right to add weight to any driver in the fairness of competition. You need to understand all safety requirements.

Track Management as well as the Tech official reserves the right to disqualify any car and/or driver that does not comply with all safety requirements. Competition will not and cannot come before safety.

## **CAR:**

Any 1970 or newer American made production 2 or 4 door sedan.

The minimum wheelbase allowed is 101", 1" tolerance, centerline of front wheels to centerline of rear wheels. NO TOLERANCE. Uni-body cars may be tied together.

### **Ride height will be as follows, 5" Inch minimum height at stock frame rails.**

In case a frame issue comes up from a wreck, get with tech to see how or if the chassis is capable to be put back to be legal. No chopping, shortening, or channeling. No double frame. No plating or x bracing. May replace rear frame behind spring/shock mounts on coil cars or past center of rear end on leaf springs. 2"x2" or 2"x3" allowed.

No subcompact cars. No foreign convertibles, four-wheel drive or front wheel drive cars allowed.

## **WEIGHT:**

3300 lbs. with original driver after completion. **No burn off unless notified.**

## **BODY:**

**This is a STOCK BODY Class-Must look as close to factory as possible. If it looks like a Street Stock/Hobby Stock you will be required to run with them. STOCK appearing!**

Completely stock for year make and model. No modifications or alterations of any kind unless outlined below.

Stock body panels or self-made body panels aluminum or steel only that are as close to stock appearing as possible with no sharp edges or protrusions. May be replaced with .035 (20 gauge) magnetic steel or .040 aluminum minimum. Stock OEM body parts are allowed, may be stock replacement aftermarket.

No fiberglass or aluminum hoods, must have hood pins in front, hinges or hood pins at rear. Hoods must be a minimum of .035 (20 gauge) magnetic steel and stock appearing. **No hood scoops.** No air cleaners protruding through hood. No holes in hood (Except hood pins). All hoods must be at least 46" long and 56" wide-must be stock appearing and have no downward or sloping breaks/angles towards nose piece. No wide fender flares, skirts or material. Keep it tight to fenders.

Stock steel roofs are required. No aluminum roofs. No flaring of bodies. **Doors must meet rocker panels.** Must have body lines, no flat doors. Must have stock rockers panels. Must retain door posts where front door hinges bolt.

**Side skirts may be (6) inch maximum height and run length of body from front wheel opening to rear wheel well. Rear quarters may not flare out, must not angle upward. Rear skirts must angle upwards towards deck lid. Needs to appear stock.**

Any interior part that is flammable must be removed. Must retain rear wheel wells.

Left and right passenger doors may be gutted for roll bars. All exterior trim must be removed. Inner front fender panels may be removed. Fenders may be trimmed for tire clearance.

Complete stock floor pan must be retained. No sheet metal floor pan. In case of repairing damaged, rusting or rotted floor pan you must use .035(20 gauge) or heavier of stock floor pan.

The window channel on the front doors of a sedan style body may be removed. All other window posts must remain as placed by manufacturer in original location, stock appearing okay. No side windows.

Plastic stock appearing noses only. No slope or late model style noses. Must match original body. If none available, contact tech man for options (may run metric Monte Carlo nose on Malibu, Nova or most GM products except for Camaro or Firebird. May run T-Bird or Mustang nose on any Ford Product. No sloped noses or late model style noses. **Nose 6" inch minimum from ground.**

Factory spoilers and side skirts are okay. 6" by 60" maximum after-market spoiler. No side spoilers. May run no more than (2) 1"x 1/8" forward braces.

Bumpers may be steel tubing with no sharp edges, corners, must be rounded. **(Sharp edge rule will be strictly enforced-If it will cut tires you will be parked until fixed).**

May have rub rails (one per side only) made of 1" round or square tubing, ends must be capped at a 45degree angle. Lexan style okay.

Trunk and fuel cell must be tightly sealed from the driver compartment. **Trunk must retain stock dimensions and open.**

May deck from behind driver seat to rear window. Rear spoiler, from deck height to top of spoiler must not exceed 6" at any angle.

All sheet metal, roof height, firewalls, floor pans, and body mounts must remain in stock location and dimensions.

## **CHASSIS & SUSPENSION:**

All chassis, suspension, and steering components must be stock for year, make, and model unless otherwise noted. Quick release Mandatory. Quick steer ok.

## **FRONT SUSPENSION:**

Caster and Camber may be adjusted with any length bolts. Stock unaltered lower control arms. Stock upper control arms may not be altered. Bushings may be steel, rubber or polyurethane-No monoballs or spherical bearings. Moog problem solver offset shaft is allowed on upper control arms.

Upper and Lower ball joints must bolt and/or press in stock factory mounts with no alterations.

Strut towers must remain stock and unaltered.

Sway bar may be removed. If the sway bar remains on car it must be stock mount on chassis.

May run any length front spring with a minimum diameter of 5" mounted in stock location (if stock spring diameter is less than 5" consult with tech official). Spring rubbers are ok. Front spring buckets must be Steel-Any length/Adjustable. Only one spring per wheel.

## **REAR SUSPENSION:**

**Rear springs must stay vertical, centered over rear axle tube and in stock location,** may use aftermarket perch in stock location only. Steel Non-Adjustable Any length rear buckets allowed-may use shims. Rear spring minimum diameter is 5". No chains or limiting devices.

Upper and lower trailing arms and mounting points must be stock and unaltered. Polyurethane bushings or rubber bushings permitted, No offset bushings, No Mono-balls or spherical bearings.

Leaf springs may run aftermarket shackles and may be adjustable. No composite leaf springs. No Chrysler leafs. Lowering blocks may be run-No adjustable.

Cars with factory torque arms and panhard bars must stay completely stock, mounting points must remain in stock location, non-adjustable and unaltered.

### **SHOCKS:**

ANY SHOCK ALTERED FROM ORIGINAL MANUFACTURERS SPECIFICATION OR PRODUCTION WILL BE DEEMED ILLEGAL.

50/50 or split valve stock replacement shocks in factory stock location only. Shocks must mount as manufactured, by manufacturer without alteration to any part of shock (stud to stud, T-bar to T-bar). No adjustable shocks. No aluminum shock bodies.

SIMPLE SOLUTION: BUY A SHOCK, REMOVE FROM MANUFACTURERS BOX, BOLT IT ON

Must be steel, no welding, cutting or grinding on any part of shock stem, body or mount.

Shock manufacturer and part number must be legible for shock identification.

No bump stops on shocks. No bump springs on shocks. One spring per wheel.

One shock per wheel. Shocks must be in factory stock location, bolted directly to frame or control arm with no spacers or extensions. No coil overs.

**Shock claimer rule, \$75 per shock and must forfeit own shocks. Driver claiming shock(s) must have finished on the lead lap. Claim and money must be presented to tech official within ten (10) minutes of race completion. Claimer must also bring car straight to tech after completion of race for exchange.**

### **ENGINE:**

Stock for make and model. GM350, Chrysler360, Ford351 MAX. Metric cars will be allowed 350 cubic inch engine.

Engine location in stock position for make and model in factory mounts. Engines must remain strictly stock as produced by manufacturer. No modifications of any kind unless outlined herein.

All internal components cannot exceed factory OEM specs. It is your responsibility to provide factory data to back up your specs and not the tracks. No high-performance parts of any kind unless noted otherwise herein.

**CHEVY 602 Crate Engine Approved. Must be factory sealed/Nesmith sealed. All other rules apply. Any competitor caught tampering with crate engine. 1<sup>st</sup> offence ~ two weeks' suspension, 2<sup>nd</sup> offence ~ suspended for remainder of season. Will be teched by G.M. Specifications.**

**Crate Engine Carburetor: Holley 80541HP 650 CFM -NO SPACERS-Max gasket thickness .125 total. No billet parts. Must remain within Holley specifications. No alterations. Must pass track NO/GO gauges.**

**FORD S347JR Crate Engine Approved. Must be factory sealed. All other rules apply. Any competitor caught tampering with crate engine. 1<sup>st</sup> offence ~ two weeks' suspension, 2<sup>nd</sup> offence ~ suspended for remainder of season.**

**Will be teched by FORD Specifications.**

**Crate Engine Carburetor: Holley 4412 500 2BBL with 1.125" adapter inc gaskets. No part of spacer may protrude into intake manifold.**

**No billet parts. Must remain within Holley specifications. No alterations. Must pass track NO/GO gauges.**

No electronic enhancing devices-No traction control. No Rev limiters. No adjustable timing boxes

***The Markings on the front face of the counterweight of the cast replacement 350 crankshaft have been changed over the years.***

***9-10442R and 935010R are exactly the same crankshafts. You will notice the 522 mold number and the SCAT cast on the crank.***

#### **ROTATING ASSEMBLY:**

Eagle Rods part # 5700 BPLW non-bushed or bushed. Scat Rods part # 3ICR5700 bushed or non-bushed.

Crankshaft OEM stock cast or forged. May balance on bottom of counter weights only. No grinding on any part of crankshaft. Must have a legible part number, if there is no part number it will be deemed illegal.

May use Eagle Crank part # 103503480 two piece or one piece. Scat crank shaft part # 9-10442 two piece or # 9-10526 one piece. 3.48" stroke only. 48 lb. cast crank. 51 lb. steel crank. No knife edge, may balance.

OEM 4 eyebrow flat top pistons . Stock type replacement with stock type configuration, forged pistons ok.

May run 2 eyebrow flat top pistons with 72cc combustion chamber heads.

**Piston must be stock appearing and in stock position. 3 Ring grooves, stock diameter wrist pins. Piston material must extend passed wrist pin boss. No drilling, cutting or grinding on any part of piston. No gas porting.**

Maximum overbore allowed is .060 + .010 for clearance. Piston must not protrude above cylinder deck surface.

#### **CAMSHAFT & LIFTERS:**

GM .390/.410, Ford .425/.450, Dodge .390/.420, Pontiac .388/.424 maximum lift at valve. Hydraulic only.

Camshaft may be degreed. **Hydraulic flat tappet lifters only**, No solid lifter. Must be stock OEM diameter lifters. No lash allowed.

Any 3-piece steel timing chain and gear set. Cam buttons approved. No gear drives. **No 4-7 swap camshafts.**

### **CYLINDER HEADS & VALVETRAIN:**

GM Production Heads 70cc minimum. 56cc head is acceptable for Ford Engine.

Heads must be 72cc with 2-eyebrow pistons-GM only

3 angle valve job is ok. Final cut no greater than 75 degrees.

Must use stock valve size for cylinder head used. Maximum valve size 1.94 intake 1.50 exhaust.

No 2.02 head. No Vortech. No closed chamber. No angle milling. No porting, No gasket matching.

Bronze guides okay. Stainless OEM stock replacement valves. Neck downs and swirl polished are ok.

1.270" O.D. maximum valve spring diameter. No beehive springs, No wedge or taper springs. **No dual valve springs.**

OEM replacement valve spring retainers are ok. No light weight, aluminum, or titanium.

Rocker arms 1.5 ratio stamped steel only. No other ratio, no roller tip, no roller body.

Screw in studs, guide plates, and poly locks are ok. **7/16 studs allowed.**

No stud girdle. Absolutely untouched accept for what is specified in the rules.

Lifter valley baffle and screens are okay. Push rods stock length and diameter. (7.800") **Hardened push rods approved.**

### **CARBURETOR & INTAKE**

GM factory OEM stock 2 or 4 Barrel Quadrajets (choke plate and shaft may be removed).

Or Holley 4412 500 cfm with 1.125" spacer including gaskets-no part of spacer may protrude into intake manifold. May remove choke plate and shaft, change jets, power valve and accelerator pump. Must pass track NO/Go gauge

Any air cleaner. No cold air boxes or devices to force air into carb.

Cast iron factory stock intake only. No marine or bowtie intakes. No gasket matching, grinding, or porting.

Optional on built engines. Holley 600cfm 1850 carb. May use dual feed, center hung bowl. May run secondary metering block. Must stay vacuum secondary. 1.125" Adapter allowed, including both gaskets-no part of spacer may protrude into intake manifold.

## **IGNITION:**

Battery must be self-contained and securely mounted in battery tray. 12v only. OEM points or HEI distributor only. May use billet distributor housing.

Distributor may be locked. May use curve kit. No printed circuit board modules. No Rev Limiter. May use aftermarket performance module.

Alternator is allowed.

No electronic enhancing devices-No traction control. No Rev limiters. No adjustable timing boxes

## **TRANSMISSION & DRIVETRAIN:**

May run Ford 9". May be a floater. No Aluminum hubs, rotors, calipers, center sections, tubes, housings, yokes or spools. No cambered rear ends/tubes or crowned axles. No lockers, limited slip units or torque sensing differentials. Full spool or mini-spools only-must be steel. Full spools must have and use all 10 bolts on ring gear. No lightened or polished ring/pinions.

All mounts must be in stock location. On metric chassis lower control arm mounting holes may be no further than 2.75" below rear end tube and upper mounts must be no more than 7.75" from center of rear end tube/welded seam to mounting holes. Must be same on both sides, no staggering of mounts or mounting holes. Spring perches must mount in stock location. Metric rear ends must be within 58"-60.5" and Camaro's must be within 60"-62.5" (hub face to hub face). All others must be within 1" of stock width. Pinion must be centered-no offset rear ends.

May run Stock rear end for make and model. Welded rear end is ok. Mini spool is ok. Full spool are ok.

C-clip eliminator kit is allowed. May use aftermarket OEM replacement axles.

8.5" GM 10 bolt rear ends are allowed in Metric Chassis-Must retain stock mounts.

Cast Iron Z-28 Flywheel is allowed. Minimum weight is 14lbs without bolts. No Aluminum-No Billet flywheels. May run Solid Steel Hub clutch disc-No Aluminum. Must be full circle-No Puck style.

Must have Steel bellhousing with manual transmission-No exceptions.

All transmissions must retain all original working gears in operational condition-Both forward and reverse. No lightening or altering of any part of transmission.

Cars that did not come with a standard transmission can use a hydraulic clutch pedal, slave cylinder or release bearing.

Automatic transmissions allowed. Must have full working converter. No Direct drive or couplers. No Powerglides. Must have scatter shield.



Driveshaft must be stock steel and Painted white.

### **EXHAUST:**

Stock OEM cast iron manifold or under chassis header with 3-inch collector (no Tri-Y or merge collectors.)

Mufflers allowed. Center dump manifolds ok without frame alteration.

### **FUELS:**

No additives allowed. May run Pump gas or Racing gas. No E85. No Alcohol.

No electric fuel pumps.

Must have Fuel cell must be in 18-gauge steel can and centered. Rollover valve recommended.

Must be securely mounted with at least two 2" by 1/8" steel straps over top and underneath cell.

### **BRAKES:**

Stock factory OEM 4 wheel working brakes only (caliper pistons must be the same size on each axle/end).

No brake bias devices of any kind. May remove OEM proportioning valve. Stock Brake Pedal assembly only, No aftermarket brake pedals. No aftermarket master cylinders. GM Cast iron single output master cylinder allowed, No Aluminum single output.

Rear disc brakes allowed. No aluminum, or light weight Calipers-Stock GM single piston type only. No aluminum rotor hats, steel only. No drilled, grooved or scalloped rotors, No Aluminum, Titanium or Carbon Fiber Rotors.

### **WHEELS & TIRES:**

Maximum 8" wide steel wheels. Minimum 7/16" studs with 1" steel lug nuts on all 4 wheels.

Hoosier H-500 will be allowed. Must run on all 4 corners. No mixing/matching, grooving, siping or chemically treating.

May use bead lock in any location. Wheel spacers allowed. Offset may be (2",3",4")

### **OPTIONAL:**

Pulleys, oil pan (steel only), oil pump rod, engine fasteners, any manual fan, manual fuel pump, fuel pump rod (hollow ok), valve covers, air cleaner, motor mounts (block mount, no mid mounts), distributor cap, rotor, wires.

Aluminum radiator and water pumps are ok. Water only for coolant. No electric fans.

Aftermarket power steering pump (steel only) and engine cooler are ok.

Engine must be mounted in stock location. No tolerance.

May chain, strap, or use OEM replacement urethane motor mounts.

May use stock location peg style mounts. Example ALLSTAR 38082

**ADDENDUM:**

Bubba Raceway Park will have a #50lb weight break for cars running a stock rear end.

3250lbs with stock Rear end.

3300lbs with 9" Rear end.

**DISCLAIMER:**

It is stated in the rules above what you can do to your car. Anything else will not be allowed! In other words, if it is not stated in the rules then it is not approved. Please consult tech man for certification only. If not in writing, no "he said/she said" is acceptable by management. All tech decisions are final and a disqualification means ALL money, prizes, and points are forfeited.

**No grinding or defacing of any casting numbers. Any engine parts with missing or altered casting numbers are illegal regardless of the reason.**

**Tech inspector will weigh and inspect various parts of Top finishing cars every week after heats and features. A competitor may file a protest to further inspect cars and engines.**

**Chassis Protest: Tear down and inspection of Chassis and suspension (shocks, springs and all mounting points) will be \$500(of which \$100 will go to tech inspector.)**

**Built Engine Protest: To pull a head, the protest will be \$250 (of which \$50 will go to tech inspector. To pull a engine out to check the bottom end will be \$500 (of which \$100 will go to the tech inspector).**

**Crate Engine Protest: \$150 to Pull and inspect carb, vacuum test, rate valve springs, compression test and verify seals. (Further inspection and teardown will be decided by track officials and tech inspector).**

**All Protests must be Submitted to Tech Inspector at Scale Shed within 10 minutes of completion of feature. All Protest must be submitted in writing and have the cash in hand. All Counter Protest must be submitted in writing and with cash in hand with in 10 minutes of original protest.**

**Track officials and tech inspector reserve the right to inspect and teardown any car at any time. Management is committed to maintaining a fair and even playing field for all competitors and will consistently be researching and evaluating all facets of tech inspection.**