

## 2024 Stock 4 Rules (MMSA)

### Protest:

\$400 - 2 Item (\$100 Accept)

\$600 – Bottom End (\$100 Accept)

\$1000 – Complete Engine (\$200 Accept)

A) Any two or four-door foreign or domestic car with a 94-101.5 wheelbase. Wheelbase must match the make and model of the car. A 1” tolerance will be given here.

B) Must have correct CC's/weight listed on hood with penalties added for the scale operator. If not listed correctly you could be disqualified.

C) You may run a complete aluminum body but must meet the body regulations. (See Body Measurements). Max body width of 68” at any point.

D) Aftermarket nose piece OK. No wider than 1 inch outside of tires. Front fenders must be made of steel or aluminum. (NO MD 3 STYLE NOSES ALLOWED WITH MOLDED FENDERS, ELEPHANT EARS OR WINGS) (NO PLASTIC FENDERS)

E) May run a composite late model roof. The minimum measurements for the roof whether it is a composite or aluminum fabricated roof is 42” wide and 44” long.

F) Interior panels may be removed.

G) NO FWD or MID Engine Cars

H) Must have the factory firewall in the stock location. From the original master cylinder hole and up can be replaced with aluminum, but there can't be any holes in the aluminum. Holes in the firewall need to be covered over, especially in front of the driver's area.

I) Must have a full factory floor pan on both sides to the rear of the front seats. Repairs to the floorplan are allowed but you must use a minimum of 16 gauge steel for the repairs.

J) Must have a rear firewall or drivers compartment must be boxed in completely.

K) May run a 6” tall rear spoiler. It can't be any wider than the rear quarter panels of the car.

L) Interior spoiler can't be any taller than 4” or taller than the dash of the car. Can't extend past the driver seat.

M) Rear bumpers must NOT extend past the inside of the rear tires unless it has a bumper cover or turns forward (if turned forward must be on a 90° angle NO SHARP CORNERS / EDGES)

N) 38-inch maximum ground to the deck (bottom of the spoiler). A 1” tolerance will be given here.

O) Optional: The rear of the car can remain open. Aluminum is ok to close the rear of the car.

P) May use Lexan in the rear window. If running Lexan in one side must-have in both side windows.

Q) Must start the race with a hood.

R) Breather may stick through the hood. Hole in the hood should be no less than the diameter of the breather.

S) No Cold Air boxes allowed.

T) May have a heat shield under the hood over the header only. No longer than the length of the head.

U) May have a hole in the firewall big enough for the header to pass through. (tech discretion if the hole is too big).

V) No additional side spoilers can be added to the side of the roof. \*\* Acceptable body infractions will result up to a 50lb weight penalty in the area of the infraction\*\*

\*\* All body infractions are not acceptable (tech man discretion)\*\*

#### **Chassis / Suspension:**

A) All chassis /suspension components must be either OEM or OEM replacement and to be UNALTERED unless specified throughout the following rules. Factory strut/shock towers should be utilized on the chassis unless otherwise covered in these rules. Repairs will be allowed if needed but must remain in the stock location.

B) Must have a roll cage and all safety equipment.

C) Roll cage must be secured to the unibody.

D) NO Tube Chassis Allowed.

E) May tie chassis together by splitting floor pan and put square/round tubing in from the top and may stick through the floor pan BUT NOT completely underneath. NO "X" Bracing Under Floor Pan.

F) Square/round roll cage tubing from the strut towers forward is acceptable.

G) May use square/round tubing or roll cage material from the back of shock mounts to the rear of the car. Must be straight, no angling of material.

H) All A-frame, control arms, trailing arms, and leaf spring mounts must be stock and mounted in the STOCK location (may cut upper or lower A-frame for caster/camber adjustments). May drill holes in the front lower control arms to help keep mud out. Max of 4 holes no larger than 1/2" each.

I) May take the spindle and machine it to fit a later model strut. All machining and or shims must be parallel. No angle milling/grinding to enhance performance.

J) May cut the top trailing arms or drill a new set of holes in them to set the pinion

angle.

K) May have a spring locator/bucket on the lower control arm to keep spring in the stock location.

L) Lowering blocks ok.

M) Leaf spring cars may lengthen rear shackles.

N) Caster / Camber plates ok.

O) Adjustable buckets or Jacking Bolts are ok but MUST remain in the STOCK location (Buckets or Jack Bolts may be raised for spring travel). If not in the STOCK location you may be subject to a weight penalty. Buckets or Jack Bolt Must Be in Fixed Location. (Tech Mans Discretion) (May select a random car to measure by for comparison).

P) May cut pan hard bar must be NON STABLE. If you replace the ends with Heims you must weld it to the bar so that it is not adjustable. Must be located in the STOCK location.

Q) Mono Balls Allowed.

R) Stock Mounted body shocks may have heims (bottom only) shocks may be adjustable. NO CANISTER-STYLE SHOCKS ARE ALLOWED.

S) May adjust shocks for travel but not change the angle of the shock (not mounted to roll cage) (No adjustable bracket).

T) Offset in steering rack ok.

U) Bump steer Not Allowed (NO heims or shims/ spacers).

V) Max height for coil springs is 13 inches

\*\* If any suspension component is not in the STOCK location you will be subject to a weight penalty.\*\*

\*\* **ENGINE: ALL Engine Core Parts** (ex: Block, Head, Crankshaft, and Intake) Must Have Been Available on Cars or Trucks Sold to the General Public in the United States of America by Mass Production. All Parts Must Be OEM of the Same Brand Vehicle You Are Racing. ALL PARTS MUST HAVE COME ON VEHICLES SOLD IN THE UNITED STATES OF AMERICA.\*\*

\*\* All engine parts are to remain STOCK or STOCK REPLACEMENT unless they are covered in the sections below.\*\*

\*\*MARINE, INDUSTRIAL, OR SPECIAL PRODUCTION PARTS NOT PERMITTED.\*\*

A) Stock engine location. No altering of the firewall to set the engine back

B) No engines with more than 2 valves per cylinder.

C) Ford in a Ford: Toyota in a Toyota.

D) No rotary, turbo, or double overhead cam engines permitted.

E) Cannot mix and match different engine combos to come up with an oddball size

engine. The engine must stay the basic bore and stroke combo that it was when it was produced by the manufacturer.

F) OEM blocks only .080 overbore max (other than what is listed below). 5 c.c. tolerance will be given for wear. No engine can exceed 2500 c.c.'s + .080" overbore. \*\*Toyota 1600 and 1800s may bore to .120" overbore. \*\* \*\*Ford 2300 may only bore to .060" overbore.\*\*

G) Ford may Sleeve a 2300 c.c. block down to 2000 c.c.'s.

H) Aluminum adjustable cam gear and pulley allowed.

I) Any steel connecting rod, no aluminum, titanium, or carbon fiber.

J) NO titanium wrist pins.

K) Only Babbitt style bearings allowed (No roller bearings) coated ok.

L) Stock crankshaft with stock stroke only,  $\pm .010$ " tolerance allowed.

M) Crankshaft rod journals may not be ground any smaller than 1.771". Will allow .010" to repair crankshaft if needed.

N) NO AFTERMARKET CRANKS. (Stock lightened crank must add 50lbs in front of the firewall).

O) All engines must use an in-block wet sump oil system.

P) Racing oil pans permitted.

Q) NO dry sumps allowed.

R) Any flat top piston – Toyota 1600 and 1800 may run dome heights of .235" tall only.

S) Formula for cc's ( bore X bore X .7854 X stroke X 4 = cid then divide cid into .061= cc's).

T) May run evac to header system only. NO VACUUM PUMPS.

U) May run an electric water pump.

V) May run an electric fuel pump.

W) Ignition – stock or Mel's Ignition ONLY (NO BOOSTERS on Ignition). (No Traction control allowed)(NO ECU Units) (NO MSD Style)(NO MSD Style Ignition Boxes)

X) Single Ignition coil Only.

Y) Radiator must be mounted in front of the engine.

### **Heads:**

A) OEM heads may be changed from one size engine to another without any modification.

B) It may have a competition valve job with any angle or depth but it must not touch the bottom of the valve boss.

C) All angles MUST be concentric with the valve guide.

D) Any steel valve stock diameter may be undercut stem, + .009 tolerance on the valve.

E) Valve stem must be stock diameter for year model of the head. (No 7mm valve stem in a Ford)

F) Double valve springs ok but must be steel.

G) Beehive valve springs ok but must be steel.

H) Any steel retainer.

I) Lifter has to be the stock diameter. Solid lifters are allowed.

J) NO PORTING or POLISHING.

K) NO "M13" head allowed.

**Intake:**

A) OEM intake only but may change from one size engine to another without modification unless stated.

B) Ford must run D4, D9, or E1 style intake. Anything other than listed must be approved by MMSA/ Track Tech.

C) No fuel injection manifolds

D) Must be a single carburetor intake.

E) No side draft intakes.

F) OEM style gasket only. (.07 max thickness)

G) May modify for carburetor but must be approved before the race by MMSA tech.

H) May bore straight down for clearance. NO TAPERING, NO RADIUS, OR BLENDING.

I) Stock or Stock Replacement intake gasket only.

**Carburetor:**

A) Stock carburetor or Holley 350 cfm (#7448 or 0-80787-1) or Holley 500 cfm #4412 must pass no-go gauges.

B) Must have an air horn with the number.

C) Float bowl must face forward.

D) May cut the end of screws and have holes in butterflies.

E) No thinning of shafts.

F) No polishing or grinding.

G) Spacer and adapter – any 1” max thickness total – NO TOLERANCE. The spacer cannot protrude into the intake. 2 gaskets @ .070 thickness maximum each.

H) May run billet metering block.

I) No interchanging of parts from a 350 carb to a 500 carb, or vice versa.

#### **Camshaft:**

A) Solid or Hydraulic, NO ROLLERS

B) Maximum .425” lift at valve with .025” lash at valve for solid lift cams.

C) Hydraulic .500” max lift checked at zero lash.

D) Hydraulic lifters must collapse or be taken apart for inspection. Must be a fully functional lifter as designed by the O.E. manufacturer.

E) No swapping of any lobes – must be in stock order

F) No roller or needle bearings allowed. Stock type only, coated bearings are allowed.

#### **Flywheel & Clutch Assembly:**

A) Racing clutch and flywheel assemblies allowed (Goldstar, Quartermaster, 10,000 rpm...).

B) NO Ram Coupler or any other direct-drive units.

C) Stock flywheel 11lbs minimum allowed. No weight break for running a stock setup.

D) Must use stock or stock replacement clutch and pressure plate if using a stock flywheel.

E) NO LIGHTENING OF STOCK PRESSURE PLATE only grinding, adding weight, or drilled holes to pressure plate for balancing are allowed. Drilled hole size is 7/16 diameter max (NOT all around the pressure plate). If there are holes all around the pressure plate it WILL be considered lightened.

F) Studs for pressure plate allowed (must be a purchased stud, no custom machined studs allowed)

G) Cannot relocate pressure plate bolt hole pattern

**Transmission:**

A) MUST BE STOCK with all working forward and reverse gears.

B) Cannot remove or lighten drive or reverse gears.

C) May remove speedometer gear only.

D) No polishing or coating.

**Driveshaft:**

A) Minimum of 1 1/2" diameter

B) Must be steel

C) Must be painted white.

**Header: NO TRI-Y HEADER OR MERGE STYLE COLLECTOR WILL BE ALLOWED.**

A) Fords may run a spec Schoenfeld # f-234v or # f-235v.

B) Toyotas may run a spec Schoenfeld # t-168 or stock manifold.

C) These headers are the only ones allowed in the MMSA. If you have something different you will be subject to change or may be required to carry a weight penalty depending on the type of header you have.

D) Header may be coated or wrapped but must remain as it came from Schoenfeld. (If wrapped you may be subject to unwrap for inspection).

E) Nothing should protrude into the collector if so it WILL be subject to a Disqualification.

F) OEM style gasket, factory replacement gasket, or one from Schoenfeld will be allowed.

G) If Schoenfeld doesn't offer a header then a Stock Manifold MUST be used. No homemade headers.

**Brake System:**

- A) 4 Wheel disk brakes permitted but must have OEM calipers for the vehicle.
- B) Dual master cylinder permitted.
- C) 3 Wheel brake shut off permitted.
- D) No adjuster for brake bias within reach of the driver.
- E) Stock rotors and drums only. No cutting fins off of drums. No drilling of holes in rotors.
- F) May remove caliper and rotor on RF Only. No other machining is allowed.

**Wheels & Tires:**

- A) Wheels must be Steel 8" maximum width.
- B) May use bead locks on all 4 wheels (bead lock must face outward).
- C) Hoosier 1600 or American Racer 57 8" tires allowed.
- D) No chemicals allowed (see protest).
- E) Must meet the Hoosier or American Racer benchmark at an independent lab.
- F) Grooving, Sipping, and Needling allowed.

**Rear ends:**

- A) Any Stock rear end up to 8.8" gear for the make of car.
- B) Axles, Stock or Stock Replacement permitted (may weigh to compare if necessary)
- C) No gun drilled axles.
- D) No full spools.
- E) Mini Spool allowed but MUST be steel.
- F) May lock rear end by welding, mini spool, or limited-slip (limited-slip unit must be stock, NO aftermarket units).



G) No ratcheting spools allowed.

H) May run cut gear.

**Fuel:**

The Official Fuel of the MMSA is VP RACING FUEL: VP110

Fuel is to be NON OXYGENATED

No Additives are allowed

Buying fuel from the track is allowed but MUST inform Tech that fuel was purchased from the track for it to be checked properly.

It is highly recommended to purchase fuel from the series, either by the drum or by the gallon from the series trailer.

**C.C.'s/Weights and Penalties:**

Vehicle weight must be listed on each side of the front fenders or hood. All penalties should be told to tech at pre-race inspection for documentation. If not listed or documented Cherokee Speedway has the right to DQ after qualifying or the main event. Vehicle weights are calculated as 1lb per c.c. unless stated below.

A) Toyota 2tc & 3tc must weigh a minimum of 2000 lbs. B) Ford 2000 must weigh a minimum of 2150 lbs.

C) Ford 2300 must weigh a minimum of 2300 lbs.

D) Lightened crankshafts MUST add 50 lbs. and the weight must be mounted in front of the firewall.

**\*NO BURN OFF AFTER THE RACE\***