



# TWIN STATE SPEEDWAY'S 2012 LIMITED SPORTSMAN CRATE ENGINE POLICY

**TSS RESERVES THE RIGHT TO MODIFY OR ADJUST THIS POLICY AS T.S.S. FEELS A NEED TO.**

1. T.S.S. strongly recommends all competitors to buy their engines from R.P.M. @ 1-802-524-7406 or Butler McMaster @ 1-207-623-8895. This will save a lot of time and the cost of inspections and sealing. **T.S.S may take your engine at any time to be evaluated at any time.**
2. If you buy your engine at a G.M. dealer, do not open the crate T.S.S. will seal it for a fee. If the crate is opened you must have the engine inspected by one of T.S.S.'s approved engine rebuilders/repairers. There will be a charge for this. Any engine that is used and does not have approved seals on it must be inspected at one of T.S.S. approved engine repairer/rebuilders.
3. **The only crate engines allowed in the Limited Sportsman at T.S.S. is the G.M. Part # 88958602 and the G.M. part #1925-8602. {second generation 602} The #88958602 must use an R.P.M. #1500 restrictor plate. The #19258602 second generation engine must use a R.P.M. #1435. No modifications to these restrictor plates allowed. One 0.075 thick gasket allowed on the top and bottom of these restrictor plates. These restrictor plates will be monitored and may be changed.**
4. This engine must be used as manufactured by G.M. except for the distributor modifications listed below.
5. The only allowable modifications to this engine is, the replacement of the vacuum advance can with a plastic vacuum can eliminator and machine work to the distributor shaft for oil control. Do not do any modifications to this engine. If any modifications are discovered at any time, by T.S.S. or any approved engine servicer the minimum penalty is listed in rule #10 below.
6. The only carburetor allowed is, the Holley #4412- 2 –barrel. All carburetors must fit T.S.S. gauges **and pass all pin and visual checks that T.S.S. does.** The choke may be removed and the jets and power valve changed.
7. Any work that requires breaking any engine seal, T.S.S., RPM, or Butler McMaster, must be done by one of the approved engine servicer. If you take your engine any where else or cut your seal or remove the G.M. seals your engine must be disassembled by one of T.S.S. approved engine servicer for inspection and correct anything that is found out of spec. and resealed before the engine is allowed to compete at T.S.S. The engine servicer will decide if the engine needs to be run on the dyno.
8. All rebuilding of the engine must be done by one of T.S.S. approved engine rebuilders or under the guidance of T.S.S.
9. Any engine that is found out of spec. the owner and driver will loose all money and points for the race meet that the violation is discovered in will be taken away, all previously accumulated points will be taken away and a maximum \$1000.00 fine. The driver of the car will start at the rear of the qualifiers and features for a minimum of three race meets.
10. All fines must be paid to T.S.S in full before the driver, owner, car or engine is eligible to compete.
11. The engine must be repaired at one of T.S.S. approved builders before the engine is eligible for competition.
12. The owner of any engine that fails any dyno and/or physical checks/test that T.S.S does or has done, the owner will pay all the fees that are incurred. The engine will be left at the approved engine builders. The engine must be repaired and resealed at the owner's expense. If the engine being checked passes all checks and inspections, the speedway will pay all fees.
13. All engines that are taken that pass all checks will be returned no later than four days from the day the engine is taken.



2012 TWIN STATE

SPEEDWAY

## LIMITED SPORTSMAN RULES

### These rules are to be used as a guide:

The Limited Sportsman division is an affordable division for individuals to get started in auto racing with a v-eight engine in a full framed car or truck with limited modifications. T.S.S. management reserves the right to add or remove weight as T.S.S. management feels needed to keep the level of competition as equal as possible. Management reserves the right to determine the eligibility of all drivers and individuals who compete in a racing event.

No driver can compete in the Limited Sportsman division at T.S.S that has any accumulated points in any division above the strictly stocks without T.S.S management approval. T.S.S reserves the right to modify or change these rules to keep the level of competition equal and even.

Since it would be nearly impossible and impractical to list within the rules all the modifications, adaptations, or infractions, it will be understood that: If it is not covered in the list of these rules it will be considered illegal. In addition, Twin State Speedway reserves the right to fine, suspend, with hold money and/or points from anyone who is out of the line of these, or any rule infractions. T.S.S. reserves the right to modify, delete, amend, or update these rules as need be.

### TIGER SPORTSMAN:

The Tiger Sportsman division cars are allowed to compete at T.S.S. under the Tiger Sportsman Rules as printed. The only modifications to the rules will be the tires. {See Tires and Wheels below}

### TRUCKS:

1. Twin State Speedway will allow G.M. full frame pickup trucks. Anyone that will be building a truck must work closely with TSS officials throughout the project / year. All frame, suspension, engine, transmission and rear end rules are the same for trucks and cars. Anyone that is building a truck must put the body on the G.M. 108.1 wheel base metric frame.

### WEIGHT:

All cars and trucks including the Tiger Sportsman must weigh a minimum of 3100 pounds and have a **maximum of 55%** on the left side. Any add on weight must be bolted with a minimum of two ½” grade five bolts for each piece of add on weight. **All add on weight must be in front of the rear axel center line and behind the front wheels center line. All add on weight must be either on top of or inside of the frame rails.** The driver must be in race ready position when cars are weighed. Weight may be added after a driver wins three features.

### FIRE WALLS – INTERIOR SHEETMETAL:

1. The front firewall must be full width from left side of the body to the right side of the body, and be sealed at the bottom of the windshield and completely seal off the engine compartment.
2. The rear firewall must be full width behind the driver’s seat from the left side of the body to the right side of the body and completely seal off the trunk area from the driver.
3. The Floor pan must be full width from the left side of the body to the right side of the body.
4. The transmission and driveshaft tunnel may be raised a maximum of nine inches from the top of the floor pan.
5. The sheet metal behind the driver must be full width from the left side of the body to the right side of the body.
6. All interior sheet metal must be magnetic steel and a minimum of 24 gauge.

### BODY:

After market O.E.M stock appearing bodies allowed. The roof, hood and rear filler panel in front of the trunk lid may be fiberglass. The fenders, doors and rear quarters may be either, plastic, steel or aluminum. The front and rear bumper covers must be plastic unless you use the O.E.M. bumpers. If you use the O.E.M. bumpers you must cap the ends and attach the end caps to the body. **All bodies must be G.M.** No Camaro, Firebird, Mustangs, two passenger sports cars, convertibles, or station wagons allowed.

1. The metal bracing in the roof and roof posts {front and back} must be removed on O.E.M. stock bodies.
2. **All cars must have a lexan or screen windshield. Clear lexan rear side windows allowed. No other windows allowed.**
3. Rear spoilers may be used. All spoilers must be clear lexan and no taller than eight inches. The spoiler may only be as wide as the width of the body where mounted. {as far back as possible on the trunk} No side braces or side boxing. All braces must be on the rear of the spoiler. No lips or angles on the top of the spoiler. The maximum distance from the top of the spoiler to the ground will be 43"
4. Bumpers and bumper brackets may be fabricated. **All bumpers must use shear pins when mounting.** All ends of bumpers must be capped, rounded and ground.
5. Aftermarket single pass aluminum radiator allowed.
6. No holes in the hood.
7. No cars will be allowed to compete with excessive sheet metal damage. All cars that receive body damage must be in a presentable appearance the next race meet. **The roof height will be a minimum of 51" measured 10" back from center of the top of the windshield.**
8. The battery may be in the trunk area between the frame rails.
9. The only rub rails allowed are the Five Star #000-2100 or a similar polycarbonate. These rails must be attached directly to the side of the body with rivets or carriage bolts.

### ROLL CAGE:

All cars and trucks must use a minimum of 1 3/4" O.D. x .090 tubing. Four horizontal bars are mandatory on the driver's side door, three on the passenger's side. No x roll bars allowed on the right side. Roll cage must be welded securely to the frame in at least 8 places in the driver's compartment.

### CHASSIS:

1. **The aftermarket frame is being researched for 2013. More information will be available as researched is done. The frame will use most all of the O.E.M. bolt on components.**
2. The only frame allowed is the G.M. 108.1 wheel base metric frame. The wheel base must be 108.1.
3. Frames must be O.E.M. stock from the **front of the steering box and idler arm mounting location** to the center of the rear end tube. The rear frame and front horns may be fabricated in front of the steering box and idler arm and from the center of the rear end tube back. The minimum size of tubing for this repair is 2" x 3" steel box tubing. **The center channels may be boxed or replaced with 2"x4" box tubing. The frame must be the correct wheel base when doing this.**
4. All suspension brackets and suspension bolt on parts must be in O.E.M. stock location on the frame.
5. **The transmission cross member may be fabricated.**
6. Minimum 6" ride height.
7. Springs may be O.E.M or aftermarket. The smallest O.D. allowed will be 5". Adjustable spring cup's allowed in the front and rear. Springs and shocks must be in O.E.M. stock location. Rear jack bolts and spring buckets allowed in the rear spring pockets.
8. All shocks must be either an o.e.m. parts store replacement shock for the frame used or Pro Shocks. The only Pro Shocks allowed is SS100A for the fronts and SS201A for the rear. All shocks must be mounted in o.e.m. stock location. A **\$75.00** max for any shock.
10. No rear sway bars allowed. Front sway bars must be O.E.M. stock G.M. **The maximum O.D. of the sway bar is 1-1/2"** The sway bar must be mounted in O.E.M. stock location under the frame and on top of the lower with O.E.M. mounting links.
9. Tubular upper a-frames may be used. All A-frames must bolt directly to the O.E.M. mounting perch with NO modifications to the O.E.M. perch. All upper and lower ball joints must be O.E.M. stock or O.E.M. auto parts store bolt in replacement. No extended ball joint pins. The only allowable adjustment allowed with any a-arm is with standard front end shims or flat washers.
10. The lower a-frames and lower rear trailing arms must be O.E.M. for the frame and mounted in the correct O.E.M. location on the frame. No modifications to these pieces to change their dimensions. **The draglink - center link and inner tie rod ends must be O.E.M. for the frame. The tie rod sleeve may be aftermarket. The outer tie rod end may be an aftermarket tie rod end or a heim joint.**
11. **The upper trailing arms must be O.E.M. for the frame. These may be shortened to acquire pinion angle.**
12. The lower ball joints must be O.E.M. stock or parts store replacement parts for frame. No extended ball joint pins.
13. Spindles must be O.E.M. stock metric or Camaro.
14. Suspension bushings must be O.E.M. appearing.

### WHEELS – TIRES - BRAKES:

1. Maximum 8" steel wheels, with a maximum of 3" offset only. All wheels must be 14" or 15" All lug nuts must be 1" min. O.D. All wheel studs must extend beyond the nuts.
2. All tires must be D.O.T radial highway tires. The only tire sizes allowed are: 65, 70, and 75.

3. The minimum tire tread wear is 200.
4. Aftermarket pedals allowed.
5. All brake calipers must be O.E.M. G.M. cast iron single piston and un-modified.
- 6. The rear brake caliper brackets may be fabricated.**
- 7. All cars and trucks must have four working brakes.**
- 8. The minimum rotor thickness on the rear is 1”.**

**ENGINE / DRIVETRAIN / EXHAUST:**

1. The maximum overbore allowed is .040 on all home built engines.
2. All pistons must be flat top cast 4 eyebrow or cast dish pistons. **No machining to the top of the piston.** No portion of the piston will protrude above the Block deck.
3. All 350 c.i. built engines must use 76 cc cylinder heads. See head rules listed in the rules listed below.
4. Motor mounts must be in O.E.M. location. No motor plates or mid engine plates.
5. Blocks must be O.E.M. stock for make of car used.
6. All engines must use a 4412 Holley 2 barrel carb. **All carburetors must fit T.S.S. gauges and pass all pin and visual checks that T.S.S. does.** The choke may be removed and the jets and power valve may be changed.
7. All home built engines must use the O.E.M. stock aluminum four barrel manifold that comes on a 305 C.I. car engine. All intakes must have the O.E.M two bolt EGR valve blocked off. No drilling or grinding of the intake bolt holes. All home built engines must use a Mr. Gasket adaptor plate #1929 or a Trans Dapt #2087. No modifications to these adaptors.
8. Exhaust manifolds must be cast iron O.E.M. No H.O. or performance manifolds. No center dumps. No alterations allowed to any exhaust manifolds.
9. Glass Pack mufflers mandatory. All cars must have two un-modified mufflers. No resonators for mufflers.
10. All exhaust pipes must exit in front of the right rear tire under the rocker panel and be flush with the rocker panel or exit beyond the driver under the car and have turn downs facing downward to the racing surface.
11. All exhaust pipes must be no larger than 2 1/2”. No balance tubes.
12. Conventional hydraulic cam and lifters only. No roller, mushroom, or flat top cams or lifters allowed. All cams must be a conventional hydraulic and will be measured at the cam and valve. The maximum valve lift will be as listed below

<u>MAKE</u>	<u>INTAKE</u>	<u>EXHAUST</u>
CHEVROLET	0.390	0.410
FORD T.B.A.	.00000	.00000
CHRYSLER	.00000	.00000
AMC	.00000	.00000

13. Crankshaft must be correct dimensions for the block used. O.E.M. stock production crankshafts or scat replacement cast steel 9000 series # 9-10526 or # 9-10442 only. (Normal balancing allowed). No grinding, lightening or polishing of any surface.
14. Lifters must be O.E.M. stock hydraulic. No roller lifters. O.E.M. stock stamped steel rocker arms 1.50 ratio for Chevy.
15. The timing chain must be O.E.M. or parts store replacement double roller
16. Fuel pump must bolt in O.E.M position.
17. Air filter housing must be metal. No parts to increase the airflow.
18. Valve covers may be aftermarket. No composite valve covers.
19. Fuel cell must be installed in the trunk compartment. The fuel cell top must be mounted securely by four 1 1/2" wide metal straps, with two going in each direction. The bottom of the fuel cell will be no lower than 11" from the ground. The fuel cell must be centered between the rear frame rails. There must be a metal frame under the fuel cell with a minimum of three one inch x one inch magnetic steel box tubing pieces.
20. Replacement cast HEI distributors allowed. All internal parts must be equivalent to the O.E.M. parts in O.E.M distributors. **NO PERFORMANCE IGNITIONS.** No after-market electronics or high performance coils. No welding the advance mechanism. The vacuum can, can be removed
21. All rear ends must be locked. Spider gears must be welded or use a spool. After-market axles allowed. **All rear ends must be correct for the frame used except for the Ford 9” option. Lower trailing mounts may be modified or fabricated. Anyone that wishes to use a 9” Ford rear end in 2012 should contact tech.**

22. Automatic transmissions allowed. Transmission and torque converter must be O.E.M. stock. Twelve inch minimum torque converter must be used. All gears must work. The converter must be used to make the transmission work. The torque converter must have oil in it. No external pumps. Cooler is highly recommended. **There will be a minimum of a 50 lb. weight penalty in 2013 for an automatic.**

#### **CLUTCH / STANDARD TRANSMISSION:**

1. The total weight for clutch disc, pressure plate and flywheel will be a minimum of 30 lbs. The minimum dimension for clutch disc and pressure plate is 10.4". Clutch, pressure plate and flywheel must be OEM stock or OEM stock replacement for original manufacturer GM for Chevrolet. No aluminum, lighting, turning or drilling allowed. No multi-disc clutches allowed. Solid center clutch disks are allowed. The late model crate engine will use flywheel part #14088646 or a magnetic steel replacement. Wt. must be equivalent.
2. All standard transmissions must be O.E.M. stock production three speed cast iron stock for engine used. All gears must work. No lightning of any internal transmission parts. No modifications. **This transmission rule will be looked at for 2013**

#### **76CC HEAD RULE/ HOME BUILT ENGINES:**

1. Casting numbers must document that casting used is a minimum of 76cc's with an intake valves not larger than 1.940, and exhaust valves no larger than 1.500. The only modifications allowed to the castings to make the minimum acceptable cc's is milling the head gasket surface.
2. The only aftermarket head allowed is the World Products Inc. part #43600. The only modifications allowed to this heads is the machining the head gasket surface.
3. All heads may be milled to a minimum of 70 cc's., machined for screw in studs and guide plates. NO GRINDING, DRILLING, DIPPING, ACIDING, HAMMERING, PEANING, HONING, sandblasting, SALTING OR anything else that you can think of .These heads will be checked and confiscated if a second opinion is needed
4. Stock OEM replacement cast or bronze valve guides allowed. Must be left at correct height in the ports, and angle for casting used.
5. Any valve seals allowed.
6. The maximum valve springs o.d. is 1.250". The largest intake valve allowed is 1.940". The largest exhaust valve allowed is 1.50". No titanium or aluminum allowed anywhere on the heads. No cut back angels on valves. All valves must be either O.E.M or stainless o.e.m. dimension valves for engine used. One angle on the valve, and one angle allowed on valve seat. All valve spring retainers must be magnetic steel. 10-4-11 GB-DF