

## **MODIFIED RULES**

2/02/2020

**Cars must be 5 years pre-raced**

### **ROLL CAGES**

1. Main cage must consist of continuous hoops, minimum of 1.666 O.D. tubing, with a minimum wall thickness of .095, must be frame mounted in at least 6 places. A low carbon or mild steel tubing is recommended. Other materials are subject to approval by Tomah-Sparta Speedway. No pipe or square tubing allowed. No brazing or soldering allowed.
2. Must consist of a configuration of front, rear and top hoops connected by tubing on sides or side hoops. Driver's head must not protrude above cage with helmet on and strapped in drivers seat. Roll cages must be securely supported and braced. Foot protection bar is required. A safety vent bar is mandatory on every car. It must run from top door bar to A pillar bar. A door plate is also mandatory on every car. Door plate must be minimum 18 gauge steel, must be attached to the outside of the door bars and must go from top door bar to bottom door bar. Door plate must also run from back of driver's seat to at least five inches in front of driver's seat. Door plate can be welded or bolted to the outside of the door bars.
3. Door bars must be a minimum O.D. of 1.500 inches and a wall thickness of at least .095, a fourth door bar is highly recommended. Side bars must be as parallel with the ground as possible, and located perpendicular to the driver so as to provide maximum protection for the driver, but without causing undue difficulty in getting into or out of the vehicle. Side bars must be welded to the front and rear of the roll cage members and must be attached to the frame in at least 4 places. No brazing or soldering allowed.
4. Low-carbon mild steel tubing is recommended. Other materials are subject to prior approval. No iron pipe or square tubing allowed. No brazing or soldering allowed.
5. Bumpers must be used both front and rear. Front bumper 44" maximum width, using two parallel bars spaced no less than five (5) inches apart and a maximum of eight (8) inches apart; both bars must be completely even with each other. There may not be any square edges; all corners must be round. Front surface may be flat, NO excessive metal. Pipe must be of at least 1 1/4-inch metal and must be able to support a lift by the wrecker. No body part can extend past front bumper. Front nose piece can be plastic but no lexan.
6. Rear bumpers and bars must not extend beyond width of rear tires.
7. Rear bumpers may be constructed of pipe or flat stock, but must not have any sharp edges. No excessive metal.
8. Side rub rails must be securely fastened, consisting of one or two (if desired) parallel bars. If two bars are used, they must be connected and all corners must be rounded. No sharp edges. No excessive metal.
9. Rear bumper tubing must make a complete loop back to the frame. Bumper may be cut off a maximum of two (2) inches outside the frame rails.

### **BODIES**

1. Any modified body or used late model body with no rear tails engine side must remain open. May utilize a flat half-windshield, with no wings, mounted to the roll cage. Must have a minimum of three (3) windshield bars in front of driver.
2. Firewall and floorboard are mandatory. Fiberglass or metal duplicates of body parts are permitted. Handmade body parts may be constructed of steel, aluminum, or fiberglass. No plastic body parts allowed except for nosepiece, door runner and quarter panel runner. Body must be the same width front to rear, and parallel to the frame.
3. Original roof line/rake must be maintained (see body diagram in Modified section of rule book). Full size roof only, may be made from fiberglass, steel or aluminum. Must have front windshield and rear window support posts. **NO SAIL PANELS OR ROOF WINGS.** May use a 5 inch spoiler on the rear of the deck. No other spoilers, wings or ground effects are allowed anywhere outside or inside the car. Minimum side window openings is 12 inches measured at the lowest point at the top of the window, whether roof or roll cage, to highest point at bottom of window, whether interior or body.
4. Engine compartment will remain open (no side panels). No panel in front of right door to engine compartment, no inner panels. Hood sides may have no more than a 4 inch drop. Hood must be enclosed at the rear, maximum hood scoop height is 6 inches. Door panels can be a maximum of 30 inches from top to bottom including plastic runner at bottom of door. Front doors must stop in a vertical line at or behind engine block. Rear of body must have a solid panels the width of the body and extending straight down. Panel must be a minimum of 8 inches high and include car number; it is recommended you paint it a bright color.
5. Driver- and passenger-side windows must have at least 12-inch vertical opening.
6. No car covers or covers on suspension parts. Boot covers will be allowed on shock rods only.
7. Must have full-length floor pan under driver (20-gauge minimum thickness steel or .125 aluminum).
8. Must have minimum 2" clearance of body around circumference of all tires when car is sitting static at ride height with driver in seat.
9. Front roof post can be maximum 8" at bottom to 4" on top.
10. No full bodied cars (radiator must be behind the front crossmember).

#### **CHASSIS/WHEELBASE**

1. Factory production complete full 1960 or newer parallel American passenger car frames only. Frames may be cut in rear only at point no further than 36 inches from center of rear-end housing. No front clips or tube-type allowed.
2. Frames may not be widened or narrowed and must be able to support roll cage on both sides. Must be full and complete both sides. Front cross member must remain intact where joined at the frame rails; center of cross member may be notched for radiator and/or steering clearance only. Frame may be notched for tie rod clearance. Top of frame may be notched for A-frame clearance. Minimum frame and body height from ground is four (4) inches (exception is front cross member).
3. No Jeep, Bronco, etc. or four-wheel-drive frames allowed. No sports car frames allowed. No front-wheel-drive allowed.
4. No raising, altering or twisting of frame rails is allowed. No moving of lower front suspension mounts/holes. No intermingling of frame pieces. Minimum 4" ride height.
5. Minimum weight 2600 lbs

6. Maximum weight 2800 lbs

## **SUSPENSION**

1. Front suspension. Any production spindle ( may be modified) Any steering box allow no rack and pinion steering.
2. Rear of frame may be altered to accept leaf or coil springs. Steel springs only. No torsion bars allowed in rear.
3. No, hydraulic, ratchet or electric weight jacks anywhere in or on car. No air shocks or air bags allowed.
4. One shock per wheel only, maximum \$140.00 per shock, non-rebuildable
5. Minimum wheelbase 107 inches maximum 116 inches (no tolerance) both sides. Maximum overall width (front or rear) shall not exceed 65 ½ track width..
6. Steel swedge tubes with steel heim joints are allowed.
7. Three link suspension rule: Birdcages must be locked or welded to housing, unable to move. Bottom links must be 14 inches minimum length, two inch maximum length difference between left- and right sidebars. Bar angle must be visually parallel side-to-side with a five degree tolerance up and down. Bars must be mounted off the center of axle tube at the six o'clock position under axle tube, same distance down from the bottom of the axle tube. Solid arms only, no biscuits or springs. Arms and heim joints must be steel. J-Bar, panhard bar are allowed, minimum of 19 inches long, measured straight line center-to-center, and must be solid. Coil springs must be steel. Shocks and coil springs must be mounted in the same position side-to-side, springs mounted on top of axle. Coils must be 4.5 inch minimum outside diameter. Top link may have 2.5 inch outside diameter rubber or polyurethane bushing, may be up to 2.5 inches wide, must be round, bushing must be on front or back of solid link. Solid arms with two heim joints are allowed. Top link including heim joints must be steel. Top link can be no more than 6 inches off center of rear end housing right to left. No floating brake brackets or lift bars allowed. No independent RR suspension.
8. Leaf spring rule: Steel multi leaf springs allowed, welded mounts to housing, same amount of leafs side to side. Solid bar 3<sup>rd</sup> link on leaf spring cars. One shock per wheel, no other shocks. No other suspension parts allowed including coil springs, floating leafs, half leafs, mono leafs, or top springs. Aluminum lowering blocks and adjustable rear shackles allowed.
9. Shock rule: Shocks must be steel non-adjustable. No remote or external canister type shocks allowed. Shocks must be one piece steel body. No multi-piece bodies or bulb tops allowed. May have removable bushing on shaft end of body. Bearing holder/eyelet must be fixed to body. No Schrader or bladder style valves allowed. May have aluminum heim joint on shaft end. Aluminum shock extensions are allowed. No rebuildable, maximum \$110.00 per shock.

## **TIRES AND WHEELS**

1. Tomah-Sparta Speedway approved tires only (Hoosier D8000 in 2020). 10 new tires only (all tires will be registered with stamped # and bar code). Unlimited amount of used tires. No softening or treating of tires is allowed. Siping, grinding and grooving are allowed.

2. Steel wheels only: maximum 8-inch wheels. No modifications allowed on wheels. Wheel spacer and/or adapter from the rotor to the rim cannot exceed 1-inch total thickness and may be aluminum.
3. All new tires must be registered by driver and given to track for the records. Both white label(barcode) and stamped date code # in tire must match.
4. Beginning of the year or first race for car and driver tires must be used or new and registered. Tire card to be made up.

## **DRIVE TRAIN, STARTERS, TRANSMISSIONS, BRAKES AND EXHAUST**

1. Transmissions
  - a. OEM automatic transmission. All transmissions must have an operating forward, neutral, park and reverse. All transmissions must be able to stop and idle in gear. A functioning shifter must work and be in stock location. Lock-up type converters allowed. Direct drive to powerglides ok.
  - b. OEM Manual 3 or 4 speed transmission, stock type, minimum 7 1/4" clutch direct drives
  - c. Inter-marriage of transmissions is allowed (example: Ford or Chrysler engines may use Chevrolet transmission).
  - d. All transmissions must have an approved scatter shield, which must be constructed of 1/8-inch steel by 4 inches, 270 degrees around flexplate and torque converter. Four inch aftermarket SFI approved shield recommended. Aftermarket replacement bell housings are allowed and an additional scatter shield is not required if aftermarket bellhousing is used. Flywheel/flexplate/ring gear must be full center flywheel. No spoked, cut or altered flywheels allowed. No light weight flywheels allowed.
  - e. Transmission coolers are allowed but cooler and connecting lines must be shielded from driver.
  - f. Driveshaft hoop is required and must be constructed of at least 1/4-inch by 2 inch steel and must be mounted no closer than 5" nor further than 9" back from the center of the front U-joint. Driveshaft must be a minimum of 2 inch diameter, steel and painted white, and must be conventional slip yoke design.
2. Starters
  - a. All vehicles must have the capability of starting without being pushed or pulled.
  - b. Starter must remain in stock location.
  - c. Reverse mount starter bellhousing will be allowed.
3. Rarends
  - a. Any passenger car or truck rear end may be used.
  - b. Quick-change devices allowed. No cambered rear ends allowed. No wide 5. No light weight components. Minimum 10" ring & pinion quick change.
  - c. No limited slip devices allowed. Must be a steel solid locking spool only.
  - d. All drain and inspection plugs must be safety wired. \$50 fine for oiling up the track.
4. Brakes & Exhaust
  - a. Brakes must be operated on all four (4) wheels and must lock up all four wheels during inspection.
  - b. Exhaust system must be mounted in such a way as to direct spent gases away from cockpit of vehicle and away from areas of possible fuel spillage.

- c. Aftermarket headers allowed. No tri-y, no 180 degrees

## **ENGINE**

1. Maximum displacement 362cid (Chrysler products 368cid).
2. Engine protest \$100 to tech contestants only cash within 15 min of end of race (head(1)and intake)
3. Engine must have inspection hole assembly no drilled cranks, no knifing of journals, MSD billet distributor with 6 AL box and rev chip is allowed.

*Tech staff reserves the right to impound motors for inspection or dyno testing.*

## **ENGINE BLOCK**

1. No aluminum blocks
2. A minimum of zero deck height required.

## **ENGINE PISTONS / RODS**

1. Any combo 10.8 max
2. Magnetic steel connecting rods only. Rod journal minimum diameter 1.900"
3. No light weight components

## **OIL PANS/OIL SYSTEMS**

A 3/4"NPT inspection hole in oil pan required. Inspection hole must be located in line with second or third rod journal of crankshaft, on either side of pan and above sump area (oil level). Hole in windage tray in line with inspection hole required.

## **CRANKSHAFT**

Production type steel crankshaft with normal configuration counter weights required. NO GUN DRILLED CRANKS WILL BE ALLOWED, NO ULTRA-LIGHT WEIGHT

## **CYLINDER HEADS**

1. Stock or stock replacement aftermarket cast iron unaltered heads (no porting, polishing, acid dipping, or gasket matching allowed) required. No aluminum heads allowed.
2. Vortec heads are allowed.
3. Maximum of two valves per cylinder.
4. Valve spring retainers are the only titanium parts allowed.
5. 1.6 roller rockers max ratio. Full roller rockers allowed.

## **INTAKE MANIFOLD**

Single 4 bbl or 2bbl subject to change

## **CAMSHAFT / VALVE LIFTERS AND ROCKER ARMS**

No roller cams flat tappet only. Max lift .600. No firing order changes

## **COMPRESSION**

1. Maximum 10.8 to one compression ratio.
2. No titanium engine parts allowed.

3. Main cap girdle not allowed. Crank scraper not allowed. Pan scraper is allowed.

### **ASPIRATION & FUEL:**

1. Carburetor - Holley 4412 500cfm 2 barrel will be used on "open" engines. No grinding or polishing of any kind allowed. Adjustable, changeable air bleeds allowed. No milling or grinding of throttle shaft allowed, shaft must stay round. Choke and air horn may be removed; this is the only re-working allowed on gasoline carburetors, all measurements must remain stock. No other changes allowed, all measurements must remain stock. No belt driven or electric fuel pumps allowed. Must have mechanical type fuel pump mounted in OEM stock location. Replacement high-volume fuel pumps allowed but must be mechanical type. Addition of foreign material to the carburetor is not allowed for any reason. Examples include but are not limited to glue, epoxy, silicone, etc. Linkage may be welded to the end of throttle shaft.
2. Adapter Plate - Maximum thickness between carburetor and intake manifold with gaskets and adapter will be one and quarter (1-1/4) inches.
3. The promoter or tech has the right to claim a carburetor from any car finishing the feature race in the top four (4) or lead lap positions for \$500.
4. Promoter claim is cash only.

### **CONCEPT CRATE MOTOR PROGRAM**

Approved CCMP models are:

GM 602 CCMP motor will be allowed one Holley 4 bbl 650 cfm carburetor #80541-1 (with no modifications) with. One .065 paper gasket allowed. Weight may be adjusted for fair competition. The CCMP will use the Holley 4 bbl. 650 cfm carburetor with GM Stock 15.5lbs. flywheel and 1.625" headers. Maximum cost of headers is not to exceed \$250.00. No stepped, 180 degree or Tri-Y headers. **MSD Soft Touch Rev Control Part #018-8728 with a maximum 6400 chip required. Box must be mounted out of reach of driver.**

Base Weight: 100lbs weight deduction.

All crate engines may not be altered from factory specs. Any evidence of tampering with engine components will result in disqualification, confiscation, fine, and suspension for balance of season.

Tech staff reserves the right to impound motors for inspection or dyno testing.

Factory Seals may be removed for tech purposes, those engines will not be required to be recertified, allowing for more in-depth technical inspection throughout the season.

**No refreshing, buy new instead. Repairs allowed with prior management approval.**

**5.3 LS Engine program will continue to be an experimental program for 2020. We will continue to work with the engine that was used in 2019. No others will be approved.**

### **FUEL & FUEL CELL**

1. Racing fuel cells required and must be mounted by at least two steel straps that are at least 1/8" thick and two inches wide around cell. Fuel cells must be enclosed in metal

container and must also be protected in rear of rectal by roll cage tubing securely mounted. No piston type fuel pumps allowed, must be stock diaphragm type.

2. No part of fuel cell should be lower than protective tubing. Protected tubing should be no wider than 6 inches on both sides of fuel cell.
3. Fuel cell size: 32-gallon maximum. Fuel capacity: max. of 16 gallons recommended.
4. No nitrous oxide or 100% alcohol allowed

#### **ALUMINUM**

1. No aluminum or exotic metal wheels, hubs, hats, rotors, calipers, A-frames, spindles, drive shafts, or weight jacks. Any other aluminum or exotic metal parts other than the ones listed under 2 are not allowed.
2. Aluminum parts allowed are leaf spring spacer blocks and shackles, and radiator. Pumps, pulleys and brackets in engine compartment are allowed.
3. Aluminum drive plates and dust caps may be used on Grand National rear ends only.

#### **POST RACE TECH INSPECTION PROCEDURES:**

1. Top (3) finishers in feature race must scale and be at or above minimum weight for the engine size. Winner scales after heat race.
2. All top cars will have a general inspection conducted by tech officials.
3. By use of a random draw procedure, the first place driver will select the position number (1 thru 5) of the car that will have a more detailed inspection conducted.
4. Track officials reserve the right to conduct a tech inspection on any car at any time.
5. The detailed inspection may include but not limited to the following (track official option): Compression test, cubic inch displacement test, carburetor, intake, heads & valve train inspection, transmission & torque converter inspection, rear end differential inspection, crank & rod inspection.

ALL RULES ARE SUBJECT TO CHANGE THROUGHOUT THE YEAR IN THE INTEREST OF COMPETITION.

**END OF MODIFIEDS RULE SECTION**