Mahoning Valley Speedway
602 CRATE MODIFIED
DIVISION RULES AND SPECIFICATIONS_V4 (as of April 21,2023)

(Formerly Sportsman Modified)

These rules are intended to be a guideline in constructing a car. If the rules do not state you MAY do something and then assume that you MAY NOT!
Interpretation of rules will be at the discretion of the Technical Inspector.

NOTE: Updates are in red

RULES SUBJECT TO CHANGE AT ANY TIME

These are the general guidelines for all cars that compete in this division at Mahoning Valley Speedway.
If these rules do not clearly say that something is legal assume that it is not permitted.
This is a 602 Crate motor class only. No built motors or non-sealed motors.
Titanium parts not allowed anywhere on car.

BODIES

- All car bodies must be stock appearing.
- The body at its widest point must not exceed sixty inches (60").
- Car bodies must be neat appearing and painted.
- Floor area directly beneath the seat forward to the front engine firewall must be made using a minimum of one-eighth inch (1/8") thick magnetic steel.
- Outside body panels may be made of twenty-two (22) gauge steel or .040 aluminum.
- Belly pans of any kind are not permitted.
- Front nose panel can be aluminum or steel. It must not extend rearward past the rear of the harmonic balancer. Non-adjustable type nose is not to exceed from two inches (2") behind front bumper and no wider than the front of frame.
- No wings on any body parts.
- A full Lexan windshield or wire screening must be used in front windshield.
- Passenger side window screen is mandatory.
- All bodies must be acceptable to tech
- Bodies to follow RoC/NASCAR Modified Tour structure

CAR HEIGHT

- The car height, measured along the roof center line at its highest rearward point will be at least forty-two inches (42") high.

- Not more than two and one half inch (2 ½") rake.
- Mechanical devices for adjusting the cars height which can be activated by the driver will not be permitted.
- Electrical, pneumatic, hydraulic, remote control, or any other devices which change the handling characteristics or height of the car will not be permitted.

GROUND CLEARANCE

- No driver controllable weight jacking devices.

CAR TOTAL WEIGHTS

WEIGHT

- GM sealed crate motors must weight a minimum of 2550lbs after race with driver and 56% left side.
- Mahoning Valley Speedway, Wall Stadium Speedway, Stafford Speedway SK Lights, Rush and dirt crate motors minimum of 2650lbs after race with driver and 56% left side.
- Any bolt on lead must be painted white with car's number on it.
- Car weight to be labeled on hood cowl area. Weight must include clutch option.

ADDED WEIGHT

- Any bolt on lead must be painted white with car's number on it. (Ingots only)
- All weight must be located on/or in the frame only.
- No adding weight of any kind after an event.
- Bolted on Ingots must use minimum three-eighths inch (3/8") bolts.

FRAME REQUIREMENTS

- No minimum frame height rule
- All frame components must be made of steel and welded.
- The side rails must be magnetic steel box tubing a minimum of two inches in width by three inches in height and a maximum of three inches by four inches and must have a minimum wall thickness of not less than 1/8 inch.
- The fuel cell reinforcement bar, using a minimum 1 ½ inches seamless magnetic steel tubing, must be installed behind the fuel cell.
    - This reinforcement bar must be as wide as the fuel cell and as low to the ground as the fuel cell with a minimum of two uprights from the reinforcement bar to the rear frame cross member, evenly spaced behind the fuel cell.
- An X cross member made of one inch magnetic steel tubing must be installed beneath the fuel cell from corner to corner.
    - The X cross member must be welded or bolted to the rear frame rails in a secure manner.
    - Two additional support bars, one at each corner of the reinforcement bar, must extend forward and be welded to the rear frame assembly.

- The front sub-frame assembly must be constructed using two inches wide and three inches high magnetic steel tubing a minimum .083 thick.
- A minimum of 27 inches and a maximum of 32 inches, measured from the center of the left frame rail to the center of the right frame rail, must be maintained from the mounting point of the upper A frames forward.
- All sub-frame assembly support bracing must be a minimum .090 inch thick by 1 ¾ inches round magnetic steel tubing.
- The front sub frame bars, left and right, must extend from the roll cage to the sub frame and must have a downward radius bent into the bars before they are welded to the sub-frame.
- Door plates must be installed on the driver's side. Minimum 1/8" steel flat stock covering the top 3 door bars. You must have 3 vertical 1 ½" holes drilled on both the front and rear of the door plates starting at the top edge.

ROLL BARS

- Unless otherwise specified, all roll bars must be made from round magnetic steel seamless tubing 1 ¾ inches by .090 inch thick minimum.
- Front and rear hoops should not be angled more than 20 degrees rearward.
- At least four bars on the left side and three bars on the right side of the roll cage.
- All roll cages must have these bars as listed:
    - Main roll bar
    - Two front roll bars
    - Roof bar
    - Center line roll bar
    - Diagonal main roll bar
    - Dashboard bar
    - Right and left door bars
    - Center windshield bar
    - Left side driver head bar- need 2 vertical and 4 horizontal bars. The first vertical bar needs to be in line with front edge of driver headrest.
    - 30-degree front clip is recommended
    - Blewett Bars are recommended. Leading edge of seat should not be past Blewett Bar.
- All roll bars, within the driver's reach, must have SFI padding.
- A minimum clearance of three inches between the top of the roll cage and the top of the driver's helmet must be maintained.

CHASSIS

WHEEL BASE

- The minimum wheel base that will be permitted is one hundred seven inches (107") ½ inch allowance for front end adjustment.

TREAD WIDTH

- Wheel width must be maximum eighty-five inches (84"), at bead, at zero toe, at

spindle height, front and rear.

TIRES AND WHEELS:

A. A track tire rule is mandatory. TBA based on availability.
~~Tire bank~~
B. Tires must be mounted on no wider than 12-inch wheels.

C. Wheels must be steel-racing wheels only.

D. Beed locks will not be permitted

E. No treatment of any kind may be added to the tires.

F. No air bleeders allowed (i.e., Schrader valves).

G. Bleeder valves will not be permitted.

HUBS

- Safety racing hubs with racing five-eighths inch (5/8") studs. No gun-drilled studs.
- Aluminum or magnetic steel hubs will be permitted.
- No ultra-lightweight hubs
- No oil fill capable hubs.
- Wheel bearing grease only.
- A single spindle tether is mandatory on left and right front wheels.

REAR END

- Only aluminum or magnesium quick change or straight rear ends with backside cover allowed.
- Quick change rears must use a minimum 10 inch ring gear.
- The quick change rear end must have magnetic steel spur gears on the backside.
- No titanium axles allowed.
- Only locked rear drive axle assemblies will be permitted.
- Only magnetic steel axles and axle housings will be permitted.

BRAKES

- Only one four piston caliper per wheel is allowed.
- They must be in good working order and are subject to official testing prior to competing in any racing event.
- Brake adjusters are allowed at all times.
- No titanium, scalloped, or drilled rotors allowed. Must be magnetic steel. Minimum 1 ¼" wide.
- No radial mount calipers allowed.

SWAY BARS

- Only magnetic steel front sway bars will be permitted.
- Rear sway bars will not be permitted.
- No driver adjustable sway bars permitted.

SHOCK ABSORBERS

- Coil over shock absorbers may be used.
- No Nitrogen filled shocks permitted.
- No adjustable shocks permitted.
- No shrader valves permitted on the shocks.
- No external reservoir shocks permitted.
- No shock that the shaft extends by pressure
- Maximum racer net per shock - $250.00
- No bump stops allowed.

SPINDLES and WHEEL BEARINGS

- Heavy duty magnetic steel spindles must be used.
- Magnetic steel tapered wheel bearings only.
- No ceramic coated bearings or roller bearings.
- The bearings, races, and seals must be assembled separately in the hubs.

STEERING COMPONENTS

- Rack and pinion steering will be permitted.
- All cars must be equipped with a magnetic steel steering shaft.
- The center top of the steering wheel must be padded with at least two inches of resilient material acceptable to officials.
- A quick-release steering wheel coupling with magnetic steel housing acceptable to officials must be used.
- The power steering pump must be mounted and driven off the front of the engine.

BUMPERS:

FRONT BUMPER

- The front bumper must be the width of the chassis.
- The front bumper position is not to exceed thirty inches (30") from the center of front bumper to the center of the front spindle.
- Front bumper must be convex in shape with round corners.
- The center of the front bumper must be mounted at center hub height.
- The front portion of the front bumper (the business end) must have a minimum height of eight (8”) inches.

REAR BUMPER

- Any aluminum I-beam bumper will be allowed as long as it is at least three inches (3") in, and no longer than fifty inches (50").
- Each end must be capped.
- No bolt heads on outside of bumper.
- The center of the rear bumper must be mounted at center hub height.

CORNER BARS

- Both bars should cover area of twelve (12”) and eighteen (18”) inches from the ground, and be bolted to the outside of the rear bumper.
- Must not exceed more than two inches (2") of outside tires.

SIDE BARS

- Will not be tied into chassis in more than five (5) places.
- Bottom bar should be near center line of rear axle and front spindle.
- The topside bar must attach to main roll bar and extend to the forward point of bottom bar.
- Must not exceed more than two inches (2") of outside tires.

STEEL TUBING SIZES FOR BUMPERS

- Bars will be no smaller than one and one quarter inches (1 ¼") or larger than one and three quarter inches (1 ¾") of steel tubing.
- Steel tubing thickness will not be less than .083 inches.

ENGINES:

Official certified engine seal technicians for Mahoning Valley Speedway Sportsman Modifieds will be Rick Wallace or Don Gordon.

At the time of engine seal bolts must be drilled in seal placement in timing covers, head bolts and oil pan.

Cost of engine seal will be $150.00 and $1.00 per mile driving distance both ways to racer’s shop from any of the aforementioned technicians.

Motors cannot smoke. If smoke is present you will not be allowed to race.

- All engines will be subject to post race tear down and inspection upon request of the track officials. Failure to comply will result in immediate disqualification from the event and other possible sanctions. In no event will a competitor be permitted to return to competition until said motor has been torn down and properly inspected.
- In addition any violation of these rules will result in an immediate 4 week loss of handicap.

➢ CRATE ENGINE 602/350 88958602

- Engines must remain stock as delivered from the manufacturer, no changes. Seal must be present.
- It is highly recommended that anyone participating in this division obtain a copy of the GM Circle Track Crate Engine Technical Manual to become familiar with the parts and procedures that will be allowed when working on this engine. GM part #88958668.
- No coatings of any kind will be allowed.
- Valve spring - maximum seat pressure 80 lbs.

CARBURETORS

- 650 H.P. CARB HOLLY – Part #80541-1
- Must maintain stock dimensions.
- One inch (1”) spacer maximum
- Stock Holley4412 500cfm 2-barrel may be used (SK Lights rules)
- No Billet carburetor and or parts

OIL PAN

- Canton Oil Pan – part #11-102T.

- The additional (2) two oil pans will also be allowed:
  Kerko – part #1092
  Champ – part #CP106LTRB

HEADERS

- Step Headers OK. No Tri-Y Headers, Stainless Headers, or Coated Headers. Three inch maximum diameter standard collectors.
- No Exhaust wrap, No Merge collectors.
- 4 into 1 only, collector diameter same size beginning to end. Length optional.
- No pyramids between the 4 pipes inside the collectors.
- Intake Manifold cannot be ported or altered in any way. Box stock.

DISTRIBUTOR

- Stock type HEI Distributor. No MSD box. Vacuum advance may be removed. Rev limiter allowed.

CLUTCHES AND BELL HOUSING

- 10" diameter. No carbon fiber clutch parts. (30lbs combination pressure-plate/flywheel/disk
- 7.25" clutch may be used, must add 100lbs.
- 5.5" clutch may not be used
- Bell housing must have opening for visual inspection
- Stock clutches must run a blow-proof bell housing
- Steel Flywheels only. No aluminum allowed.
- Clutch option must be included on claimed car weight total

TRANSMISSION

- Only standard production OEM type Muncie or T-10 manual four speed transmissions will be permitted. No Jericho Transmissions permitted.
- High gear must be 1:1 ratio.
- Only aluminum or cast iron transmission housings will be permitted.
- All transmissions must have the input shaft and its main gear constantly engaged. The assembly must be constantly engaged with the countershaft and its cluster and reverse gears.
- A minimum of two forward and one reverse gear must be in working order.
- Only manual shift linkage will be permitted on the transmission.
- Only fire resistant type shifter boots secured with fasteners will be permitted.
- No straight cut gears
- No dog type syncros
- OEM ratios

DRIVE SHAFT

- The drive shaft, universal joints, and yokes must be magnetic steel and be similar in design to the standard production type. Only a one piece magnetic steel drive shaft, painted white, will be permitted.

- Two 360 degree solid magnetic steel brackets, without holes or slots, not less than two inches wide and 1/4 inch thick, must be placed around the drive shaft and torque arm and be welded or fastened to the cross member of the car.

BATTERY

- Only 12 Volt Batteries may be used.
- The battery must be located between the frame rails.
- The battery location must be suitable to officials.
- Gel battery only (Optima red, yellow or blue top)

ELECTRICAL SWITCHES

- All electrical switches must be located on the dash panel or to the right of the driver and visible except the auxiliary ignition on/off button.
- A labeled on/off rotary type master switch must be mounted within reach of the driver.
- The switch must be wired to the battery cable in a manner that will cut off all electrical power in the car.

WATER PUMP

- Only aluminum or cast iron mechanical water pumps in the stock location, turning the same direction of crankshaft rotation will be permitted.
- Coolant flow must be the same direction as the production engine.

FAN

- A standard engine drive fan with a minimum of four blades may be used. Free spin or clutch fans will not be permitted.
- The minimum diameter of the fan blade must not be less than 14 inches.
- Flat fan blades will not be permitted.
- Electric cooling fans will be permitted in place of a standard steel fan on the back side of the radiator only.

FUEL SYSTEM

- Officials will not permit the use of any previously approved fuel cells, containers, or check valves that appear to be damaged, defective or do not function properly.
- Pressure systems will not be permitted.
- Any concealed pressure type containers, feed lines or actuating mechanism will not be permitted, even if inoperable.
- Icing, Freon type chemicals, or refrigerants must not be used in or near the fuel system.

FUEL CELLS

- Fuel cell bladders must be approved by officials.
- Maximum capacity is 22 gallons.
- Fuel cell must have operational check valves.

FUEL CELL CONTAINER

- The fuel cell must be encased in a container made of magnetic steel or aluminum.
- Interior sheet metal must allow access to the top of the fuel cell for inspection.
- The fuel cell and fuel cell container must be installed as far forward as possible in the trunk compartment behind the rear axle and maintain a minimum ground clearance of five (5") inches.
- Four, 1/8-inch by 1-inch width steel straps, must be mounted two lengthwise and two cross wire on the top of the fuel cell container as close to the fuel filler housing as possible.
- Grounding strap mandatory between cell fill section to frame.

FUEL LINES AND FUEL PUMP

- Electrical devices or electrical connections will not be permitted on the fuel cell, fuel lines, or between the rear of the carburetor fuel line assembly.
- Only one fuel line will be permitted from the fuel cell to the fuel pump.
- A fuel shut off valve, which is easily accessible within the driver's compartment, must be used.
- The shut off valve must be clearly visible and labeled.
- Electric fuel pumps will not be permitted.

SAFETY EQUIPMENT

- HANS device or HANS like device is recommended.
- Window net must be tight using a latch lever.
- 5 point Harness required. 2" wide belts recommended. Belts CANNOT be expired.
- Helmets must have Snell SA 2015 or newer sticker. Motorcycle helmets not allowed.
- SFI Fire suits must be in good condition (No holes).
- Racing aluminum containment seats are mandatory and must have an approved wrap-around headrest. A left and right leg brace must be installed on the seat. Seats must be mounted using a minimum of 6 3/8" or larger bolts.

NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

RULES SUBJECT TO CHANGE AT ANY TIME