



# 2023 SPORTSMAN RULES

2023 rule updates shown in **BOLD-Red and underlined**

**NOTICE TO COMPETITORS: There have been additions and updates to this rule package for 2023 and it is solely the competitor's responsibility to read the information presented here in order to be informed as well as be in compliance with all aspects of the rules as set forth in this document.**

## 1. ALLOWABLE MODELS

- 1.1 Any year, make and model (North American) steel bodied cars with front engine.
- 1.2 No front or four wheel drive vehicles allowed.
- 1.3 No station wagons, trucks, convertibles.
- 1.4 No Mustangs, Camaro, Challengers, or similarly designed cars.
- 1.5 Must be a minimum 108 inch wheelbase (factory specifications).
- 1.6 Maximum one inch difference (+ or -) from side to side.

## 2. ENGINES

- 2.1 Must run stock cast iron engine: i.e. GM in GM, Ford in Ford, MOPAR in MOPAR, except provision from 2006 allows FORD and MOPAR in GM chassis. No MOPAR or Chev in Ford Chassis
- 2.2 GM 350 cu. in Chev / Ford 351 cu. in WINDSOR only / MOPAR 360 or 318 cu. in.
- 2.3 BORE/STROKE:
 

350 CHEV - 4.000"/3.485"
351 FORD - 4.000"/3.500"
360 MOPAR - 4.000/3.578"
- 2.4 Maximum .060 overbore permitted.
- 2.5 Maximum 365 cu.in.
- 2.6 All engine blocks shall be stock, OEM production cast iron blocks only. No more than .060 bore is allowed. Any block with missing casting numbers will AUTOMATICALLY be considered illegal.
- 2.7 Engines must have factory production firing orders (described in rule 14)

### CRATE ENGINE

SPEEDWAY 660 will be allowing the GM Crate Engine #19258602 in the Sportsman class for 2012. The rule package is found in **Appendix "A"** at the end of this document. The part number for the "602" engine was changed in 2010. The engine is the same as the previous part number.

### **CRATE ENGINE CARBURETION**

The Holley 650 cfm 4150 HP #80541-1 will be allowed on the "602" crate engine. This carburetor is the spec carburetor used when the engine was produced and dyno tested. This unit is to be installed "BOX STOCK". The carburetor will bolt directly to the intake using a maximum .065" gasket only. No spacer plate will be allowed. It must pass specific Speedway 660 gauge tests (go/no go) as well as any other inspections.

A 2 barrel Holley #4412 will also be allowed for this engine. It must be mounted on a 1" max straight hole adapter. No tapered adapters. It must pass Speedway 660 gauge tests.

The engine may be purchased from any competitor's local GM dealer but it must be shipped to Fox Chevrolet in Fredericton or Lounsbury Motors Branch in Moncton, to have the SPEEDWAY 660 seals applied and those numbers recorded for technical inventory and tracking

### **CRATE ENGINE INSPECTION**

It is important to note that while these engines are factory and track sealed, they are still subject to inspection in a number of manufacturer suggested areas. Compliance with these units is critical. Any engines that are found to have been tampered with in ANY manner will automatically result in an immediate disqualification and possible further penalties may be applied.

### **CRATE ENGINE REPAIR / REFRESH**

These engines may be repaired or refreshed. Engines must have been raced at least one season before a refresh will be allowed. The repair/refresh procedure will begin by the team contacting 660 to identify the condition then the engine shops will be contacted and perform the appropriate repairs. The engine shops have a list of approved procedures that will be followed to perform the repair/refresh work. The tech director will reseal the engine and a \$100 resealing fee will be charged. Non-compliance to this program will deem the engines to be illegal and will be removed from inventory. Sussex Engine will be the ONLY shop authorized to perform inspections of any engines in the class for validation and compliance of the rules when required.

NOTE: There will be a list of authorized crate engine repair facilities that can be found in In a separately posted document on [www.speedway660.com](http://www.speedway660.com).

### **3. CAMSHAFT**

- 3.1 Hydraulic lifters (no mushroom type) and a hydraulic lifter camshaft with maximum valve lift as follows:
- GM Intake .390, Exhaust .410 (measured at the valve)
  - FORD Intake .445, Exhaust .453 (measured at the valve)
  - MOPAR Intake .410, Exhaust .410 (measured at the valve)
- 3.2 Lifter outside diameters are not to exceed:
- GM 0.845
  - Ford 0.875
  - MOPAR 0.904
- 3.3 Cars with non-conforming lifters will run a 50lb penalty. This will be the responsibility of the team and WHEN lifters are checked, the car must weight 3050lbs. All newly built engines are to have conforming lifters installed.
- 3.4 No solid anti-pump or Rhoads lifters.
- 3.5 No mushroom, roller cams or rev kits allowed.
- 3.6 TRW lifters with C-clips are o.k.
- 3.7 Standard push rods only, not heavy duty type which are .125" longer.
- 3.8 Valves must not have over zero lash clearance.

### **4. PISTONS/RODS**

- 4.1 Stock cast or forged (dished or flat top) pistons (or equivalent replacement).
- 4.2 Four eye-brow piston only.
- 4.3 For tech weighing purposes the piston, rings, rod, end cap, rod bolts and bearings will be weighed as a whole. This complete unit cannot weigh less than 1350g.
- 4.4 FORD with minimum combustion chamber volume of 69cc., a flat top piston may be used.
- 4.5 FORD with minimum combustion chamber volume 60cc., a dished piston with a .120" cup must be used. No other pistons allowed.
- 4.6 Pistons cannot come above block. A deck height of .005" is recommended.
- 4.7 All rods must be of steel or cast and be stock length for engine used. OEM factory production rods only. Stock rods (No 6" GM rods) and wrist pins only.
- 4.8 No floating pins.
- 4.9 Aftermarket rod bolts and nuts are allowed.

### **5. HEADS**

- 5.1 All cylinder heads must be stock cast iron, OEM strong type with readable numbers, and specifications as follows:

GM Cylinder Heads

Maximum intake diameter 1.94", maximum exhaust diameter 1.50".

Minimum combustion chamber volume rating of 76cc.

FORD Cylinder Heads

Maximum intake diameter 1.84", maximum exhaust diameter 1.55".

Minimum combustion chamber volume rating of 69cc or 60cc depending on pistons used.

MOPAR Cylinder Heads

Maximum intake diameter 1.88", maximum exhaust diameter 1.50".

Minimum combustion chamber volume rating of 68cc.

- 5.2 All intake and exhaust valves must retain stock dimensions.
- 5.3 Stock replacement stainless valves permitted (no swirl polished valves).
- 5.4 No undercut valves
- 5.5 Stock valve spring dimensions (1.275" Chev, 1.437" Ford, 1.50" MOPAR).

- 5.6 Steel retainers must be used.
- 5.7 NO angle milling, porting, port matching, polishing, acid porting and/or blueprinting will be allowed.  
In addition no sandblasting or coating of any kind. will be allowed.
- 5.8 Heads may be milled for straightness only.
- 5.9 Stock or stock replacement rocker arms with stock ratios (GM 1.5, Ford 1.6, MOPAR 1.5).
- 5.10 Jam nuts are allowed.
- 5.11 Poly Lock rocker arm nuts will be allowed
- 5.12 Screw-in studs and guide plates are allowed.

## **6. CRANKSHAFT**

- 6.1 No knife edge or lightened cranks allowed. No lightening holes in rod journals. No gun drilling. No undercut counterweights. Stroke must be stock per manufacturer's specifications for the engine used.  
Only standard factory OEM production steel or cast crankshafts with stock strokes permitted. Must have OEM readable numbers. No aftermarket cranks. Crank journal size to remain OEM to engine, max regrind .020 rods/mains
- 6.2 Must have OEM readable numbers.
- 6.3 Stroke may not be increased or decreased.
- 6.4 No aluminum harmonic balancer.
- 6.5 Balancer must be stock OEM for engine.

## **7. COMPRESSION**

- 7.1 **Maximum compression ratio of 9.0:1 is set. (9.4:1 on whistler will be deemed illegal)**
- 7.2 Compression will be determined by volume gauge and electronic sonic tester (whistler). May be subject to manual cylinder volume check

## **8. OIL PAN**

- 8.1 Any steel oil pan may be used. A 1" inspection plug must be installed in the oil pan for inspection purposes. This hole must be directly under a rod journal. If a windage tray is used, a hole must be provided in line with the hole in the oil pan. The inspection plug must be EASILY accessible. If rod, journal and counter weight are not easily accessible, pan removal will be required.

## **9. WATER PUMP**

- 9.1 **Water pumps may be steel or aluminum on all models.**

## **10. FUEL PUMP**

- 10.1 Mechanical fuel pump only in stock location. No belt driven or electric fuel pumps.

## **11. OILING**

- 11.1 OEM oil pump only.
- 11.2 No dry sumps.
- 11.3 If the oil filter is removed from its original position on the engine, it must be remounted in the engine compartment

## **12. TIMING**

12.1 Stock timing chain (or equivalent replacement). No belts. **No gear drives. May use double roller chain for durability.**

**Timing gears must be installed “straight up “as per OEM. No advance mechanism.**

## **13. STARTER**

13.1 Stock OEM starter for engine used.

13.2 OEM type Permanent Magnet Reduction Gear (PMRG) starters may be used.

**13.3 No reverse mounted starters allowed.**

## **14. DISTRIBUTOR**

**14.1 Only stock distributor and stock type coil allowed. GM HEI ignition system will be allowed in a non-GM engine. It must be a stock OEM replacement unit.**

14.2 Must have mechanical weights. Distributor advance must have original weights and springs AND must operate as OEM.

14.3 OEM type (replacement) module only.

14.4 No dual points.

14.5 No external amplifiers.

14.6 Plug wires must be no larger than 9.0mm and must have manufacturer's markings visible.

14.7 Distributor must be wired to match the FACTORY PRODUCTION FIRING ORDER ONLY.

- GM firing order is 1-8-4-3-6-5-7-2

- FORD firing order is 1-3-7-2-6-5-4-8.

- CHRYSLER firing order is 1-8-4-3-6-5-7-2

## **15. MANIFOLDS**

15.1 Stock cast iron two or four barrel intake manifolds only.

15.2 **An aluminum intake will be allowed with a built engine.**

**The following manifolds will be allowed:**

**Chevrolet – Edelbrock Performer RPM # 7101**

**Chevrolet – Edelbrock Performer EPS 2701**

**Ford - Edelbrock Performer RPM # 7181**

**Mopar - Edelbrock Performer RPM # 7176**

**These manifolds will be installed as produced and must not be painted. A 4bbl to 2bbl carburetor adjustable adapter will be required. The adapter must be a 2 hole straight through style in either aluminum or Phenolic material. No taper allowed. A Canton # 85-065 or 80-065A is the recommended adapter.**

15.3 No porting, port matching, polishing, blueprinting, sandblasting, or coating of any intake or exhaust manifold allowed.

15.4 May run stock cast iron exhaust manifolds, with maximum outlet size 2" diameter.

## 16. EXHAUST

- 16.1 **Exhaust may be installed under the car or exit outside of the body. If exhaust exits under car, the exit must point toward the ground. If the exhaust exits out the door the pipe must be located so the bottom of the exhaust outlet does not exceed twelve (12) inches from the ground at exit. The exhaust must exit behind driver and in front of the rear wheels. No sharp edges at door outlet.**
- 16.2 Maximum exhaust pipe diameter off manifold is 2.5" i.d. for a minimum of 48 inches.
- 16.3 If dual exhaust goes into one it must remain as one from the point of joining until it exits.
- 16.4 Pipes must be tight (welded or clamped) at all joints and securely fastened.
- 16.5 Exhaust pipes cannot protrude out past rub rail.
- 16.6 Manifold must have OEM readable numbers.
- 16.7 No porting or port matching on manifold.
- 16.8 Headers will be allowed but must meet the following criteria: Headers must have primary tubes no larger than 1-5/8" for the full length of the tube (flange to collector). No step tubes allowed. Collector will be 3" in diameter and be secured to exhaust pipe NOT to exceed 3.5" in diameter. Collector is to remain stock length. There will be a "two-into-one" collector required to adapt the exhaust pipe into the mandatory muffler. This is to be followed by a "turn down" pipe to allow exhaust gases to exit under car ahead of rear axle. These headers are to be of the conventional crossover design only. No 180 degree or stepped headers allowed. Examples of this style header are manufactured by companies such as Howe and Schoenfeld. **No 180 degree or stepped headers allowed. NO Tri-Y headers.**
- 16.9 Shorty Headers as used in Halifax: will be allowed but must meet the following criteria: 1-5/8" maximum tubes, maximum 3 1/4" outboard and 10" from top of head flange to outlet flange. Maximum 2 1/2" outlet flange. First four inches of exhaust pipe can be used to reduce to 2" o.d. Minimum 24" of 2" o.d. pipe must be in the first 28" of exhaust pipe on both sides into 2 1/2" and same as cast iron exhaust from there to exit. Mild steel headers only. No chrome or coated headers allowed. No EQUAL length shorty headers.

## 17. MUFFLERS

- 17.1 **Mufflers are mandatory on all cars regardless of bottom or side exhaust exit. Recommended mufflers include but not limited Howe, Schoenfeld, Borla, or any other style of racing type exhaust system. A maximum decibel reading will not be enforced at this time but it is requested that teams choose a muffler that will provide a measure of noise limitation.**

## 18. TRANSMISSION

- 18.1 **Only Stock production OEM 3 speed or 4 speed (steel-cased) manual transmissions allowed. When using the 1:1 option, no gear may be closer than 1.50 to 1. (i.e. 2nd gear in a 3 speed must not be closer to 1.00 than 1.50).**
- 18.2 Transmission must have all forward gears working (OEM ratios for all gears), plus one reverse gear and must be able to be shifted by driver in seated position.
- 18.3 No variable ratio transmission allowed.
- 18.4 No 5-speed transmission.
- 18.5 No AUTOMATIC transmissions will be permitted.

## **19. REAR END**

**19.1 A 1:1 final drive will be allowed. This will be achieved with the existing steel cased 3 speed transmission and a final drive not to exceed 5.50:1. The 3 speed transmission must not have a second gear ratio closer to 1:1 than 1.50:1. The rear end may use a solid steel spool or a mini spool. Axles must be steel. No gun drilled axles allowed. All drivetrain components must be steel.**

**A 50lb. PENALTY will be assessed for the 1:1 final drive option.**

19.2 Any passenger car rear end may be used.

19.3 No floating axles

19.4 Aftermarket axles are permitted (NO gun drilled axles)

19.5 Rear end and all suspension parts must be stock type in original location.

19.6 No quick change rear ends.

19.7 No Detroit Lockers.

**19.8 Steel spool differential cases may be used as well as steel mini spools. No other material allowed.**

19.9 Rear end must measure the same between each brake backing plate and the drive the pinion.

19.10 GM Rear end housing may be re-inforced. Preferred method would be a bolt on setup but a welded brace may also be used. Note: This brace is NOT mandatory.

19.11 Locked rear ends are allowed.

19.12 Mini locker (piece of pipe joining the two axles) O.K.

19.13 Matching white lines are to be painted on each drum that indicate the relationship of one axle to the other. These lines are to be positioned so that they are lined up exactly the same on each side - ie. both lines would run from the 3 to the 9 o'clock position. These lines must be able to be easily visible for inspection. If there are repairs done to the rear end during an event and the axle lines are disturbed, it is the responsibility of the teams to alert the tech inspectors as to the change so that new aligning marks may be applied.

## **20. GEAR RATIO**

20.1 Maximum gear ratio is 5.50:1 final drive with transmission in second gear.

20.2 To find ratio (3 speed) multiply rear end gear ratio by transmission ratio in second gear.

20.3 Example: rear end gears 3.23 times transmission ratio 1.68 ( $3.23 \times 1.68 = 5.4264$ ). You may run less than 5.50:1 but not more. No 1 to 1 ratios. All gears in transmission must remain same ratio as produced by OEM.

**20.4 A 1:1 gear ratio option will be allowed. (see rule 19.1) Maximum gear is 5.50:1.**

## **21. CLUTCH AND FLYWHEEL**

21.1 Clutch and pressure plate must be OEM type. This includes weight, size and physical appearance. **(See rule 21.4)**

21.2 Aftermarket high performance types are not allowed.

21.3 All cars must have a one inch hole in the bottom of the bell housing to allow for clutch inspection.

21.4 Clutch disc (only single disc permitted) must be a minimum 10" diameter. **An organic lined solid hub clutch disc will be allowed. No metallic, carbon fiber, or ceramic lining allowed.**

21.5 Any stock type steel flywheel may be used. No lightening of flywheels permitted. (ie drilling)

**21.6 Aluminum bell housing is allowed but must be covered with an SFI rated scatter shield.**

21.7 No aluminum flywheels.

## **22. ROLL CAGE**

- 22.1 Main cage and door bars must be no less than 1.50" mild steel tubing, continuous hoops not less than 1.50" outside and have a wall thickness of at least .095'.
- 22.2 Any newly constructed car MUST use 1.75" steel tubing.
- 22.3 Must be frame mounted (no cage mounts can be added) in at least six (6) places (four upright pipes and two braces toward the rear).
- 22.4 Top HALO must be a minimum of 32" wide from outside to outside.
- 22.5 There must be a minimum of three (3) inches clearance between roll cage and drivers helmet.
- 22.6 There must be a cross brace or "X" brace in the rear hoop from side to side to allow for shoulder belt and seat installation.
- 22.7 Must be one forward brace off left front upright, to the frame, for feet protection.
- 22.8 There should be two bars running from side to side, attached to the roll cage or bottom door bars for seat installation. These two bars will have the seat mounted to them directly and should not be attached to the frame or the body of the car.
- 22.9 All welds must be a minimum of three (3) pipes on the inside of the driver's door (tied together and welded to the frame in at least two additional places) and two pipes on the inside of the passenger's door between the front roll bar and the rear roll bar.
- 22.10 It is mandatory that 1/8" plate be welded between drivers door bars and door skin. No brazing or soldering.
- 22.11 No square tubing.

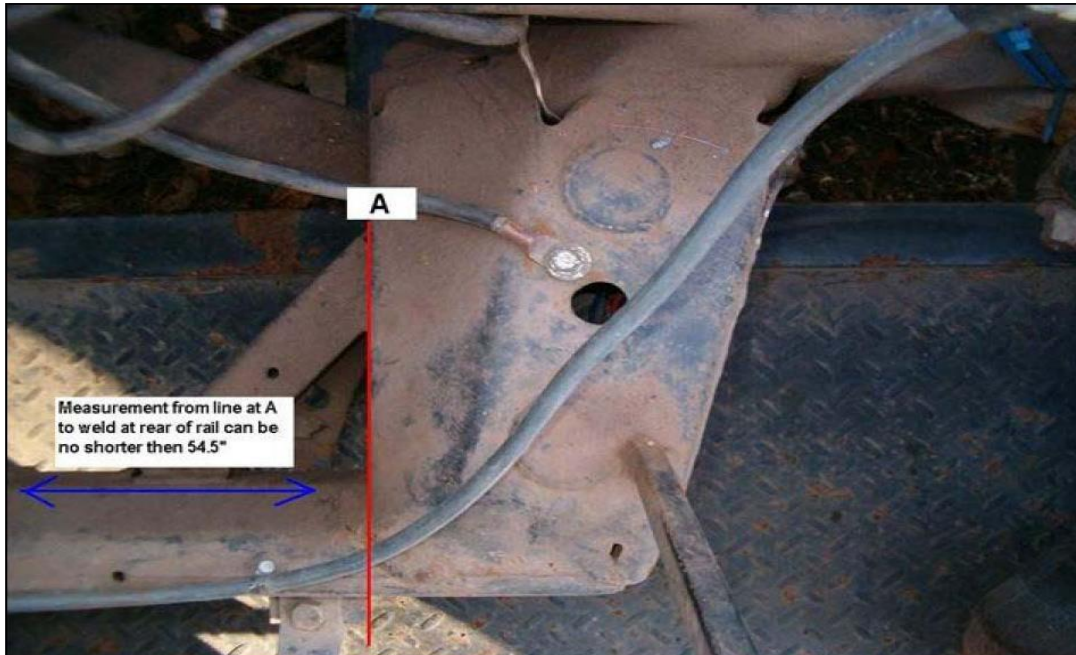
## **23. FRAMES AND SUSPENSION**

- 23.1 The suspension and running gear must be stock OEM for year and make of chassis. Police cars, taxis, etc. must conform to regular passenger car specifications. This includes rotors, brakes, spindles, control arms, trailing arms, steering components, etc. **Ball joints must stock appearing and be OEM type. No monoball types. (see rule 23.24 for clarification).**
- 23.2 Factory production, complete, 1973 or newer parallel American passenger frames only. No Jeep, Bronco, pick-up truck, 4WD, or similarly designed frames allowed. Allowable frames include: 1973-1978 GM 112" (i.e. Chevelle), 1978-up GM 108" (i.e. Malibu), 1978-up GM 114" (i.e. Impala), Ford Crown Victoria 114" (80's and 90's) Mopar 110" (i.e. Aspen) or 108" (i.e. Dart) MOPAR and FORD may use GM metric chassis.  
**The Johnson Chassis frames will be permitted with prior authorization from the the speedway. This can be a front clip, rear clip and/or center section. Johnson Chassis frame components MUST retain the Johnson Chassis RFI tag.**  
**NOTE: This chassis will be equipped with a suspension block to limit front end travel. It MUST be installed before chassis is allowed to compete.**
- 23.3 Minimum wheelbase 108" (factory specifications).
- 23.4 Both 112" and 114" Chevrolet frames may be shortened to 108". Similar to the Ford 114" frame, if frame is shortened it may only be cut at the front of the frame rails at the junction of the front clip. Any frames not cut properly will not be allowed to compete. If in doubt contact the Speedway before construction.

**Ride height may be NO lower than 6" measured with driver in car. NO LIFT ALLOWED**



23.5 Ford Crown Victoria frame may be shortened. Frame may ONLY be shortened at the front of the frame rails. The distance between weld where rail goes into rear clip section to the perpendicular to rail section in front clip (see attached pic) may be no less than 54 1/2". Cut rails MUST be butted together and welded with proper plating on sides of rails. No other frame modifications are allowed. Pickup points must remain as per stock frame. Ride height may be NO lower than 6" measured with driver in car. Wheelbase MUST be 108". Please call with any questions that aren't addressed in this new rule.



23.6 Rear of the frame may not be altered (coil for coil and leaf for leaf must remain).

23.7 The rear of the frame behind the axle may be reinforced or replaced for bumper support.

23.8 Stock rear frame arch (kick-up) must remain and maintain its original arch, mounts and pick-up points.

23.9 Leaf spring cars that replace the rear of the frame must maintain stock width at rear spring hanger mounting points.

23.10 Aftermarket rear control arms will be allowed. They will be subject to a strict adherence policy and will be inspected by template as to correct dimensions.

Further information is found in **APPENDIX "B"** in this rule package.

23.11 Rubber or urethane bushings may be used in rear trailing arms.

23.12 Any sway bar must be factory stock OEM. Front sway bar may have adjustable links.

Stock sway bars must be secured at OEM original frame location. Pedestal sway bar mounting allowed. No threaded adjusters allowed at frame mounting. The outboard ends of the sway bar must be mounted to the lower control arms in the original OEM position (above the control arm). Spacers and/or adjustable links may be used between the sway bar ends and the lower control arms. No droop limiters or ANY other added components to the front suspension.

23.13 Any tubing added between the frame rails and attached to the frame rails in front of the rear housing may not extend behind the rear housing. (ie. no underslung chassis)

23.14 No part of frame or added tubing may be below 4" (6" with 108" frame) measured with driver in car

23.15 Frames may not be widened or narrowed and must support the roll cage on both sides. Cars with sub-frames must join the front and rear clips. However, both clips must remain and must maintain their OEM measurements, mounts, and pick up points. Frames must be full and complete on both sides to the front of the suspension and steering components. No notching of frame rails.

**An OEM chassis may notch the outside of the frame rail to allow for front coil spring access.**

23.16 Tubing may be placed between the front and rear kickouts to strengthen the right front. Cage may not be attached to this piece.

23.17 Stock front cross member with following alteration:

GM (108 inch wheelbase)

- notch may be cut for fuel pump. Notch must be boxed in and may not exceed 2 inches deep and 2 inches back into cross member. Notch must be boxed in. Mopar notches may be cut for manifolds. RULING on Ford notching with Metric chassis to follow.

GM (111 inch wheelbase)

- no notching is required to obtain the 84% rule.

FORD (114 inch wheelbase)

- notch may be cut under oil pan for oil pump clearance. Notch must not exceed 8 inches wide, 2 inches back from front of cross member and 2 inches down from top of cross member. Notch must be boxed in.

23.18 No excessive drilling or lightening.

23.19 No Camaro frames or parts (Frames subject to inspection)

23.20 **Wheelbase shall not have more than 1" difference from side to side.** No front clips or tube type frames allowed.

23.21 Front and rear suspension and steering components must be uncut OEM for that frame. Stock spindles must match frame. No fabricated spindles.

23.22 **Bottom "A" frames cannot be altered, drilled or moved and must be stock OEM for frame used. Johnson front lower control arms will be allowed. They MUST be equipped with rubber bushings.**

23.23 Rubber or urethane bushings may be used in front lower control arm.

23.24 Aftermarket professionally built upper "A" arms may be used. **They must be solid tubular type only. Arms must be installed on the proper side of the car they're intended for, Left on left and Right on right.** **The arms must meet the following dimensions:**

- **Steel arm construction**
- **Steel cross shaft**
- **Bushing material - Steel**
- **Tube O.D.- 1.000"**
- **LH Arm C-C: 8.5" (+/- 1/2 ")**
- **RH Arm C-C: 8" (+/- 1/2 ")**
- **Cross shaft solid hole, C-C: (i.e. 6.875"metric)**
- **Offset – 1 1/4"**



(example shown: UB Machine)

**Upper and lower ball joints must be OEM type and match OEM mounting to arm. OEM ball joints will be allowed (no truck ball joints) as are low friction (i.e. Allstar) and rebuildable joints (i.e. Howe). ALL ball joints MUST meet OEM length.**

23.25 Stock upper "A" frames may be hulled for screw jack clearance only. No cutting, notching, and/or re-welding of control arm sides. They may be reinforced for strength only.

**23.26 An aftermarket (i.e. PRP) solid upper control arm mount will be allowed. It must match the angle and bolt location of the OEM mounts on both left and right frame rails. Control arm bolt spacing is 6 7/8". The front mounting hole must be 1/2-3/4" higher than the rear mounting hole as per the OEM mount.**



(example)

**23.27 Control arm upper mounts must be installed as close as possible to original OEM position and Angle.**

23.28 No coil-over shocks allowed either front or rear. No homemade coil-over allowed anywhere on race car.

23.29 Any coil spring must be at least 4-1/2 inches outside diameter.

23.30 Rear coil spring pockets can be reinforced or extended to allow for a longer spring.

**23.31 Rear OEM / Aftermarket trailing arms and front of leaf springs must remain in stock position on frame and rear end housing. Only one mounting hole will be allowed at each mounting location. No slotted, elongated, or redrilled mounting holes. NO pinion angle modifications allowed.**

23.32 Cars with rear leaf springs must use original pivot points with stock rubbers on front of springs.

23.33 **Maximum tread width 68" center to center front and rear.**

23.34 Lowering blocks o.k.

23.35 No fiberglass or plastic leaf springs allowed.

23.36 No lift bars, panhard bars or snubber bars.

23.37 Jacking bolts are allowed. On leaf spring, jacking bolt can be at rear of spring only.

23.38 All suspension parts must be stock length.

23.39 Stock rear cross member (at rear end housing) must remain in original location on frame and be utilized.

23.40 No Jeep, Bronco, pick-up truck (etc) or four wheel drive frames allowed.

23.41 One shock per wheel only; a total of four shocks per car. Hiem joints (welded on) will be allowed. All shock numbers MUST be readable. Shocks will be deemed illegal if numbers are unreadable. No performance shocks (except as listed in 23.39)

23.42 AFCO shocks will be allowed as an option for 2012.

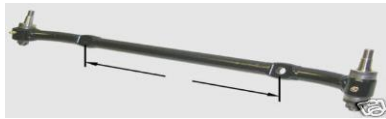
**AFCO shocks only with the following numbers: 1274FB, 1275FB, 1276FB, 1277FB, 1278FB. . In addition the 10 series AFCO will be allowed with the following numbers: 1073, 1074, 1075, 1076, 1078, 1093, 1094, 1095.**

**Numbers must be readable. No five digit (split valve) shocks allowed.** They must be as produced and have numbers clearly visible on the shock body for identification.

**Shocks may be subject to further testing as required during inspection pre or post-race**

**23.43 All suspension and steering components must be stock length and mounted in stock Location unless otherwise indicated (e.g. Shock mounts may be moved). Shock mounts are to be limited to one upper and one lower location. No threaded shock “quick” adjusters allowed. The bottom mount of the REAR shocks may have multiple mounting holes.**

23.44 An adjustable center link may be used (optional). It may be either the shim type (i.e. Howe) or the insert (slug) type (i.e. Allstar and Johnson). Note: Some insert type links require front crossmember modifications. This will NOT be allowed. These centerlinks must meet the OEM C-C measurement (i.e. GM metric 13”). The intent of this rule is to allow for the adjustment of bump steer without altering other suspension or steering components.



(Howe #23399)



( Allstar #ALL56330)



(Johnson #JCI 09-02-1-13)

23.45 A heim joint and adjusting sleeve will be allowed on the OUTER tie rod end only. This may require drilling the steering arm for installation.  
**NOTE:** Bump steer may be corrected by using the center links (shown above) or by the heim outer tie rod. **You may run one or the other but NOT BOTH.**

23.46 The distance between the rear of the motor (bellhousing flange) and the center of the rear axle tube can be no less than 84% of the wheelbase of the car.

23.47 Maximum 2" setback beyond 84% allowed on Ford and MOPAR. (except MOPAR and FORD with G.M. chassis).

23.48 All motors must be centered between the frame rails.

23.49 **Minimum crankshaft height will be the frame height plus 7 inches**

23.50 Driver must inform officials which frame is being used

23.51 A spindle saver may be used between the lower ball joint stud and the outer tie rod end stud. This bracket is to lessen the probability of steering arm distortion on contact. It may be fabricated and will be subject to inspection

23.52 **Ride Height: No lower than 6” (108”) and 4” (112-114”) with the driver IN car.**  
Ground clearance will be the same on both sides. Inspection height gauges must pass under frame with no contact. **NO LIFTS WILL BE ALLOWED.**

23.53 **Front end Camber angle will be inspected. The camber specification will be as follows:**

**LF wheel maximum camber will be 4.0 degrees positive or negative (+/- 0.5 degree)**  
**RF wheel maximum camber will be 6.0 degrees positive or negative (+/- 0.5 degree)**

23.54 There will be droop rule to limit the tightness of a chain or strap attached to the frame and rear end housing. Tech will determine the amount of slack in a chain or strap.

**23.55 NO suspension travel limiting devices will be allowed unless specifically noted. (Examples include, but are not limited to: bump stops, coil binding, chains, or shock mounting locations). This includes front and rear suspension. The front coil springs will be have tape applied to the coil wire to check for coil contact.**

**In addition cars may be inspected for binding and excessive travel in the front end. Tech may use various methods to check for this condition. Absolutely no travel limiting allowed.**

## **24. ASPIRATION**

24.1 Holley 4412, 500 CFM only.

24.2 Carburetor must remain AS PRODUCED except choke flap can be removed.

24.3 Serial numbers must be readable.

24.4 Jets and power valves may be normally interchanged.

24.5 No material may be otherwise added to or removed from the carburetor. Venturi area must not be altered in any manner. Casting ring must not be removed

24.6 **Carburetor must pass SPEEDWAY 660 NO-GO gauge tests**

24.7 **There must be two return springs on separate brackets. One spring to be forward mounted and one rearward mounted.**

24.8 **A positive throttle stop will be MANDATORY. This is to prevent a possible hung throttle. Throttle stop may be either firewall or carburetor mounted (i.e. Longacre Primary Throttle Stop bracket, Holley 2 BBL Item # 32732 and Holley 4 BBL Item # 32730).**

24.9 A four barrel to two barrel adapter, maximum 1 1/8", thick may be used.

24.10 Carb Spacer: Holes must be parallel to top (carb side) and bottom (intake side). No re-working of adapter of any kind.

24.11 General Motors and MOPAR are allowed two stock type gaskets, one thin and one thick.

24.12 On Ford, the carburetor will fit on stock two barrel intake, a 1" spacer is allowed.

24.13 No fuel injection, No electric fuel pumps, No belt driven fuel pumps.

24.14 No turbos, No magnetos.

24.15 AIR CLEANER AND AIR FILTER: An approved round air cleaner element- minimum 12 inches and maximum 14 inches diameter will be permitted. An approved air filter element - minimum 1 ½ inches - maximum 4 inches high, must be used in the air cleaner at all times. All air shall be filtered through element. K&N air filter elements will be permitted. Only a round metal air cleaner housing is permitted. The top and bottom of the air cleaner must be solid and must be the same diameter. No lips or expanded edges are permitted. The air filter housing must be the same diameter as the air filter element. The air cleaner housing must be centered and sit level on the carburetor. The bottom of the air cleaner housing must be lower than the top of the carburetor choke horn. **No tubes, funnels or any device, which may control the flow of air, is permitted inside of the air cleaner or between the air cleaner and the carburetor.**

24.16 No carburetor air boxes allowed.

## **25. RADIATORS**

- 25.1 One radiator only, mounted in stock location.
- 25.2 Hood must cover radiator without modification.
- 25.3 Electric Fan - can be used as pusher or puller. OEM fan may be removed.
- 25.4 Fan SHROUD will be mandatory for OEM fans.
- 25.5 No antifreeze permitted, water is the only acceptable coolant.
- 25.6 Must have a cooling system overflow located in engine compartment only or through a valve in the top rear of the right front fender area near cowl.
- 25.7 No added weight required for aluminum radiators.

## **26. FUEL AND TANK**

- 26.1 Safety approved fuel cells are recommended.
- 26.2 Fuel tank (other than approved cells) must be enclosed in a metal case of 18 gauge steel.
- 26.3 All tanks or cells must have a protective hoop at the rear. All tanks/cells must be installed behind the rear axle and between the frame rails and fastened to the frame.
- 26.4 **All fuel cells must meet a minimum clearance of 12 inches to any point at the bottom of the fuel cell with cars at appropriate ride heights. Fuel cell mounting will need to be adjustable to conform to this rule.**
- 26.6 No pressure tanks allowed.
- 26.7 A recessed fuel filler MUST be placed on rear deck at the base of the rear window or the drivers side rear quarter panel. A check-valve (flapper) must be used at the top of the tank as well as a check-valve installed in the vent hose which must exit through the rear bumper cover. As the filler is outside the body, you must still have a functioning full width trunk lid.  
**An example of the fuel filler is included in APPENDIX "C".**
- 26.8 All fuel lines must run under floor and must be metal.
- 26.9 Fuel must be pump gasoline.
- 26.10 No racing fuel. No Nitrous-Oxide, or nitro. No nitrous devices or plumbing allowed.
- 26.11 **An ATL or Fuel Safe FIA /SFI 32.1.certified bag type rubber bladder fuel cell is highly recommended**

## **27. STEERING**

- 27.1 **Steering box must be OEM and must remain within the original bolt pattern for the frame used. Power steering box and pump must be magnetic steel only.**
- 27.2 Power steering must remain and must be operating.
- 27.3 No fabricated steering components.
- 27.4 No cutting and/or welding pitman arm, steering arm, center link, or other steering components.
- 27.5 No rack and pinion steering. No steering quickeners.
- 27.6 In cockpit steering may be modified to suit drivers taste but must be kept on left side of the cockpit and the right side of the frame.
- 27.7 No center steering.
- 27.8 An adjustable idler arm will be allowed. It must be only an ALLSTAR # 56341



## **28. TIRES AND WHEELS**

28.1 Wheels must not exceed 10 inches wide and 15 inches high. Steel wheels only.

28.2 Minimum half inch studs recommended.

28.3 Oversize nuts that thread all the way over the stud required.

28.4 Tires may not extend beyond the fenders more than 2".

28.5 Track tire will be the Hoosier 890 – 8" treaded tire.

28.6 Tires raced at Petty International Raceway, Scotia Speedworld or Speedway 660 must be purchased from Petty International Raceway, Scotia Speedworld or Speedway 660.

**28.7 There WILL BE durometer testing for tire softener. The number enforced at this time will be 52. Tires may be tested at any time to ensure fairness and compliance. Any deviation from this number will be communicated to the teams.**

28.8 Track reserves the right to define tire size, structure, compound with respect to availability to all competitors for all events.

## **29. ALUMINUM**

29.1 No aluminum or exotic metal ; wheels, hubs, hats, rotors, calipers, pads, shoes, "A" frames, spindles, or any other suspension or rear end parts are allowed.

29.2 No aluminum drive shafts, harmonic balancer, or firewalls.

## **30. BUSHINGS**

30.1 All suspension bushings will be rubber or urethane with the exception of the front upper control arm bushings which will be steel. The rear trailing arm bushings may be only rubber or urethane. **NO SOLID BUSHINGS.( except where noted)**

## **31. BODIES**

**The GEN 6 Fivestar New Gen body and the AR Revolution body will be allowed for competition. These bodies must meet all applicable specifications and measurements.**

AR Bodies Muscle Car Body will be allowed. This body must be installed as per AR Body specifications and dimensions.

31.1 Approved Body Configuration (ABC) Bodies will be allowed.

31.2 FiveStar or AR bodies are recommended. Aftermarket bodies MUST conform to "Five Star" dimensions and angles and must meet template within 1.0"tolerance. (Weight penalties and/or rear spoiler removal/modification could apply to non conforming bodies)

31.3 **All vertical BODY measurements will be taken with driver OUT of the car.**

31.4 No station wagons, trucks, panels, vans, convertibles.

31.5 Rear deck lid must not be riveted to body. Must be hinged or made easily removable. **NOTE: Rear deck lid must have a minimum opening of 48"wide by 12"deep.** This will allow access to fuel cell for safety and inspection

- 31.6 All interior upholstery must be removed.
- 31.7 No cut-down doors. Safety retainers required on hoods and trunk lids.
- 31.8 Body must be contort on frame and retain its stock appearance, dimensions and angles.
- 31.9 Body must be 4" off the ground at all points.
- 31.10 Rear window brace mandatory. Window will not be permitted to "sag" under speed.
- 31.11 Passenger side window must remain completely open except for 8" from front window pillar for vent installation or clear lexan.
- 31.12 Rear deck spoiler Max length of 60" and max height of 5".
- 31.13 Rear deck height may be a maximum of 34.5" (+/- 1.0") off the ground. Rear deck area must be supported by adjustable braces to allow for conformity of rear deck measurement. Allowance will be made for those cars with higher than normal HALO. For example, if the HALO is forcing the roof to be 1.0" too tall, then we will allow for 1.0" higher deck.**
- 31.14 Full front windshield required. Must be Lexan or approved safety glass. At least two vertical braces on the inside of the windshield placed to the right of center are MANDATORY.**
- 31.15 All window pillars should be in place. Painted roll bars are not an accepted substitute for window pillars.
- 31.16 Must have steel floor plan and firewalls between the driver, engine and trunk compartments.
- 31.17 Aftermarket rubber nose cones must match the body.
- 31.18 No wings, or ground effects anywhere inside or outside the car.
- 31.19 The interior of the car cannot be arranged in such a way as to look like a spoiler.
- 31.20 No holes allowed in hoods. No cowl induction.
- 31.21 Any radiator air ducting must not extend ahead of the front bumper or behind the radiator and must be at least 4" off the ground.
- 31.22 A single exterior rub rail may be used on each side of the car, from behind the front wheel parallel to the ground, to ahead of the rear wheel, break for the rear wheel opening, and continue toward the rear of the car and fasten to the side of the rear bumper.
- 31.23 Rub rail may be square tubing or round pipe only. Maximum 1.0" outside diameter. Ends of the tubing or pipe must be tapered at each end and capped. No sharp edges.**
- 31.24 Exposed bolt heads must be carriage type only. No sharp edges.
- 31.25 Rub rails must fit tight with the side of the car and blend with car colors.
- 31.26 Numbers and lettering must be over rub rails
- 31.27 All cars in competition must have a complete paint job. Primer is not considered paint.
- 31.28 No body modifications allowed.
- 31.29 All cars must begin each race meet with complete body (hood, doors, fenders, trunk, lid, etc.) unless damaged in practice and/or ok'd by Pit Steward.
- 31.30 Hood and Trunk Lids: the hood and trunk are RECOMMENDED to be hinged to allow it to be flipped open but remain with the vehicle in the event the car needs to be towed from the track. Teams are having issues with the tow cable on the bumper so they are putting them on the frame under the hood or trunk and we are trying to find a quicker way to get cars towed into the pits with all parts still on the cars vs having the hood on the roof and fall off on the way in etc.
- 31.31 The spoiler must have a 1/2" split in the center to accommodate the centerline template.**
- 31.32 Spoiler length will be measured on the back side and will be a maximum of 60".**



## **32. BUMPERS**

32.1 Bumpers must be used both front and rear.

32.2 The centers of both bumpers must be the same height from the ground and measure between 16" and 18" from the ground

32.3 Bumpers must be constructed of max 2" tubing. A single bumper tube only at front and rear.

**32.4 Only 2 bumper support bars will be allowed. No reinforcing of bumpers or supports.**

32.5 Bumpers must not have any sharp edges exposed.

32.6 Rear bumper and brace bars must be sufficient to protect fuel cell or tank.

32.7 **TOW HOOK/LOOP** must be installed in both front and rear of car to allow for recovery vehicles to quickly lift cars and move them to the pit area. Recommended installation would be a steel cable attached to the bumpers and accessible through a hole/slot in the bumper covers. Alternately a bracket attached to the frame rails or cage and accessible when the hood and/or trunk lid are opened (keep in mind this is where we need the hinged hood and trunk if possible).

## **33. ELECTRICAL**

33.1 Batteries must be securely installed. and outside the driver's compartment. **A dry cell battery will be MANDATORY.**

33.2 Starting system must be operational. Car must be able to start under its own power.

33.3 The alternator system when used must be working within specifications. **All engine accessory drives must be driven off the front of the engine.**

33.4 **A Master Shut-off Switch must be mounted in the middle of the car, such that the driver can reach the switch while belted in the car.** The location must be accessible to safety workers outside of the car, regardless of how the car is sitting. It must be **fluorescent orange** to ease finding it during an emergency. **Decals to be used with the switch to indicate OFF and On.** May be mounted to cage or dash bars in center.

33.5 No Tachometer will be allowed during any heats or features.

## **34. BRAKES**

34.1 Brakes must be operating on all four wheels and must lock up all four wheels during inspection.

**34.2 Rear Disc brakes (Optional) as follows:**

**Option 1- A one piece steel rotor with a minimum diameter of 11 1/2 inch and a maximum of 11 3/4". Rotor thickness will be 3/4" minimum to 1" maximum. No drilling or lightening of rotors.**

**Or**

**Option 2 - Rotor and hat system Part # ALL42019 ONLY. (ALLSTAR).**

**Only stock GM cast steel calipers with a single steel piston of no greater than 2 1/2 inch diameter**

**allowed. May be mounted forward or rear of the axle tubing. No aluminum parts (all Steel). All parts must be the same size and configuration on both sides. Ford cars may use Ford rotors and calipers as long as they don't exceed the GM specifications. 1 1/4 maximum diameter and 1 inch thickness, as well as a single piston caliper, with a maximum diameter 2 1/2 inch. Must be all steel parts, no aluminum. If disc brakes used on the rear, bias valve must be to the rear brakes only.**

34.3 OEM brake pedal, master cylinder,(only one (2 line), with single push rod and must be under hood in stock location) rotors and drums.

34.4 Caliper brackets must be mounted in fixed position. Calipers must be OEM for frame manufacturer.

**34.5 Drilled, slotted or "J" hooked FRONT brake rotors will be allowed for 2015.**

**NO drilled, slotted, or "J" hooked brake rotors allowed on the REAR.**

34.6 A Brake Bias Valve will be allowed. **The installation will be limited to one Bias Valve installed to control brake pressure for front to rear or diagonal split setups.** The valve and control knob/lever MUST be clearly visible in the drivers compartment. It is recommended that the rear proportioning valve be removed when using a bias valve.

**Refer to "APPENDIX "D" for correct brake bias valve installation.**

34.7 Floor mounted brake pedal and single master cylinder assembly will be allowed. Only valves allowed in brake hydraulic system will be the proportioning valve as well as residual check valves that may be needed due to cylinder position.

34.8 Recommend using the following front rotors: Raybestos Brutestop 727 (BR5064R or BR5064L) or (for GM) - US Brake front rotor # 9850-6500-AE.

34.9 The Coleman aftermarket hub and rotor will be allowed. Coleman Billet Steel Sportsman Hub and Coleman Sportsman GT Series Straight Vane Rotor are the only parts allowed. They will match the OEM hub and rotor assembly dimensions.

34.9.1 Front brake rotors may be cooled by either 3" or 4" ducts directed at the front rotors only. A brake cooling fan may also be used. Air may be drawn from the radiator or nose area. The other brake cooling option is a wheel mounted cooling fan at the FRONT HUBS ONLY. **Car will be limited to ONE brake option only NOT BOTH.**

## **35. WEIGHT**

35.1 **Car must weigh a minimum of 3000 lbs. / 2950 lb. BEFORE any event. There will be a tolerance allowed for weight loss during the race. Any car weighing substantially less than the average of the other cars post-race may be disqualified pending further inspection.**

35.2 For **the vehicle weight limits will be assigned as follows:**

- **GM crate engine with a 2 bbl. carburetor will be 2950 lb. @ full fuel.**
- **GM crate engine with a 4 bbl. carburetor will be 3000 lb. @ full fuel.**
- **Built engine with a 2 bbl. carburetor will be 2950 lb. @ full fuel.**
- **Built engine with a 2 bbl. carburetor and 1:1 will be 3000 lb. @ full fuel**
- **The 1:1 gear ratio option will add 50 lb. to the above listed base weights.**

35.3 **Maximum left side weight 55 %. (Before race @ full fuel) Zero Tolerance allowed**

**The LEFT SIDE for a built engine will be 56 %. (Before race @ full fuel) Zero tolerance**

35.4 **Maximum rear weight 45 %. (ALL CARS Before race @ full fuel)**

35.5 **All weight percentages will be measured with driver in upright seated position.**

35.6 Track management maintains the right to adjust or further define the weight rule.

35.7 No weight to be placed lower than the bottom of the frame rails

35.8 No hydraulic, ratchet, electric, pneumatic, or any other kind of moveable weight devices anywhere in or on the car.

## **36. SEAT**

36.1 Aluminum racing seats are mandatory.

36.2 Recommend racing seats be fastened entirely to the roll cage (bottom and backrest) and not to the frame or floorboards.

36.3 Likewise seat belts should be to the roll cage.

36.4 The seat must be positioned so that the backrest is no more than 70% of the wheelbase (factory specification) from the front spindle (measured from the back of bottom of seat).

36.5 The bottom of the seat must be above the bottom of the frame.

36.6 NO FIBERGLASS RACING SEATS.

36.7 Aluminum or carbon fiber full containment seat with head supports must be used.

Seat must be bolted to the roll cage with minimum grade 8 fasteners will be MANDATORY.

## **37. SAFETY**

37.1 **The use of head and/or neck restraint system is MANDATORY. Systems such as Hans, Hutchens, NeckGen Rev and G-force SRS1 recommended, contact your local track for clarification.**

37.2 **Full face helmets are MANDATORY. The SNELL standard SA2015 will be the MANDATORY minimum standard. Helmet must accompany the vehicle at time of inspection.**

37.3 **The HANS device tether straps will be inspected. While not mandatory at this time, the straps are recommended to be replaced either every 5 years or in the case of hard impact then immediately.**

37.4 Fire suits of a flame retardant nature must be worn by all competitors whenever cars on the track.

37.5 If suit happens to be a two piece, both the top and bottom must be worn at the same time.

37.6 **Fire retardant gloves and shoes are MANDATORY.**

37.7 A securely fastened, quick release fire extinguisher is required within easy reach of the driver.

37.8 Fire extinguisher must be a **minimum of 2.5 lbs** and must have recharge slip **dated no earlier than January first of the current year.**

- 37.9 Drivers window net securely attached at the bottom with quick release top latch is required.
- 37.10 Five-point racing harness is the minimum requirement. Minimum date code on belts must be 2021.**
- 37.11 Drive shaft hoops required and must be constructed of material sufficient to contain the Drive shaft in the event of U-Joint/Drive shaft failure.
- 37.12 No aluminum drive shafts.
- 37.13 Drive shaft must be painted white.
- 37.14 Loose objects and/or weights will not be allowed in drivers compartment (between front and rear hoop).
- 37.15 Any added weight must be securely mounted, a minimum of two half inch bolts used with each weight.
- 37.16 All weights are to be painted white with car number painted on them.
- 37.17 A fire extinguisher of a minimum 5 lb. must be clearly visible in the teams pit area. Extinguisher must display car number on the side.**

## **38. NUMBERS**

- 38.1 All cars must have their assigned numbers on both sides of the car and on the roof (readable from the grandstand) at least 20" high and 4" thick in a color that contrasts with the car color.
- 38.2 A 6" white number is required on the top right corner of the front windshield.
- 38.3 Numbers deemed difficult to score, the driver will be notified and any scoring check requests for that car may not be acknowledged.
- 38.4 The top of windshield must be reserved for class sponsors.

## **39. Communications**

- 39.1 Radios ONLY are to be used and will be MANDATORY for all competitors. No scanners in car. Spotters will have a scanner directly attached to them to monitor race control. No exceptions.
- 39.2 Any team using talking and/or listening devices MUST provide track officials with all their frequencies. Only 100, 400, and 800 MHZ frequencies allowed. NO 900 MHZ frequencies. All frequencies must be able to be monitored by official's multi-channel scanner with NO modification.
- 39.3 All frequencies MUST be able to be monitored by track officials. No scrambling allowed.
- 39.4 A scanner (monitoring track officials) MUST be attached to a spotter with direct communications to the driver.

## **40 SCORING DEVICES**

- 40.1 Transponders are available at the speedway on race day.
- 40.2 Transponder location will be on the inside of the right frame rail 6" ahead of the engine crossmember.**

## **41. MISCELLANEOUS**

- 41.1 No performance or aftermarket speed equipment of any kind is allowed.
- 41.2 **Must have tow hooks on front and rear frame.**
- 41.3 Should have a loop in the center of each bumper (cable or chain) that can be used for each pickup.

41.4 One stock passenger car inside mirror may be used and must be mounted inside the car.

41.5 Roll bar padding is **MANDATORY** around driver.

41.6 Anything not being specified as allowed must be stock.

41.7 Stock parts are those manufactured for the normal family sedan, not taxis, police cars, muscle cars or any other special editions.

41.8 Any misrepresentation of the rules will be subject to a final decision by track officials.

41.9 Track officials may check any car at any time.

41.10 Track reserves the right to amend any rule with prior (fair) notice to competitors.

**41.11 Speedway 660 reserves the right to confiscate and retain any parts or components that are deemed to be non-conforming to the rules set forth in these pages. The decision of track management will be final.**

**41.12 Any car that fails inspection must be reinspected before it is allowed to compete at the next event**

**NOTE: For clarification of these rules or for any other technical inquiries please contact the Speedway 660 Tech Director (Don Greer) at [dgreer76@gmail.com](mailto:dgreer76@gmail.com)**

# APPENDIX "A"

## Circle Track 350/350

Designed for circle track's weekend warriors, this bulletproof 350-HP, 350-CID factory-sealed racing engine is a tough combination of power and reliability?and it fits almost any racing budget.

Based on GMPP's popular 350 HO engine, including a brand-new, four-bolt-main block, 9:1 aluminum pistons, cast iron crankshaft and GM iron Vortec cylinder heads, the 350/350 "Factory Stock" version features a high-rise dual-plane intake manifold, 8-quart single kick-out circle track oil pan, valve cover kit with breather tube and breather, and special "kool nut" rocker arm nut design.

The 350 HO's unique dual-pattern cam is included, too. It's based on the one found in 1965-67 Corvette 327 engines, but with more lift and duration to clear the engine exhaust quickly and move in more air?providing excellent mid- and high-range power, where you need it on the track.

Delivered complete from the oil pan to the intake manifold? including an HEI distributor?the 350/350 racing engine has the proven parts and HP to power a competitive racecar.



<b>TECH SPECS: Circle Track 350/350</b>	
<b>Part Number</b>	88958602
<b>Engine type</b>	Chevy small-block V-8
<b>Displacement (cu in)</b>	350
<b>Bore x stroke (in)</b>	4.00 x 3.48
<b>Block</b>	cast iron with 4-bolt main caps
<b>Crankshaft</b>	nodular iron
<b>Connecting rods</b>	powdered metal steel
<b>Pistons</b>	cast aluminum
<b>Camshaft type</b>	hydraulic flat tappet
<b>Camshaft lift (in)</b>	.435 intake / .460 exhaust
<b>Camshaft duration (@0.050-in)</b>	212° intake / 222° exhaust
<b>Cylinder heads</b>	GM Vortec iron; 64cc chambers
<b>Valve size (in)</b>	1.94 intake / 1.50 exhaust
<b>Compression ratio</b>	9.1:1
<b>Rocker arms</b>	stamped steel
<b>Rocker arm ratio</b>	1.5:1
<b>Recommended fuel</b>	92 octane
<b>Ignition timing</b>	32° total @ 4000 rpm
<b>Maximum rpm</b>	5500

## **Note to Sportsman Competitors:**

This engine will require a GM flywheel, water pump, and an oil filter adapter. Part numbers are included in the text below. All other components (i.e. headers, brackets, etc.) will readily transfer to the new engine. Headers will be the same as the current rules specify. No stepped designs are allowed.

There are two main differences in this application. The carburetor will be the Holley 650 cfm 4150 HP #80541-1. This carburetor is the spec carburetor used when the engine was produced and dyno tested. This unit is to be installed "BOX STOCK". The carburetor will bolt directly to the intake using a maximum .065" gasket only. No spacer plate will be allowed. It must pass specific Speedway 660 guage tests (go/no go) as well as any other inspections

This four barrel configuration will put the engine in approximately the same horsepower/torque range as our conventional engines. Speedway 660 will monitor the performance of this engine and adjust rules accordingly.

The other main difference is that this engine is factory sealed as well as SPEEDWAY 660 sealed. This will provide a level of technical standard that will allow consistency in application as well as from an inspection level.

**The engine may be purchased from any competitor's local GM dealer and may have the SPEEDWAY 660 seals applied at that time. The seal and numbers will be recorded for technical inventory and tracking. Contact your local GM dealer for more info on pricing and transferring to your local dealer if needed once the SPEEDWAY 660 seal has been installed.**

If there are *any questions* regarding the implementation of this engine, please forward requests to the **Speedway 660 Tech Director (Don Greer) at [dgreer76@gmail.com](mailto:dgreer76@gmail.com)**

**NOTE: A minimum \$100.00 charge will be required for seal installation and recording for inventory of these engines.**

### **Engine Parts List:**

- **14088646** 1986–up 12.75" 3.00" 10" 153 teeth. For one-piece crank seal. Lightweight nodular iron; weighs approximately 17 pounds.

OR

- **14088650** 1986–up 12.75" 3.00" 10.4" 153 teeth. Standard-weight flywheel for one-piece crank seal
- **88894341 (use on engine P/N 89958602) Water Pump, Long-style cast iron**
  - Late-style cast iron pump with long mounting legs reinforced snout and 3/4" diameter shaft
  - End of shaft is reduced to 5/8" diameter
  - Use with 350 HO, 383 and ZZ4 engines
- **3952301 (used on all crate engines)**

### **Oil Filter Adapter**

- Mounts a spin-on cartridge for small-block V-8s (except LS Series)
- Contains a filter bypass valve and requires two attaching bolts, P/N 3951644



## APPENDIX "B"

### Approved Metric Chassis Rear Control Arms



**Metric Lower Arm**



**Metric Upper Arm**

**Tucker Racing Products**

**Contact : (506) 450-2051  
Address: 111 Killarney Rd Fredericton, NB**

**Sommerville Racing**

**Contact: 506-832-0884  
Address: 139 Bayside Dr.  
Saint John, NB E2J-1A3**



**Metric Lower Arm**



**Metric Upper Arm**

**Johnson Chassis Inc.**

**Contact: 704-784-5353  
Address: 7140 Weddington Rd, Suit 124  
Concord, NC 28027**

**NOTE:** The forward holes in the Johnson Chassis upper arm must be filled or otherwise made non-functional. This will be strictly enforced. The arms must meet OEM length.



## **APPENDIX "C"**

### **Fuel Cell Filler Location (example)**

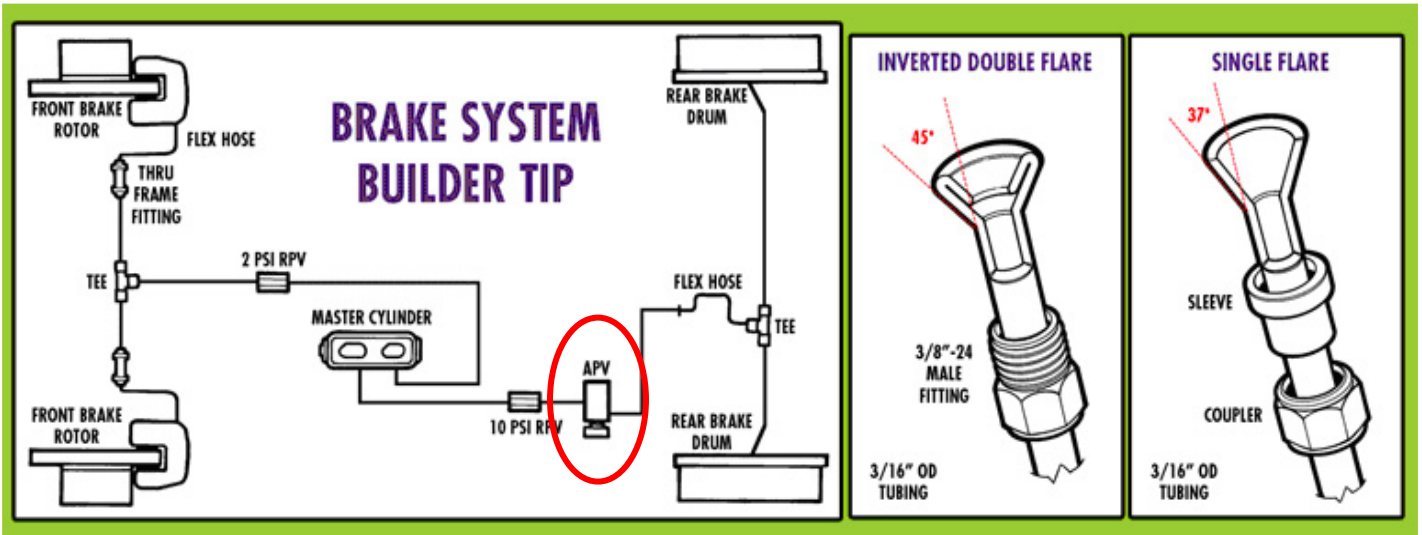


### **Recessed Fuel Filler (example)**



# APPENDIX “D”

NOTE: This brake bias valve plumbing illustration is intended to be generic in nature but highlight the specific brake items allowed for this application.



Recommended applications include a 2 PSI residual pressure valve (RPV) to the front rotors as well as a 10 PSI residual pressure valve (RPV) to the the rear drums or a 2 PSI residual pressure valve (RPV) to the rear discs. The residual pressure valves are needed with the installation of a floor mounted brake pedal/master cylinder. The brake bias valve is displayed as an adjustable pressure valve (APV) in this illustration.

One bias valve only permitted and it must be to the rear brakes before the line splits into two lines, one to each rear brake.