



**2020**

# **FIGURE 8 RULES**

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## BODY

1. All cars must have complete bodies, hood, fenders, and bumpers. The body must have a neat and presentable appearance.
2. A full front windshield, made of LEXAN is mandatory.
3. Mirrors must not extend outside the car. No side mirrors are allowed. Maximum size of the rearview mirror shall be 2 1/8 X 17 3/4.
4. All doors must be fastened in an approved manner.
5. Full hood is mandatory and must be fastened with a minimum of two (2) fasteners in the front and two (2) fasteners in the rear. Hood scoop is permitted but may not exceed three (3) inches in height. Air cleaner cannot protrude more than two (2) inches through hood.
6. Fenders must be cut and rolled for tire clearance only.
7. Rubber or fiberglass front nose permitted.
8. The minimum wheelbase is 105".
9. Spoilers shall measure five (5) inches in height – sixty (60) inches in length.
10. The rear deck lid (trunk) must be fastened with four (4) fasteners.
11. Front Bumper (OEM type) or aluminum channel is mandatory. May not be reinforced. Cars running stock bumper covers may only run a 1 3/4 diameter maximum .095 wall, bar on the inside of the cover. Center line of front bumper will measure 14 inches to the ground. Front bumper must not extend out past the fenders. No jagged edges permitted.
12. Rear Bumper may be either stock OEM type or aluminum channel. May be reinforced to protect the back of the car, using a maximum 1 3/4 diameter .095 tubing on outside of quarter panel. The center line of the rear bumper must measure 14 inches to the ground. No jagged edges permitted.
13. Nerf Bars are required and must be mounted at center hub height. Single diameter, straight nerf bars ONLY. No double nerf bars permitted. Maximum diameter of the nerf bars shall be 1 3/4 diameter .095 maximum tubing. No jagged edges permitted. Nerf bars are not to extend past outside of tires. Square tubing may be used. Must be flush to the body.

## ENGINE OPTIONS

### **OPTION # 1: 602 CRATE**

- A1. GM 602 Crate Engine will be used with a Holley 650cfm, Part # 0-82651 carburetor and any 1" aluminum (only) spacer.
- A2. It is mandatory that ALL crate engines be purchased and sealed by Riverhead Raceway.
- A3. All engines must remain as delivered by General Motors including: harmonic balancer, distributor, valve covers, springs, rocker arms, seals, etc.
- A4. It is strictly forbidden to tamper with the factory and/or RMC seals in order to gain access to the internal workings of the engine. Anyone caught tampering with the factory and/or RMC seals shall immediately have their engine confiscated by Riverhead Raceway, fined \$1,000 and be stripped of all points accumulated up until the time of infraction.
- A5. These crate engines are considered to be non-rebuildable and non-repairable. In the event that an engine sustains internal damage or wear that requires removal of one or more seals, the engine is then said to have served its life and must be discarded and a new one obtained!
- A6. Any sale of a crate engine has to take place with a Riverhead Raceway Tech Official present.
- A7. CARBURETOR
  - a. Unaltered Holley 650cfm, Part # 0-82651 is the only legal carburetor!
- A8. BUTTERFLIES :
  - a. Idle holes may be drilled in the butterflies.
  - b. Screw ends may be cut even with the shaft but the screw heads must remain standard.
- A9. CARBURETOR SPACER / GASKET:
  - a. The carburetor spacer must be a maximum of up to one inch thick.
  - b. Any aluminum spacer is allowed.
  - c. No sandwich type or insulator type gaskets permitted. The maximum gasket thickness shall be .065
- A10. IGNITION SYSTEM:
  - a. Stock ignition systems only that is supplied with the 602 Crate.
  - b. Distributor must remain unaltered.
  - c. Engine must retain stock firing order.
  - d. No traction control permitted.
- A11. ENGINE OIL:
  - a. Any type of combustion enhancing oils or additives are strictly prohibited.

## ENGINE OPTIONS

### **OPTION # 2: Figure 8 Motor**

Engine will be used with a stock Holley R-4412 two (2) barrel 500 cfm. All Engines must have the engine and carburetor sealed within the first four (4) weeks of the season.

#### B1. ENGINE DISPLACEMENT:

- a. Chevy engines are allowed up to 350 cubic inches plus .045 inches overbore per cylinder.
- b. Ford engines are allowed up to 351 cubic inches plus .045 inches overbore per cylinder. The Ford 351 Windsor engine is the only block permitted.
- c. Chrysler engines are allowed up to 360 cubic inches plus .045 inches overbore per cylinder.
- d. The maximum allowable compression ratio shall be 10.0 to 1 in all cylinders.

#### B2. ENGINE BLOCK:

- a. The block must remain factory stock.
- b. No coatings permitted on any part of the engine, except piston skirts.
- c. The engine block external dimensions MUST remain stock.
- d. No internal porting, polishing, relieving, or coating of the engine block permitted.
- e. No aluminum or bow tie blocks permitted.

#### B3. PISTONS / RODS:

- a. Only three (3) ring groove, full skirt pistons allowed.
- b. Flat top or dished pistons only.
- c. No portion of the piston may protrude above the top of the block.
- d. Valve reliefs may be cut into the pistons.
- e. Steel connecting rods allowed. Stock production rods allowed. All aftermarket rods allowed but must be a solid I-beam type steel sportsman rod. No "H" beam style rods permitted
- f. The following are the only rod lengths allowed:

General Motors	5.700
Ford "Windsor"	5.954
Chrysler	6.000
- g. Connecting rods may be bushed.

#### B4. CRANKSHAFT / BALANCER:

- a. Only standard steel or cast iron crankshafts permitted, minimum weight 48 lbs.
- b. Stroke may not be increased or decreased.
- c. No knife-edge crankshaft permitted.
- d. No aluminum balancers. No pendulum undercutting permitted.
- e. Crankshaft must have (350) main journal and 2.100 rod journal.
- f. Maximum undersize both rod and main journals .030

#### B5. OIL PAN

- a. Wet sump only. No dry sump system or external pumps allowed.
- b. Accusump systems prohibited.
- c. **A one inch inspection hole (such as those manufactured by Canton) must be installed in the oil pan. The plug must be installed in a way as to not impede its use. Mandatory in 2019**

## ENGINE (CONTINUED)

### B6. CYLINDER HEAD:

- a. Cylinder head must be of stock production only.
- b. No bow tie, aluminum, Dart II, SB2, GM angle plug, Ford SVO, or Chrysler Performance heads allowed. No aftermarket heads permitted, with the exception of Engine quest cylinder head part number CH350I will be allowed. Must have serial number intact. No modifications of any kind will be permitted with the exception of milling the deck surface to adjust for the compression ratio rule and drilling the push rod holes for push rod clearance, components used to complete the assembly of this cylinder head must adhere to the existing rules for this division. Riverhead Raceway must approve all cylinder heads.
- c. Limit of two (2) valves per cylinder.
- d. No titanium or other lightweight valves permitted.
- e. No porting, polishing, relieving, or coating of the cylinder head permitted.
- f. External modifications will not be permitted.
- g. Valve springs; retainers and keepers must remain OEM stock dimensions. Single diameter valve springs only. The maximum valve spring diameter is 1.250. Aftermarket retainers permitted. Must be magnetic steel. No lightening, scalloping, drilling or machining of retainers. Must be round in shape and weigh a minimum weight of 20 grams.
- h. No modifications to the combustion chamber permitted, including unshrouding of intake or exhaust valve sides of chamber. Basic three (3) angle valve job permitted. The only angles permitted will be as follows:

Top angle	30 degrees
Seat angle	45 degrees
Bottom angle	60 degrees

- i. A 70- degree or greater angle below bottom of valve seat is not permitted.
- j. The maximum grinding, cutting, or machining depth permitted will be limited to a maximum depth of .250 (1/4 ") as measured from the top of the valve seat.
- k. All cutting, grinding, and machining in reference to the specified angles must be centered off the centerline of the valve guide.
- l. Upon completion of the valve job, all areas below the specified depth including, but not limited to: short side radius, bowl area, port floors, port roofs, port sides, area above bottom of valve guide protrusion, port runners, port entrances, exhaust port exits, may not be altered in any manner.
- m. Cylinder heads must retain all factory stock as cast dimensions and configurations.

### B7. HEAD GASKETS / SPACERS:

- a. On all engines, only one standard flat gasket may be used between the head and the intake manifold. No wedge type gaskets allowed.
- b. No metal or Bakelite spacers allowed.

## ENGINE (CONTINUED)

### B8. CAMSHAFT / VALVE LIFTERS / ROCKER ARMS:

- a. Solid or hydraulic camshaft permitted.
- b. No roller camshaft and / or lifters permitted.
- c. No mushroom lifters permitted.
- d. Stock diameter lifters only for make of engine.
- e. Lifters must be similar in design / size as original equipment.
- f. Stud mounted roller rocker arms permitted.
- g. Stock ratio rocker arms permitted.
- h. No pedestal or shaft rocker arms permitted.
- i. 7/16 diameter rocker arm studs permitted.
- j. Screw in rocker arm studs and guide plates are permitted.
- k. Rocker arm stud girdles are not permitted.
- l. OEM type timing chain only. No gear or belt drives permitted.
- m. Chrysler heads must use stock OEM rocker shafts and rocker arms with adjustable push rods.

### B9. INTAKE MANIFOLD:

- a. Stock cast iron two (2) barrel manifolds with two (2) port style only.
- b. No aluminum intake manifolds permitted.
- c. No four (4) barrel manifolds permitted.
- d. Absolutely no modifications / alterations allowed.
- e. All casting numbers must remain on the manifold.
- f. The officials must approve intake manifold.
- g. MUST have a 3/32 hole drilled in the head each of 2 intake bolts (directly next to each other) on both sides of the intake.
- h. Unaltered Elderbrock 2101 manifold permitted on non Vortec headed engines ONLY

### B10. CARBURETOR:

- a. Stock R-4412 Holley two (2) barrel 500 cfm is the only legal carburetor.
- b. No ram tubes or ducting allowed. No fuel logs or cooling devices allowed.

### B11. BODY OF CARBURETOR:

- a. No polishing, grinding, or drilling of holes permitted.

### B12. CHOKE HORN:

- a. Choke horn may be removed.

### B13. BOOSTERS:

- a. Boosters may not be changed.
- b. Size and shape of booster must not be altered.
- c. Booster height must remain standard.

### B14. VENTURI:

- a. Venturi area must not be altered in any way.
- b. Casting ring must remain completely visible and may not be removed.

### B15. BASE PLATE:

- a. Base plate not to be altered in size or shape. No holes drilled in the base plate.

## **ENGINE (CONTINUED)**

### B16. BUTTERFLIES:

- a. Stock butterflies must not be thinned or tapered.
- b. Idle holes may be drilled in the butterflies.
- c. Screw ends may be cut even with the shaft but the screw heads must remain standard.

### B17. THROTTLE SHAFT:

- a. The throttle shaft must remain standard and must not be thinned, cut, or nicked in any manner.

### B18. CARBURETOR SPACER / GASKET:

- a. The adapter plate and carburetor spacer must be a maximum of one (1) inch thick
- b. The spacer must have two (2) holes that match the base of the carburetor. The holes must be cut perpendicular with the base of the carburetor. No taper or bevels.
- c. The maximum gasket thickness shall be .065

## **WEIGHT RULES**

1. All cars will require a minimum weight of 3,200 lbs, with the driver, after the race.
2. All cars will have a maximum rear weight percentage of 47.5%.
3. Added weight must be mounted within the frame rails and mounted securely with a minimum of two (2) 3/8" bolts.
4. No weight may be fastened in the drivers' compartment.
5. All added weight must be painted white, with car number and division on weight clearly marked.
6. Dislodged weight cannot be returned to the car for weighing after the race.
7. Car weighed with driver in normal position with helmet on lap.

## **BATTERY**

1. The battery must be securely fastened and properly covered.
2. One (1) single 12-volt battery.

## **EXHAUST SYSTEM**

1. Twelve (12) inch Lobak mufflers must remain intact.
2. Stock cast iron exhaust manifolds only.
3. No headers.
4. No porting, polishing, or welding of exhaust manifold.
5. Exhaust pipes must extend to the outer edge of body.
6. The mufflers must be the last item on the exhaust system and must exit behind the doors.

## **FIREWALLS**

1. An minimum of 18 gauge steel fire wall must separate the drivers' compartment from the trunk and engine compartments

## **FUEL CELL**

1. Fuel cell is mandatory and must be a maximum of 22 gallons. Must contain foam inside.
2. The fuel cell must have a steel outer container (no less than 18 gauge steel) completely enclosing the rubber bladder.
3. The fuel cell must have foam protection.
4. The inlet and vent lines must have a ball check or flapper valve.
5. The fuel cell must be a minimum of eight (8) inches off the ground.
6. Fuel Cell must be secured with (4) one inch x 1/8 inch steel straps. 2 going from front to rear and 2 going left to right. Large washers or 1/8 steel plates on underside and a minimum of 3/8 inch bolts securing the straps.
7. The cell must be protected with 1'x1'x1/8" square tubing in an "X" shape underneath the cell.
8. Fuel shut off valve mandatory and must be labeled and within the reach of the driver.
9. Fuel lines may not run inside the car.
10. NO ballast in fuel cell (lead etc.)



## **FRAME**

1. Any passenger car frame permitted. Two (2) by three (3) front clip permitted. This front clip must have stock suspension mounts.

## **IGNITION SYSTEM**

1. Dual point distributors are not permitted.
2. Aftermarket distributors will be permitted but limited to the following mfgs; GM Performance, DUI, MSD, and Crane Cams.
3. Coil must be "in cap" style.
4. Engine must retain stock firing order.
5. No traction control permitted.
6. GM Performance, DUI, MSD, and Crane Cams. module is permitted in stock HEI distributors (GM)

## **REAR END**

1. Aftermarket rear ends or center sections permitted.
2. No ratchet, limited slip, torque bias, permitted.
3. Full floating rear axle permitted.
4. Full spool or mini spool permitted.
5. Quick change rear ends permitted.

## **ROLL CAGE**

1. Minimum size of roll cage tubing is 1 3/4" (.095) thick. seamless tubing with gussets mandatory.
2. All bars within drivers reach must be padded.
3. The distance between the front and rear roll cage hoops will be 53 1/4 inches.
4. Cars must have four (4) sidebars on the left side and three (3) sidebars on the right side
5. Roll bars in the drivers' area must be padded.

## **ROLL CAGE (CONTINUED)**

6. Center windshield bar and double padded brain bar are mandatory.
7. It is mandatory to have a 16 gauge metal welded between door bars or a 16 gauge 40" length and 17" height minimum welded between the door bars and the driver's door.
8. An additional bar must be installed in the roof of the car running from the rear horizontal bar to the front horizontal bar.
9. Gussets are mandatory.

## **SEATS**

1. Containment style seat strongly recommended.
2. Seat MUST be an aluminum racing seat bolted to a steel frame, connected to cage. Must have six (6) -3/8" bolts, grade 8 with minimum 2" dia washers securing seat from inside. One (1) must be in each corner of the seat (2-3" from the outer edge) and two (2) in the headrest securing the seat to the upper support brace.
3. A support brace must be properly installed in the rear of the seat at shoulder height.
4. A quick release NASCAR approved 5-point Minimum 16.1 SFI must be properly mounted.
5. Belts must be securely fastened to the roll bars. The belts must be dated and must be replaced at the conclusion of the 2nd year of manufacturer.
6. A drop down window net is mandatory. Must be mounted in an appropriate manner.
7. Center top of steering wheel must be padded.
8. Approved padded headrest mandatory with a minimum of 16 square inches.

## **STARTER**

1. Self-starter must be in working order and be located in stock position
2. All cars must start under their own power.

## **SUSPENSION**

1. Coil- over shocks permitted.
2. Only one (1) shock permitted per wheel. Steel non- adjustable shock.
3. Minimum ground clearance is four (4) inches with the driver in the car.
4. A minimum height of 45 inches is permitted with the driver in the car.

## SUSPENSION (CONTINUED)

6. Spindles, Wheel bearings and hubs MUST meet the following requirements:  
Front spindles must be linked to the frame using an approved tether. One end of the cable with the large eye must wrap around the frame and pass through the smaller eye. The large eye of the cable must loop over the upper portion of the spindle.
7. Safety hubs may be used.

## TRANSMISSION, DRIVELINE, AND CLUTCH

1. Transmission
  - a. Three (3) or four (4) speed OEM standard transmission only. No automatic transmissions.
  - b. All standard transmissions must have at least three (3) forward and one (1) reverse gear in working order.
  - c. The only allowable machine work to the transmission is the removal of first gear.
  - d. Steel scatter-shield required.
2. Driveshaft
  - a. The driveshaft and universal joints must be similar in design to standard production.
  - b. All driveshaft(s) must be steel and painted white.
  - c. Two (2) driveshaft straps required. Minimum of 1" x 1/8"
3. Clutch/Flywheel
  - a. Steel flywheel only.
  - b. The stock steel type clutch assembly combined with the flywheel and flywheel bolts must weigh a minimum of 30 lbs.
  - c. The minimum clutch diameter shall be ten (10) inches.
  - d. No turning or drilling permitted.
  - e. No multiple disc clutches permitted.

## WHEELS AND TIRES

1. Steel Wheels only. No aluminum wheels permitted.
2. Split rims are NOT permitted.
3. Maximum width of rims is ten (10) inches.
4. Track tire rule will be in effect and must be purchased at Riverhead Raceway.

## RIVERHEAD RACEWAYS APPROVED HOOSIER TIRE ALL CLASSES

1. Practice tires may be purchased for the two Riverhead Raceway open practice dates. Tire bank is mandatory for all scheduled races.
2. Coded serial numbers will be scanned and entered into a database designating each tire purchased as a tire for use. The legibility of the bar code is the sole responsibility of the team.
3. Each division (driver) will be allowed a maximum of eight (8) tires starting on the first race of the season.
4. Distribution is as follows: The completion of a qualifying event will allow a driver to receive one (1) tire credit. Taking the green flag in the feature will allow a driver to receive one (1) tire credit. During the current season, tire credits may be accumulated and used in any future race event including all long-distance races. Tire credits apply to each driver and car combination per division. Any substitutions must be approved by Riverhead Raceway officials.
5. After the 4th race event, new drivers will be allowed to start their season off with only six (6) new tires and two (2) previously used Riverhead Raceway Hoosier tires. The used tires must be inspected, scanned, and approved by Riverhead Raceway officials.
6. Any time a car goes on the track for practice, qualifying, and/or features, banked tires are mandatory.
7. If banked tires are not found on the vehicle at the time of inspection, and/or bar codes have been tampered with, driver and car will be parked for the evening's event and/ or disqualified from the evening's completed or current point races and removed from handicapping system for the next 3 consecutive races.