

### **M.1.C Race of Champions Asphalt Late Models**

**ANY CAR, TEAM AND/OR DRIVER THAT DOES NOT MEET THESE SPECIFICATIONS AND/OR EQUIPMENT REQUIREMENTS WILL BE SUBJECT TO PENALTIES AS DETERMINED BY THE Race of Champions OFFICIALS. Any new components, including engine components, body designs, frame designs and/or components of any type utilized in competition must be approved by Race of Champions Officials prior to being introduced into competition.**

**Any components which are not defined by the following rules will be defined as pursuant to the 2020 Champion Racing Association Powered by JEGS Rulebook as per the latest revision of said copy: (<http://cra-racing.com/wp-content/uploads/2015/12/2017-CRA-Rulebook-ver-010417.pdf>)**

**For all body dimensions only the Approved Body Configuration (ABC) dimensions will be permitted (<http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>)**

#### **NOTICE**

ALL MODEL, ENGINE OR EQUIPMENT CHANGES OR MODIFICATIONS NOT SPECIFICALLY ADDRESSED IN THIS RULE BOOK BY RACE OF CHAMPIONS MUST BE SUBMITTED, IN A COMPLETED FORM/ASSEMBLY, TO RACE OF CHAMPIONS FOR CONSIDERATION OF APPROVAL ON OR PRIOR TO NOVEMBER 1, 2020 UNLESS OTHERWISE AUTHORIZED BY RACE OF CHAMPIONS, TO BE CONSIDERED FOR COMPETITION FOR THE 2021 SEASON. THE APPLICANT WILL BE NOTIFIED OF APPROVAL OR REJECTION FROM RACE OF CHAMPIONS. RACE EQUIPMENT WILL NOT BE CONSIDERED AS HAVING BEEN APPROVED BY REASON OF HAVING PASSED THROUGH INSPECTION AT ANY TIME OR ANY NUMBER OF TIMES UNOBSERVED OR UNDETECTED. ANY RACE EQUIPMENT WHICH DOES NOT CONFORM TO SPECIFICATIONS OR TOLERANCES CONTAINED IN THE RACE OF CHAMPIONS RULE BOOK, OR IS NOT OTHERWISE APPROVED BY RACE OF CHAMPIONS, MAY NOT BE USED IN COMPETITION IN 2020. ALL SUBMITTED RACE EQUIPMENT MUST BE ACCOMPANIED BY COMPUTER AIDED DESIGN (CAD) FILES AND/OR MECHANICAL DRAWINGS AND REQUISITE FEE AS DETERMINED BY RACE OF CHAMPIONS.

#### **m.1 Engine**

##### **1. Engines / Engine Options**

**By January 1, 2020 any rebuilt crate engines as specified below must have the Sealed Engine Alliance Leaders (S.E.A.L.) seals from a rebuilder on the current S.E.A.L. approved list or carry a 50 lb penalty. Any type of seal and/or seals on the engine must remain in place and remain unaltered. It is recommended that any engine currently conforming to the rules as set forth by the S.E.A.L. program, should be probably inspected and sealed by an approved engine builder prior to being entered into competition in the 2020 season. Gor-Den Automotive is the only engine builder in the region that is certified as part of the S.E.A.L. program.**

**The following engines are the approved "crate" engines for competition: GM #88958602; GM #88958604; Ford M06007-D347-SR; McGunegill Ford 425LM**

a.) Any GM / Chevrolet Performance 602 Crate Engine (unaltered as per the GM / Chevrolet 602 Performance Manual) must weigh a minimum 2,650lbs with a total 59% left side weight.

b.) Any GM / Chevrolet Performance 604 Crate Engine (unaltered as per the GM / Chevrolet 604 Performance Manual – S.E.A.L.) must weigh a minimum 2,700lbs with a total 59% left side weight.

1.) CRA / JEGS 1.6 rocker arms will be permitted.

2.) Chevrolet Performance / GM Valve Spring Kit Part Number 12586484 or Comp Cam Part Number #941-16 will be permitted.

3.) The CRA / JEGS "short" oil pan will be permitted.

4.) The Chevrolet Performance / GM small diameter harmonic balancer will be permitted.

5.) A one (1) inch straight hole carburetor spacer will be permitted. Tapering and/or shaping of the hole(s) will not be permitted.

**c.) The CRA / JEGS Ford Engine (unaltered as per the Ford Manual) must weigh a minimum 2,750 lbs with a total 58% left side weight.**

**d.) Any GM / Chevrolet Performance 604 Crate Engine with an altered cam shaft as per the rule book (S.E.A.L.) must weigh a minimum 2,750lbs with a total 58% left side weight.**

- 1.) CRA / JEGS 1.6 rocker arms will be permitted.
- 2.) Chevrolet Performance / GM Valve Spring Kit Part Number 12586484 or Comp Cam Part Number #941-16 will be permitted.
- 3.) The CRA / JEGS "short" oil pan will be permitted.
- 4.) A maximum compression ratio of 10.0:1 will be permitted.
- 5.) Porting of any type will not be permitted.
- 6.) A one (1) inch straight hole carburetor spacer will be permitted. Tapering and/or shaping of the hole(s) will not be permitted.
- 7.) 5.7 connecting rods will be permitted.
- 8.) A minimum 50lb crankshaft will be permitted.
- 9.) All internal engine components and/or parts must remain unaltered as per the GM / Chevrolet Performance Manual for the GM / Chevrolet Performance 604 Engine.
- 10.) The valve train must remain unaltered as per the GM / Chevrolet Performance Manual for the GM / Chevrolet Performance 604 Engine.

**e.) Any magnetic steel 23 degree cylinder head "built" engine must weigh a minimum 2,750lbs with a total 58% left side weight (This engine combination is intended to resemble the existing Sportsman Modified engine as presented in section M.1.B. 1.0 of this rule book);**

- 1.) A maximum of 360 cubic inches will be permitted.
- 2.) A maximum compression ratio of 11.0:1 will be permitted.
- 3.) Porting of any type will not be permitted.
- 4.) A one (1) inch straight hole carburetor spacer will be permitted. Tapering and/or or shaping of the hole(s) will not be permitted.
- 5.) One (1) 500 cfm unaltered Holley Carburetor will be permitted.
- 6.) A minimum 48lb crankshaft will be permitted.
- 7.) Titanium and/or any type exotic material component valve, valve train component, connecting rod, retainer and/or any other internal engine component will not be permitted.
- 8.) Previously published rules for Late Models utilizing the magnetic steel 23 degree cylinder head "built" engine utilizing a two (2) barrel carburetor may apply.
- 9.) Engines utilizing 18 degree cylinder heads will not be permitted for competition.

**f.) Any "Open" GM / Chevrolet Performance 604 Crate Engine with an altered cam shaft must weigh a minimum 2,775 lbs with a total 58% left side weight.**

- 1.) CRA / JEGS 1.6 rocker arms will be permitted.
- 2.) The following valve spring part numbers kits will be permitted: Chevrolet Performance / GM Valve Spring Kit Part Number 12586484; Comp Cam Part Number #941-16; Isky Part Number 195a or the Pack Part Number 1218.
- 3.) The CRA / JEGS "short" oil pan will be permitted.
- 4.) A maximum compression ratio of 10.0:1 will be permitted.
- 5.) Porting of any type will not be permitted.
- 6.) The maximum push rod diameter will be 5/16"-inch to adjust the valve train for the proper geometry. Push rods must be magnetic steel.
- 7.) Only hydraulic lifters will be permitted. Coil bind lifters will not be permitted.
- 8.) A one (1) inch straight hole carburetor spacer will be permitted. Tapering and/or or shaping of the hole(s) will not be permitted.
- 9.) 5.7 connecting rods will be permitted.
- 10.) A maximum bore of 4.030"-inch will be permitted.
- 11.) A minimum 50lb crankshaft will be permitted.
- 12.) The valve train must remain unaltered as per the GM / Chevrolet Performance Manual for the GM / Chevrolet Performance 604 Engine.

**g.) In addition to the Crane ignition boxes as permitted in the CRA Racing rule book, the MSD 6ALN ignition box will be permitted.**

- i.) Engine options must be declared prior to competition and labeled clearly on the hood. Any deviation of and/or combination and/or variation from the declared engine option will be subject to a penalty as per section "K" of the Race of Champions rule book.
- j.) Any competitor that refuses pre-race inspection and/or a request for mechanical inspection at any point during an event will be disqualified from the event.
- k.) Engines may be inspected at any time, electronically, mechanically and/or otherwise.
- l.) A one (1) inch inspection plug is recommended for all engines. A one (1) inch inspection plug must be placed in the bottom of oil pan for visual and mechanical inspection. The inspection plug must be a minimum of 1 1/4" inch located 9 1/2" inches from the rear of the block face to the centerline of the inspection hole and 1 1/4" inches from the oil pan rail. Obstructed views from the inspection hole to the crank and rods will not be permitted. If the view is obstructed from the inspection hole, removal of the oil pan will be required.
- m.) At any point during an event, Race of Champions Officials may require competitors to adjust the overall and left side weight total and percentage based on competitive analysis.

#### **m.1 B Transmission / Drive Train**

- a.) Transmissions must be standard production design. The transmission must be from an approved manufacturer. Race of Champions Officials may use a transmission provided by the respective manufacturer as a guide in determining whether a Competitor's transmission conforms to the specifications of the Rule Book.
- b.) Unless otherwise specified by the Race of Champions Officials, the same transmission must be used for practice, qualifying, practice after qualifying and the start of the Race. A transmission must not be removed from a car without the approval of Race of Champions Officials. Race of Champions Officials may require any team that removes a transmission to start at the rear of the field, providing the car earns a starting position in the Race. The transmission may be removed from a backup car, without penalty, at the discretion of the Race of Champions Officials, as follows:
  - (1) If a car is wrecked beyond repair during qualifying and a backup car is used, a transmission change may be permitted, however, the transmission must be installed before the beginning of practice(s), if practice(s) is scheduled, that follow qualifying.
  - (2) If a car is wrecked beyond repair during or after qualifying and a backup car is used, then a transmission change may be permitted without an additional penalty. If a competitor violates this Rule, in addition to imposition of a penalty pursuant to Section K, Race of Champions Officials may take such action during the Event as they deem appropriate, including but not limited to, loss of practice time and/or loss of the opportunity to qualify, and/or confiscation of the transmission or transmission components. Such action shall be deemed an inspection decision not subject to Section K.
- c.) Race of Champions Officials may, at its discretion, require that all cars compete with a final drive gear ratio specified by Race of Champions Officials for each Event.
- d.) High gear must be 1.00:1 (direct) and be the primary gear engaged on all tracks, except road course Events, during competition. Overdrive gears will not be permitted.
- f.) The transmission must be acceptable to Race of Champions Officials and meet the following requirements:
  - (1) Standard production OEM type Muncie or T-10 manual four (4) speed transmissions with OEM type angle cut forward gears will be permitted. Square cut forward gears will be permitted in OEM type Muncie or T-10 manual four (4) speed transmissions.
  - (2) The Jerico #2-SP two (2) speed manual transmission and the Jerico #3-SP three (3) speed manual transmission will be permitted. Straightcut forward gears will be permitted.
  - (3) The "Raptor" two-speed manual transmission will be permitted.
  - (4) Race of Champions-approved four (4) speed conversions with gears removed will be permitted. Transmissions may be of the top-load or left side-load designs only.
  - (5) Quick change and/or Automatic type transmissions will not be permitted.
- g.) Only aluminum or magnesium transmission housings will be permitted.
- h.) All transmissions must have the input shaft and its main gear constantly engaged. This assembly must be constantly engaged with the countershaft and its cluster and reverse gears.
- i.) Transmission gear ratios between 1.00:1 and 1.18:1 will not be permitted. The only high gear transmission ratio permitted will be 1.00:1.
- j.) A forward gear and reverse gear must be in working order.
- k.) Only manual shift linkage using the H-pattern type will be permitted on the transmission shift lever must be metal. All shift rods connecting the shifter mechanism to the transmission must be made of metal.

l.) Only fire resistant type shifter boots will be permitted. The shifter boots should meet the SFI 48.1 specification and should display a valid SFI 48.1 label visible on the outside of the shifter boot. Shifter boots should not be used beyond two (2) years from the date of manufacture. Quick release fasteners will not be permitted to secure the shifter boot to the transmission tunnel. The shifter boot, when installed, must mount directly to and must be completely sealed to the floor of the car. Installation of the shifter boot must be acceptable to Race of Champions Officials.

m.) Heating pads and/or blankets will not be permitted for warming the transmission.

n.) All transmissions must be prepared with two (2) top cover or side cover bolts and two (2) tail housing bolts and two (2) transmission to bell housing bolts drilled to accept installation of a 1/8 inch minimum diameter Race of Champions seal.

**m.2 Fuel, Fuel Cells and Fuel Systems**

a.) Only VP Racing Fuels (VP110/Green) racing gasoline will be permitted for competition.

b.) A VP Racing Fuels "Crate Fuel" may be designated and permitted for competition.

c.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.3 Muffler and Sound Reduction Devices**

a.) Mufflers must be used in competition.

b.) Several tracks have a locally enforced decibel rule, which preempt any particular muffler rule. Some tracks may have a maximum sound level rule of 95 decibels at 100 feet. This rule will be enforced by local government agencies.

c.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.4 Traction Control Devices**

a.) All electronic and/or computerized wheel spin and/or ignition retardation and/or acceleration limiting and/or traction control devices of any type will not be permitted.

b.) Adjustable ping control devices, dial a chip controls, timing controls and/or automated throttle controls will not be permitted.

c.) Remote control components of any-type will not be permitted.

d.) Data acquisition systems will not be permitted.

e.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.5 Chassis / Frame**

a.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.6 Weight**

a.) All cars must be weighed prior to the feature event (total and left side weight).

b.) All weights listed with each engine option in section m.1 may be changed from time-to-time to achieve and maintain competitive balance.

c.) The left side weight percentage must be maintained at all times throughout the event. If at any time the left side weight percentage is exceeded a penalty as per section "K" of the Race of Champions rule book may be issued.

d.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.7 Body**

a.) <http://www.abcbodies.com/images/ABCrulebook-web.pdf>

b.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**c.) The new edition "Generation 6" body will not be permitted for competition.**

**m.8 Suspension**

a.) Four (4) way adjustable shock absorbers will not be permitted.

b.) External canister shock absorbers will not be permitted.

c.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.9 Roll Cage**

a.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.10 Tires**

a.) The following tire rule(s) will apply. Only the Hoosier tires will be permitted for all scheduled events. The determination of the Hoosier Tire compound will be issued 30-days prior to the first event of the 2020 season..

b.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.11 Wheels**

a.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.12 Safety**

a.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.13 Other**

a.) <http://cra-racing.com/wp-content/uploads/2015/12/2020-CRA-Rulebook-ver-010417.pdf>

**m.14 Series Decals and Patches**