



## 2018 Jack Key Automotive Group X-Mod Rules

THE RULES AND/OR REGULATIONS SET FORTH HEREIN ARE DESIGNED TO PROVIDE FOR THE ORDERLY CONDUCT OF RACING EVENTS AND TO ESTABLISH MINIMUM ACCEPTABLE REQUIREMENTS FOR SUCH EVENTS. THESE RULES SHALL GOVERN THE CONDITION OF SPEEDWAY EVENTS AND, BY PARTICIPATING IN THESE EVENTS, ALL RACEWAY COMPETITORS ARE DEEMED TO HAVE COMPLIED WITH THESE RULES. NO EXPRESS OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM PUBLICATION OF, OR COMPLIANCE WITH THESE RULES AND REGULATIONS. THEY ARE INTENDED AS A GUIDE FOR THE CONDUCT OF THE SPORT AND IN NO WAY ARE A GUARANTEE AGAINST INJURY OR DEATH TO PARTICIPANTS, SPECTATORS OR OTHERS.

Significant and/or material changes from the 2017 Jack Key Automotive Group X-Mod rules are underlined. Changes made for grammatical purposes or to improve clarity are not highlighted.

### CHASSIS

1. Any engine part, all frame and suspension components will be steel, unless noted. No titanium or drilled attachment components. 1960 or newer full passenger car frame. May be cut off 36 inches in front of center of rear axle.
2. Frames will maintain original dimensions and remain intact except notched for radiator placement, weight jack, spring clearance and mounting tabs. Maximum 2-inch by 4-inch lower frame may join rear suspension. No portion will be less than 4 inches from ground except pan and front cross member.
3. 108-inch wheelbase minimum, with a maximum width of no more than 78 inches outside tires.
4. Continuous roll cage, halo and halo support must be of a minimum of 1.501-inch by 0.095-inch steel tubing. Must have one cross bar in halo. This configuration will be attached to main frame in 6 places. Driver's head will be below the halo while seated (three inches recommended).
5. Three door bars will be 1.5 inches by .095 inch, welded to front and rear uprights, with vertical supports. Must have at least one 1.25-inch right side cage bar angled or horizontal. Recommend door plates .049 inch drivers side from top door bar to bottom door bar, rear post to 5 inches in front of seat.
6. Rub rail, vertical bar or rear engine support will be added for foot protection.
7. Must have .250-inch by 2-inch plate or 1-inch by .095-inch tubing drive shaft hoop, welded 6 inches behind front of drive shaft.
8. No cage bars will protrude through hood. Main cage will be behind rear of engine.
9. Will have a minimum of three .250-inch window bars in front of driver.
10. Two bar front bumpers 1.25-inch by .065-inch minimum required. Lower bar will be no lower than lowest part of front frame horn and no wider than 1.5 inches on each side, 6.5 inches apart and parallel to ground. Upper bar directly above lower bar.
11. Nerf irons will not be wider than outside of rear tires and may not contain sharp edges.
12. Rear bumpers can be straight, looped or turned forward. Bumpers turned forward can be no wider than 2 inches outside the rear tires and must be made of continuous hoops. All bumpers must protect fuel cell and line up with front bumpers. Straight bumpers must be no wider than 5 inches outside rear frame rails. A looped bumper can extend to the body panels.
13. The centers of front and rear bumpers will be 18 inches high with a 2-inch variance.
14. 32-gallon fuel cell maximum with roll over valve. Must be mounted between rear frame rails and behind rear axle. Dimensions of 6 inches above ground, 4 inches in front of bumper. Must be mounted securely in steel box with 2-inch straps encircling entire cell. No bottom fuel pick-ups. One fuel filter maximum. Lower portion of rear bumper will protect full cell. Gasoline only.
15. All ballast will be mounted with two one-half-inch diameter bolts, outside driver's box, and painted white. All cars will weigh 2,300 pounds minimum. Maximum weight will be 2,650 pounds after main

events (will not be enforced after heat races due to excess mud).

## **SUSPENSION**

16. Unaltered OEM front spindle, lower A-arm, drag link, inner tie rod ends, steering box, idler arm and pitman arm, sway bar. Steering box must remain in original bolt circle position. No rack and pinion systems. May weld shock mount on lower control arm. Weight jack will be centered in A-arm spring location.
17. May use fabricated upper A-arm with heim joint pivots, steel or aluminum cross shaft. Outer tie rod and tie rod sleeve can be replaced with .625-inch rod ends and sleeve tubing. May use bump steer spacer on outside of rod ends.
18. Steering and driver position will be on the left side of the driveline.
19. Any steel shock that retails for \$140 or less. Coil or leaf spring allowed. Coil springs will be at least 4.5 inches outer diameter. No torsion bars, air bags or pressurized springs. One spring and shock absorber per wheel. Four shock absorbers total.
20. No wheelbase or weight jacking devices allowed in driver's compartment.
21. Three link or leaf springs, or factory four link, with two upper arms only. All links will be solid, heim rods. Lower arms must be a minimum 16 inches long and within 1 inch front to center. The panhard bar will be a minimum of 19 inches. Must be solid pull bar with heims, no biscuits or springs.
22. Four wheel brakes at all times. Adjustable from front to rear only.
23. Ford, Chevy, Chrysler parts can be mixed and mounted for use. Brake calipers must be 100% unaltered.
24. No solid, drilled, scalloped or lightened rotors. May be drilled for mounting purposes only.

## **ENGINES**

25. Engine specs are as follows:
  - i. Maximum of 360 cubic inches with a 1% error. Compression of 10.0 or less with no error.
  - ii. Stock-type stamped rocker arms or stamped steel, roller tip rockers allowed.
  - iii. Screw-in rocker arm studs are allowed. 3/8-inch studs only with guide plates. No stud girdles of any kind,
  - iv. Poly locks are okay.
  - v. Must have cast iron two-barrel intake. No acid dipping and no pressure porting. The depth of the plenum will be measured with a deep side of 3.950 inches maximum and short side of 2.030 inches. We expect to see an unmodified runner to the back of the divider, with ribs that stand up 0.150 inch. Caliper will be used to measure bores and depth. Unaltered marine cast iron two-barrel intake will be allowed with Vortec heads. The Rochester carb may only be used on the OEM two-barrel intake manifold. You can be disqualified or asked to race with a different manifold. The aluminum manifolds allowed are: GM Edelbrock# 2101,2701 or 2716 Weiand# 7547 Or 7547-1 Ford. Edelbrock# 2121, 2171 or 2665 Chrysler. Edelbrock# 2176 Weiand# 7545. These manifolds may use a 1" adapter.
  - vi. If intake is found to be illegal, driver will lose all prize money for that night and points for that season.
  - vii. Flat tappet cam shafts only. No roller lifters.
  - viii. Aluminum water pumps and pulleys are allowed.
  - ix. Aftermarket power steering pumps are allowed.
  - x. Must have cast iron cylinder heads, original valve angle and location. Valve springs: 1.250-inch maximum diameter; .195-inch wire, steel retainers, five full coils.
  - xi. Any distributor type ignition allowed. No crank trigger or magnetos allowed. No timing retard control allowed. Must use a rev limiter with a 7,000 RPM chip. Chip must be out of reach of driver.
  - xii. Crank shaft, cam gear and balancer must weigh a minimum of 50 pounds. Must install a 1-inch pipe plug to inspect crank shaft or remove pan.
  - xiii. No titanium anywhere.
  - xiv. Tachometer may be claimed for \$300 by promoter and drivers finishing on lead lap.
  - xv. No tri-y headers.

### **Rules for the LS 5.3 engine:**

1. The engine will be a steel or aluminum block, 5.3 liters, 327 cubic inches. Aluminum blocks must add 80 pounds centered from block  $\pm$  3 inches. All compression rules apply.

2. OEM crankshaft, pistons, heads, 1.7 ratio rocker arms, lifters, cam chain required.
3. The camshaft will be the original cam or may be replaced with the CT525 camshaft only. Camshaft specs: valve lift, intake and exhaust .525 inches at the valve. Duration: 226 degrees intake, 236 degrees exhaust. Camshaft lobe lift .309 maximum.
4. The intake manifold will be the Holley 300-132 with 1-inch adapter.
5. Holley 4412 will be required, with choke horn. All carb rules apply.
6. Must use the MSD ignition box. Box numbers 6010 or 6012, depending on teeth count of the reluctor wheel.
7. Aftermarket parts that may be used: pan, water pump, pulleys, headers, oil filter adapter and valve spring rods.
8. Winters crank flange adapter may be used to convert the bolt pattern to standard drive pattern.

## **CARBURETOR**

26. Holley 4412 or OEM two-barrel Rochester. Rochester carburetor may only be used on the factory two-barrel cast-iron manifold. When used on a Chevy manifold, Holley 4412 may not have an adapter any thicker than one-half inch with thin gaskets. Holley 4412 must retain all factory castings (no alterations of any kind; Fuel may be metered. If you have a Rochester that has been modified beyond the specs, you must run our restricted funnel spacer. Spacer is available at Rick's Performance and must be run with thin gaskets and no other spacers. No additional spacers allowed on either type carburetor, or any alteration of any kind to the manifold. Carburetor specs are as follows:
  - i. **Holley** – Venturi: 1.376 maximum; Base plate bore: 1.690 maximum; Booster vertical dimension: 0.430 minimum; Booster legs will show all casting part lines; Booster leg width: 0.260 minimum; Booster outer dimension: 0.605 minimum; Booster inside dimension: 0.385 maximum; Thickness of throttle blade and shaft: 0.190 minimum; Holley choke horn must remain.
  - ii. **Rochester** – Venturi: 1.376 maximum; Base plate bore: 1.693 maximum; Booster vertical dimension: none; Booster legs will show all casting part lines; Booster leg width: 0.420 minimum; Booster outer dimension: 0.584 minimum; Booster inside dimension: none; Thickness of throttle blade and shaft: 0.190 minimum; Top on Rochester may be modified, air filter stud may be installed between venturi.
27. Tracks have the right to swap intake and/or carburetor with any competitor after third main event win. Tracks will have stock Chevy and stock Vortec-type intake to trade with competitor. Same with Rochester two-barrel carburetor.
28. Fuel must be pump gas. No additives or performance enhancers allowed.

## **DRIVE TRAIN**

29. Car must move forward and back with engine running. Quick change gearing and/or close ratio transmissions are not allowed. Bert, Brinn or Falcon permitted.
30. Scatter-proof bell housing required on cars with lightweight flex plates, single clutch disc and full pressure plates.
31. Any passenger car- or truck-type is allowed. Aluminum is not permitted except lowering blocks, axle cap and drive plate. Quick change rear-end is permitted with steel axles and steel axle tubes only. Must use a ten (10) inch ring gear and minimum one (1) inch wide solid spur gears. Nine-inch Ford rear-ends are permitted (floater recommended). Cambered rear-ends are not allowed (one-piece drive flange only). Traction devices are not allowed (includes Gold Track, True Track or similar type components).
32. All wheels must be 8 inches wide, measured on the outside of the mounted tire bead. Bead lock wheels allowed on right side only, front and rear. Mud plug allowed any position.
33. Tire allowed is the American Racer KK704. Tires can be de-glued with sanding pads or grinding discs. Re-grooving and siping is allowed.
34. No electronic engine adjustment devices. No wheel speed engine interface. No traction control. No brake engine electronics.

## **SAFETY EQUIPMENT**

35. Helmets will be SA 2000 or newer.
36. Drivers will have SFI-approved, fireproof gloves, shoes and double-layer suit.
37. Window net is required. Arm restraints will not be substituted for window net.
38. A five-point seat belt system, properly mounted to cage and no more than three (3) years old.

39. Halo and other interior tubing will be padded.

## **BODIES**

Refer to USRA Modified body dimensions ([www.usraracing.com/rules](http://www.usraracing.com/rules)) for Southern New Mexico Speedway Jack Key Automotive Group X-Mod body rules. The exception to the USRA rule is the spoiler. Spoiler height will be five (5) inches measured from the hinge or break at the deck. Top of spoiler may be broken towards the rear only. No wicker bill or forward break at top of spoiler.

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