

VALVE/ROCKER COVER RACER OFFICIAL RULES

The Course

- o The course shall consist of a launch incline eight (8) feet long, followed by a level run out of twenty (20) feet.
- o The launch incline shall be divided into two (2) lanes, each two (2) feet wide. The incline shall be two (2) feet high at the rearmost part and level with the course at the front edge. The front edge shall be mitered so as to provide a smooth transition from the incline to the run out area.
- o The official "starting line" shall be two (2) feet from the rear edge of the incline. A mechanized starting gate may be provided.
- o The run out section of the course shall consist of two (2) lanes, each three (3) feet wide. The lanes shall be clearly marked.
- o The finish line shall be marked twenty (20) feet from the front edge of the launch incline.

The Cars

- o The cars shall have no power source. All motive force is provided by gravity.
- o Cars shall be based on an actual rocker cover or cam cover from a British automobile engine.
- o Wheelbase shall be no more than twenty-four (24) inches.
- o Wheel track shall be no more than fourteen (14) inches.
- o Cars must have four functioning wheels, each no more than six (6) inches in diameter.
- o The maximum weight of the cars to be 30 pounds.

The Races

- o Cars will be run in heats of two (2) cars each.
- o Race will be single elimination random draw pairings.
- o The cars are to be launched with their front wheels on the starting line. The first car to have its front wheels cross the finish line is the winner. If neither car makes it to the finish line, the car going the furthest wins.
- o If the wheels of a car should touch the lane markers, or cross over the lane markers, the car shall be disqualified. The competing car immediately becomes the winner.
- o Winning cars will advance to the next round until all are eliminated except one car.

What You Need

Valve cover - It doesn't make any difference what type, as long as it's not too big to fit the rules: less than 24" long and less than 18" wide. The valve cover must be from an English engine. Most of us either have an old valve cover laying around the shop or know where we can get one from a friend on the cheap. If you want to go "top drawer" it's up to you. I once saw a valve cover racer made from a Lotus "Twin Cam" cover. Now that's getting rare and probably expensive! Incidentally, all sorts of classic British car valve covers are available on eBay, and they often sell for less than \$15 each.

Wheels - Less than 6" in diameter. That's it, nothing special needed, but the better the bearings the better the car will roll. Here's a case where wide rubber may not be the best, but let the builder decide what works for his car. All sorts of suitable wheels are available on eBay or at your local big-box or sporting goods store. "Inline skate" wheels are popular, as are somewhat larger diameter scooter wheels. Visit "www.skates.com" to see literally hundreds of high quality rubber wheels from 44mm to over 100mm in diameter. (Note that they offer different "rubber" materials and hardnesses!)

Weight - There will be two weight classes: Up to 12 pounds, and 12lb to 30 pounds. This is a trade off, more weight equals more energy for the (downhill) launch area, but also more friction on the wheels. (The track has a long level section!) Test and balance the weight-to-friction for your car, because it may run better with a little less than maximum weight of 12 pounds. Weight and its placement will effect the car's stability.

Design Advice

Do you need to have suspension or other high tech elements? Your call. It really depends on the smoothness of the area where you are racing. I learned something this year and I will look into suspension for my car for future events. One bounce, and you may wind up off-line and run out of your lane or hit the opponent resulting in a loss.

We will have trophies for the Kid Race winners (kids may pick a racer from a selection and race against each other), and a Best Design Award for the most outrageous or best-decorated.....Grand prize goes to the fastest racer in the 12-pound and the 30-pound categories.

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