

Pinewood Derby 2008



OVERVIEW

The Pinewood Derby is open to all registered Cub Scouts. To participate, each Scout (with the help of his Parents) builds and decorates one car using the Pinewood Derby car kit provided by the Pack. The kit contains a block of wood, four wheels, and four small nails to use as axles. ***The cars must meet strict rules regarding the materials used, weight, dimensions, and other aspects of the car.*** The cars are raced in a 'Time Trial' held roughly one week before the Derby, during which the Scouts can determine how well it performs and note any final modifications needed to the car. During the actual Pinewood Derby, the cars are judged based upon both performance and appearance.

PARENT PARTICIPATION AND SAFETY

Parents are encouraged to teach new skills and principles as the scouts build their cars. The Scout should do as much as he can by himself, try not to be too critical or expect perfection. Any technical assistance given by an adult should be fully explained to the Scout so that he may use the knowledge on future projects. Above all else, participating in the Pinewood Derby should be safe and fun. Tools, paints, glues, and other potentially dangerous items must only be used under the careful supervision of a knowledgeable adult. **Under no circumstances must parents work on a Pinewood Derby race car when the Scout is not present.**

Be certain to arrive early enough – the software we will be using does not permit late entries.

UNIFORMS

Class "A" uniforms are to be worn during the Pinewood Derby!



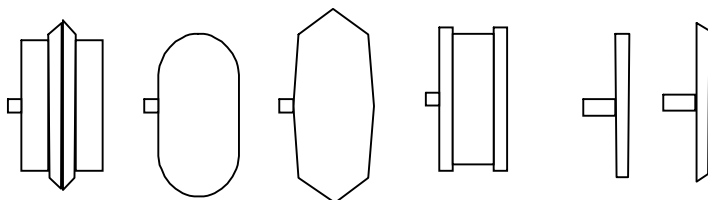
RULES

Note: Each Scout is responsible for understanding and following all rules. Nothing would be more heartbreaking than to work hard on a car and then have it disqualified for a rule violation. Parents: please review the rules with your Scout and help him understand the regulations, science, and sportsmanship of Pinewood Derby.

1. Car weight shall not exceed 5 ounces. Max car height 4 $\frac{3}{4}$ ". Max overall width 2 $\frac{3}{4}$ ". Max length 7". Note Rule 12.
2. Sufficient space must be provided under the car to clear the guide rail - $\frac{3}{8}$ " clearance minimum is required.
3. Only one-piece bodies, wheels, and axles from the Official BSA Pinewood Derby kit or Supplement kit may be used. Pack 75 provides the Pinewood Derby kit to each Scout at no cost. Weights and detail items (such as decals, driver figures, steering wheels, exhaust pipes, etc) from other sources are acceptable as long as they do not cause the car to violate any other rules.
4. Cars must have been built on or after April 1, 2007. Cars from previous years (whether used or not) as well as axles, wheels and bodies used in previous years, are not permitted.
5. Wheel bearings, washers, or bushings on wheels or axles are not allowed. (Washers may be used as weights elsewhere.)
6. Only approved dry powder lubricants may be used, as available at scout headquarters – these include graphite (black/gray) and Teflon (white). Lubes may only be applied outside the building, or at the designated 'pit' area, before final inspection. Excess powder must be shaken off before bringing the car into the building. Lubricant may not be applied to cars after registration.
7. One-piece axles are prohibited. Nail-type axles provided with the BSA Pinewood Derby car kit must be used and be in the same plane. Both ends of each of the four axles must be visible for inspection. (Do not conceal the pointed end with wood putty, paint or other

material.) **Roll Test – to pass inspection all four wheels must rotate when the car is rolled back and forth!**

8. The car shall not ride on any type of spring or house live animals.
9. The car must be freewheeling with no starting or loose devices.
10. No loose materials of any kind are allowed on or inside the car.
11. Wheels may not be tapered or rounded. Sanding excess plastic mold material at seam lines is permitted.



Examples of Illegal Wheels

12. The lateral distance between wheels (e.g., from the inside of the left front wheel to the inside of the right front wheel) must be at least 1 ¾ inches.
13. The structural portion of the car body must be a single piece of wood from the BSA kit. Wheels and axles must be mounted in grooves or holes provided for that purpose in the BSA kit. The length of the wheel base or position of the wheels on the car may not be modified. Either end of the wood block may be designated to be the front of the car. Depth of provided grooves may not be changed.
14. Weights must be an integral part of the car chassis. Weights may not be held in place using tape.
15. No part of the car may break the plane of the starting gate.
16. Scouts are responsible for being on time. Cars must be registered before the race times published prior to the Derby. Under no circumstances will a new entry be permitted to enter a heat after the posted race time once registration is closed. No heat will be delayed more than 30 seconds waiting for a Scout.
17. Scouts are not permitted to touch a competitor's car under any circumstances. Scouts are not permitted to touch their own car after it has been registered except when instructed to place the car on the track, return it to the display table, or make a repair. Scouts may be disqualified for touching any car at inappropriate times.
18. In the event of a breakdown, Scouts have 2 minutes (under the supervision of a race official) to perform repairs with the assistance of the Pit Crew. Only one repair is permitted.
19. Scouts must be present on Race Day in order to compete in any category. If an emergency arises the Scout may elect and transfer all responsibilities to a fellow Scout of equal rank.
The District Derby requires the Scout be present to compete. See www.hemlockdistrict.org for District Rules!
20. Decisions of the Inspection Crew and Race Officials are final.
21. If a car jumps its lane the race will not be counted and if this happens twice in the same heat the car will be disqualified.

AWARDS

Awards are provided for the top three place finishes in a number of categories and for cars judged to have exceptional appearance.

- **Tiger, Wolf, Bear and Webelos Champions** receive trophies for 1st, 2nd, and 3rd place.

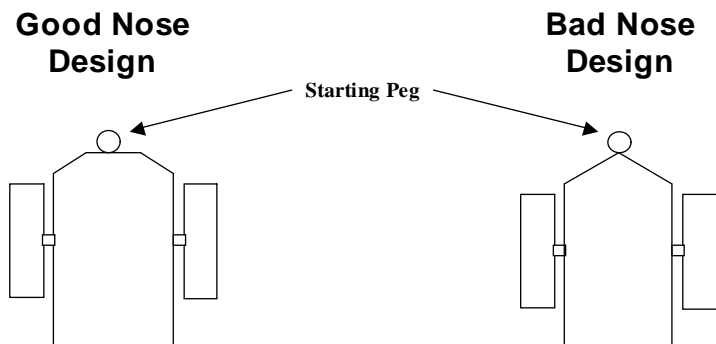
- Cars voted '**Best Design**' and '**Most Unique**' for each district rank classification (Tigers, Wolves, Bears, and Webelos) will receive trophies. Cars must meet all rules even if only being judged for appearance.

District rules can be found on the internet at: <http://www.hemlockdistrict.org/>

TRACK, TIMER AND SOFTWARE NOTES

The Pack 75 six-lane track, thirty-two feet in length, will be used for the Pinewood Derby. Our electronic timer and software will control and record the results. The race times will be displayed via a projector so Scouts can track their performance. The all-volunteer committee will validate and finalize the results. Once validated, the results will be final and winners awarded their trophies. No protests please – volunteer your time and energy to make next year's event even better. Your help is welcomed.

The timer we use operates with light beams - cars at the starting gate break a light beam to activate the timer and break another beam at the finish line to stop the timer. As such, it can be critical that the car be wide enough across the front to effectively break the beams at the start and finish lines and that it stays on the starting peg that holds the car at the starting line. A car that has a sharp point at the front may be misaligned in the starting gate and may not accurately break the beams at either the starting line or finish line. *This can result in slower times – please carefully design your car accordingly.*



Car finish placement is determined by totaling the times accumulated by each car in each of the lanes. This method eliminates any bias that may exist if one were to presume that a particular lane is either slower or faster than the other lanes.

We look forward to having a fun, orderly race this year, so.....

“Gentlemen, start your engines !!!”

TIPS

1. Understand the rules – you may not be able to make major changes needed for compliance at the last minute.
2. Make sure that any mold or seam material is removed from wheels (inside and out) and axles.
3. Polish the axles with very fine grit sandpaper, emery paper, or pumice paste.
4. Make sure that the car is as close to the 5-oz. weight limit as possible. (Add weights if necessary). On race day, it is easier to remove excess weight by drilling holes in the bottom of the car than it is to add weight. Weights may not be taped to the external surfaces of the car at the last minute so bring super glue.
5. Use a powdered lubricant on the wheels; the lubricants are available at most hobby stores. Work the lubricant into the wheels by spinning them repeatedly. Remember - no lubricants are allowed in the Church! Apply your lubricant outside!!
6. The shape of the car should be streamlined instead of blocky.
7. Place weights towards the back of the car (close to the rear axles) and centered (side to side).
8. Transport your car in a padded box that will protect it if dropped.
9. Do not make the front of the car too pointy (as seen from overhead) – it makes it harder to position against the starting dowel and may delay breaking the finish line beam. (as described on page 7).
10. Align the wheels so the car rolls straight.

Do Your Best and have FUN!