

Pinewood Derby Rules

PACK 1226

Parental Advisory: The unofficial kits, wheels, axles, etc. purchased from various hobby shops may contain materials which do not comply with these rules.

Initial Note: The Pinewood Derby cars rely on gravity to propel them down the track. Please be careful about putting the center of gravity too far back on the car, as a car too heavily weighted in the back may pop off the track after it comes off of the track's down slope. With our track it is recommended that your car's center of gravity be at least one inch in front of the rear axle!!

A. PINEWOOD DERBY KIT

All participants must use official Grand Prix Pinewood Derby® Car kits, available from the Pack or the BSA store. **Substitutions may not be made.**

B. GENERAL REQUIREMENTS

1. To enter any race, a boy must be a registered Cub Scout.
2. To the extent possible, every Cub Scout should be present for inspection and enter his own car, race his own car, and be present to receive any award he may earn. The derby committee will permit a proxy substitute for a Cub Scout who is ill or cannot attend due to schedule conflicts. The proxy may be an adult leader, parent or guardian, sibling, or another Cub Scout. In order to participate by proxy, the Cub Scout must receive prior approval from the pinewood derby committee.
3. Each Cub Scout is to build a completely new car each year.
4. Each Cub Scout may enter only one car.
5. Siblings must meet all the above rules, except for #1 in order to qualify for receiving an award in the Sibling heat.
6. Judges' decisions are final.

C. RACING SPECIFICATIONS

1. **Width:** Overall width shall not exceed three (3) inches.
2. **Length:** Overall length shall not exceed seven (7) inches. (Note: Some kits come with blocks longer than 7 inches. This will require the block to be shortened).
3. **Wheelbase:** The wheelbase (the distance between the front and rear axles) shall be based on the standard pre-cut grooves which are typically 4 1/4 inches apart, as pictured below.



Axles should go in pre-cut grooves which are about 4 1/4 inches apart

4. **Weight:** The car's weight shall not exceed 5 ounces. Care should be taken to ensure that each car is built to a weight as close to 5 ounces as possible. The car may be hollowed out and built up to the maximum weight by the addition of wood or metal, provided the additions are built securely into the body of the car. Weight measurements of the judges shall be final. It is recommended that you bring the car to the derby in a slightly underweight state so that you can add small amounts of weight during the weigh-in to bring the car to as close to the maximum 5 ounces as possible

5. **Track Clearance:** The underside clearance should be at least 3/8 (0.375) inches in order to permit the car to clear the center guide strip.

6. **No Loose Materials:** No loose materials of any kind are permitted in or on the car.

7. **Prohibited Wheel Accessories:** Hubcaps, wheel bearings, inserts, sleeves, washers and bushings are prohibited.

8. **No Springs:** The car shall not ride on any type springs.

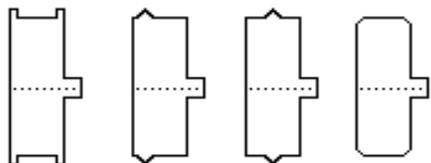
9. **Gravity Powered:** The race car may not be constructed or treated in such a way that the track's starting mechanism imparts momentum to the car. For instance, this provision disqualifies cars with sticky substances on the front of the car and other protrusions which adhere to or are attracted to (e.g., magnets) the starting pin. Cars must be free-wheeling with no starting devices or steering device. The car body may have no moving parts.

10. **Car Details:** Details such as a steering wheel, a drivers, decals, painting, interior detail, etc. are permissible as long as these details do not make the car exceed the maximum width, length, or weight limitations and so long as they are firmly affixed to the car. *Wet paint is not acceptable.*

11. **Axles:** Axles provided in an official BSA kit must be used. The axles shall be firmly affixed to the wood of the car body. The axles may be polished, sanded, or filed to reduce friction or remove imperfections, but the outside surface of the axles (the non-contact surface) may not be changed substantially. It must be obvious to the judges that the axles from an official kit are being used. **Under no circumstances may you purchase and use axles that have already been polished, sanded, filed, machined or otherwise altered. Any alterations or improvements permitted by these rules must be done by you!**

12. **Wheels:** Wheels provided in an official BSA kit must be used. Commercially purchased wheels with spokes are not allowed. Wheel covers are not allowed. Rough edges of the wheels may be removed and the inside hubs may be rounded or polished, but the wheels' outer dimensions may not be altered in any way. Wheels may not be concave, convex, or with single or multiple ridges cut into them, as in the unacceptable wheels shown below on the left. Wheels must be smooth, as in the acceptable wheel shown below on the right. The words "Official B.S.A. Made in U.S.A." and other lettering on the wheels shall remain intact and clearly visible to the judges. It must be obvious to the judges that the wheels from an official kit are being used. **Under no circumstances may you purchase and use wheels that have already been polished, sanded, filed, machined or otherwise altered. Any alterations or improvements permitted by these rules must be done by you!** Additionally, at least three wheels must touch the track during the race. While all four wheels must be attached to the sides of the car using the axles and pre-cut groove areas, you may offset one of the wheels such that only three touch the track during the race if you wish.

Samples of Improperly Finished Wheels



Such wheels will not pass inspection

Acceptable Wheel



Wheel has smooth surface

13. **Lubrication:** Lubrication of cars will be allowed at the following times: (i) before inspection and weigh-in; and (ii) before the Pack-wide finals. No lubrication is permitted on the exposed surface of the wheels. Wet lubricants or silicone sprays are prohibited. You must use a dry lubricant such as graphite.

14. **Staging:** the entire car must stage behind the starting pin. You may not cut grooves or make other alterations to the car which cause any part of the car to be positioned in front of the starting pin before the race commences.

D. OTHER SPECIFICATIONS AND CONDUCT OF THE RACES

1. **Inspection:** Each car must pass an inspection, based on the above specifications, by the official inspection committee before it may compete. Judges' decisions are final.
2. **Impounding:** Once the car has passed inspection, the car will be placed in a "pit" area until race time. No one may handle the cars after they are placed in the pit area except the participant, who may do so when he is called to race.
3. **Car Handling Responsibility:** When a participant is called to race, he will get his car and place it on the track himself or hand it to a track official for placement.
4. **Lane Assignment:** Lane assignments for each heat shall be determined by the track officials.
5. **Car Interference:** If, during a race heat, a car leaves its lane and, in doing so, interferes with another racer, then the race will be repeated.
6. **Car Leaves Lane or Track:** Subject to Paragraph 7 below, if, during a race heat, a car leaves its lane or the track (the "Faulted Car") without interfering with its opponent (the "Opponent's Car"), the following procedure will apply: assuming the Opponent's Car finishes the heat without incident, the Opponent's Car's time shall stand as its time for the heat. The Faulted Car will repeat the heat by itself and its time will be recorded by the scorekeeper. Should the Faulted Car leave its lane or the track during the repeated heat, a time of 9.999 seconds shall be recorded as the Faulted Car's time for the heat.
7. **Track Fault:** If a car leaves its lane or the track, at his sole discretion, the track official may inspect the track and, if a track fault is found which probably caused the violation, the track official may order the race heat to be re-run after the track is repaired. However, if the track fault only impeded the heat of one of the cars, only that car's heat will be re-run. The time for the unimpeded car will stand.
8. **No Finishers:** If, during a race heat, no car reaches the finish line on the track, the heat shall be re-run. If neither car finishes the race during the re-run, each car shall receive a time in the heat of 9.999 second.
9. **Track Champion:** The Champion, 1st Runner Up and 2nd Runner Up from each Den's heat, shall be accompanied, with his car, from the track to the impound area by the track official. The car will remain impounded there until the start of the Pack Finals. Inspection, repair, and any necessary addition of lubricant shall be permitted just prior to the start of the Pack Finals.