

Cornhusker Council BSA

Unified District/Council Rules for Pinewood Derby 2021

The pinewood derby car is an avenue for not just competition, but also creativity, engineering, innovation, experimentation, and design. Building a car requires collaboration between adult partners and youth. Per the Guide to Safe Scouting, adult partners handle any power tools such as band saws, belt sanders, and drills. Youth drive the design decisions and should be completely involved in hand sanding, painting, etc. Through the whole process, keep in mind the Cub Scout Motto, "Do Your Best", and have fun!

Each pack may send up to 12 participants in the Race category and up to 12 in the show category from each Pack Race. (Either the 12 fastest overall times or the fastest times from each den level).

* Rule with an asterisk may be suspended or modified in the event of remotely recorded derby races.

1. The Pinewood Derby is open to registered Cub Scouts Lion through Arrow of Light.
2. All Scouts should be in "Field Uniform" (official BSA shirt & neckerchief) on race day. Scouts not in uniform will not be allowed to check-in if your check-in occurs on race day. If you do not possess a Cub Scout uniform please contact the Council Service Center for assistance.
3. Each car must pass inspection by the official inspection team during the designated check-in time (see race-specific check-in times and locations). If a car does not pass inspection, the owner will be informed of the reason and allowed time within the check-in & inspection period to make adjustments if possible. The inspection team reserves the right to disqualify cars that do not meet the specifications or conditions after inspection, upon which those cars may race, but will not be eligible for awards.
4. Once a car has been checked-in and inspected, only the race officials may handle the car. Be sure to add graphite prior to Check-in & Inspection in the designated area. Once your car has passed inspection, with the exception of mechanical difficulties as described below, you will not be allowed to handle it again until after the awards presentation.
5. The car must have been made for this year's race (no repeat cars).

6. Use the axles, wheels, and body wood provided in the Official Pinewood Derby Kit. Official BSA Derby Wheels of other colors may be substituted. Additional materials can be added to the car.
7. All four axles and wheels must be attached to the car in the axle slots as provided in the official Pinewood Derby Kit. At least three of the wheels must contact the track surface.
8. Axle slots can be straightened or deepened if necessary, but the wheelbase cannot be changed.
9. Axles can be polished, and burrs can be removed. The diameter of the axle may not be reduced other than to smooth burrs and to polish the nails.
10. Axles (the nails holding in the wheels) can be straight or bent. Wheels can be installed in the slots provided either straight or canted (i.e., the axles can be inserted into the slots at an angle).
11. Additional axle modifications beyond those listed above are not allowed. For example, the head of the axle cannot be reshaped, and grooves or pockets cannot be added to the axle.
12. Only powder graphite is allowed as lubricant. Liquid lubricants are not allowed.
13. No modification is allowed of the wheel, hub, or wheel profile. Sanding, polishing, rounding, or shaping of the wheel is prohibited.
14. The width between the wheels shall be at least $1\frac{3}{4}$ inch.
15. The distance between the bottom of the car and track must be at least $\frac{3}{8}$ inch in order to run freely, this includes any undercarriage weight systems.
16. The width of the car shall not exceed $2\frac{3}{4}$ inches.
17. The length of the car shall not exceed 7 inches.
18. The nose/front of the car must be flat (not pointed) for at least $\frac{1}{2}$ " in the center of the nose of the car where it contacts the track starting gate guide post. No part of the car's body or attachments can extend beyond the front nose of the car.
19. The height of the car shall not exceed 5.5 inches so that it can clear the timing device.
20. The car shall not exceed 5.00 ounces (141.75 grams) as weighed by the official race scale(s).

21. Wheel bearings, washers, or bushings are not allowed. The car shall not ride on any spring.
22. The car must be freewheeling, with no starting devices (starting devices include, but are not limited to, magnets or adhesive on the nose of the car).
23. Loose materials of any kind (such as lead shot) are not allowed in or on the car.
24. If a car experiences mechanical failure during the race, the car's owner will be allowed to make repairs, if possible*. If the owner is not present, race officials will not repair the car unless, at their discretion, they determine it is a minor issue. Repairs must be completed within three minutes of the accident.
25. If a car does not finish, leaves the track, or runs out of its lane, it shall be considered to have ended its heat and will be given the default racing time. If a car interferes with another car the heat will be re-run. If the same car interferes with another car on the re-run heat it will be disqualified, removed from further competition, and the heat will be re-run again without the disqualified car. Decisions of the race officials are final.
26. Each car will run one heat in each lane of the official track. The lowest cumulative or average time determines the winner, 2nd place, etc. If the race uses a drop-slowest rule, the slowest time for each car will be discarded. If the race holds a Final Sweet 16, the 16 fastest cars will advance, with trophies based on race times in the final rounds.
27. All cars (show and race entries) must comply with the full set of car rules, including size restrictions. Any additions to the car must be within length, width, and weight limits.
28. Car show categories are as follows:
 - Best of Show all Classes (voted on by the Scouts*)
 - Best of Show by Rank (voted on by the Scouts of the same rank*)
 - Best Design with a Scouting Specific Theme (Celebrity Judges)
 - Best Design with a "Patriotic" or Armed Forces/Public Service theme (Celebrity Judges)
 - Best Design "Commercial" of an actual vehicle either race or commercial (Celebrity Judges)
 - Best "Fantasy" or non-vehicle Design (Celebrity Judges)
 - Best Supersized Design in which the above size, weight, and nose-width limitations do not apply.