



BOY SCOUTS OF AMERICA®

LONG BEACH AREA COUNCIL

2016 Pinewood Derby Rules

Overall:

All cars must be built for the current Pinewood Derby Racing Season. NO REPEATS or REPAINTS. In order to race at the council championship the youth must have been a Cub Scout at some point since January 1st, 2016. Cars must be tuned or aligned by the racer, adult supervision is encouraged. Cars may not be sent to third party facilities for tuning or other performance enhancements.

Body:

The main body structure must be made of wood from an official BSA Pinewood Derby car kit. The kits are available in the Scout Shop. Cars or wood blocks that were purchased as pre-cut blocks, or pre-made cars will not be used. If the builder lacks the resources to cut out a car from a stock block of wood, attendance at a workshop (den/pack/district/council) is strongly encouraged.

Car Specs:

A. Width: Not to exceed 2 3/4 inches (69.85 mm)

B. Length: Not to exceed 7 inches (177.8 mm)

C. Weight: Not to exceed 5.0 ounces on scale accurate to 1/10 ounce.

D. Height: Not to exceed 3 inches (76.2 mm)

E. Clearances:

Center Rail Width: Must clear center guide rails, typically no less than 1-3/4 inches minimum (44.45 mm).

Bottom: No less than 3/8 inches (9.525 mm) from track surface between center rails. NOTE: Most aluminum tracks have more space available for the bottom attached weights sold at BSA stores and should be allowed.

Other: Fender flairs with less clearance are acceptable as long as the center rail width clearance is maintained. Weights are preferred to be inset in the body or on top of the car to aid in a safe stop at the end of the track. No part of the car or attachment to any car, which is metal, pointed, sharp, and/or jagged, may be capable of contacting any part of the track.

F. Wheelbase:

All cars must have a wheel base no less than 4 inches (101.6 mm), with the two rear wheels being positioned directly across the body from one another and the two front wheels being positioned directly across the body from one another. Maximum allowable wheelbase shall not allow any portion of the wheels to extend beyond the front or rear of the car.

G. Front End:

Height: Depending upon the track, the front of the car may rest against a short starting pin.

Therefore the front bottom of the car which rests on the pin is no higher than 1inch (25.4 mm) above the track.

Width: The front end must be **at least 1/2 inch wide** (12.7 mm) in the middle.

No part of the car body, wheels or ornaments may protrude in front of the starting peg.

The car design may be enhanced by the addition of other stable materials such as plastic or metal. Any additions must be firmly attached and meet Car Size Requirements.

PROHIBITED Items:

- A. Springs.
- B. Starting devices or propellants.
- C. Electronic or lighting devices that interfere with the race electronics.
- D. Liquids, wet paint, oil, sticky substance, or powders of any kind (other than axle lubrication).
- E. Glass or excessively fragile parts.
- F. Bearings, bushings, washers, sleeves, hubcaps or inserts attached to or in contact with the axle, body or wheels.
- G. Loose objects on car.
- H. Magnets.

WHEELS:

- A. Use only Official Scout Grand Prix Wheels.

All lettering and numbering, both inside and outside, must remain complete and be visible. The fluting and other BSA markings on the outside wheel area must remain visible. Outer wheel surface (tread area only) may be lightly sanded, shaved, or polished to remove minor surface imperfections, mold casting burrs, and correct off center wheel bores; but total wheel diameter may not be reduced below 1.17 inches (29.71 mm). Outer wheel surface must not be **reshaped** or **recontoured** in any way in an attempt to minimize tread contact or alter aerodynamics. Tread surface must be flat and parallel to the wheel bore. Coning the hubs and truing the inside tread edge is allowed, as long as overall wheel width is not reduced below 0.36 inches (9.14 mm). **No material may be removed from the inside wheel surfaces at any point.** Minimum outside diameter of wheel must be equal to or greater than 1.17 inch (29.71 mm), in order to maintain the ridges on the outer edge. Judges reserve the right to measure the wheel with calipers to verify dimensional compliance with official wheel size restrictions.

The weight of the wheel shall not be increased or decreased except where limited amounts of material are removed from the tread or inside tread edge to remove minor imperfections. No material such as glue, fingernail polish, or tape, may be added to the inside of the wheel increasing its weight.

- B. Wheel Bore treatment is allowed including polishing and/or tapping. Wheel bores may not be filled and re-drilled to alter bore diameter or to achieve better fit with the axle (no material may be added to the wheels).

The Following Wheel Modifications are PROHIBITED:

- A. Rounding or shaping of tread surface or wheel edges, other than truing inside tread edge
- B. Grooving, H-cutting or V-cutting the tread surface
- C. Altering of wheel profile in either the height or width
- D. Narrowing the tread surface, other than truing inside tread edge
- E. Drilling sidewalls or removing material from the sidewall interior area
- F. Hollowing, sanding, or otherwise removing or modifying any material on the inside of the wheel
- G. Filling of any wheel surface or area with any type of material
- H. Using a third party to modify the wheels in any way

Please note: There are after-market modified wheels available that have been **LIGHTENED**. This is usually done by turning the wheels on a lathe and removing material from the inside of the wheel. **These wheels are NOT allowed** and can be **EASILY RECOGNIZED** at inspection. Cars with third party manufactured or modified wheels will not be permitted to race.

There must be at least four wheels on the car, however, it is not required that all four wheels make contact with the track surface. Each wheel must be mounted on an axle, on the outside of the car, in a vertical or nearly vertical orientation. Note that "rail riders" where one or more wheels are not exactly vertical are allowed. Each wheel must be attached directly to the wood car body by an axle and spin freely. No part of the wheel may overlap the center guide rail by more than 1/8 inch (3.175 mm). The two rear wheels and the

two front wheels must be positioned directly across the body from each another. Staggered wheelbases are not allowed.

No part of the car or any attachment to the car may be capable of coming into contact with the track other than the wheels.

AXLES:

BSA manufactured nail type axles are required, no substitutions are allowed. NO manufactured axles, or third party supplied axles will be permitted. Axles must have an overall diameter of no less than .084 inches (2.13 mm) for each wheel. Some polishing and/or modification is allowed as long as overall diameter is not reduced below the .084 inches (2.13 mm) requirement. Grooves are allowed; the depth of the groove(s) is not limited so long as the journal portion of the axle (the part the wheel rides on) is no less than the stated minimum diameter of .084 inches (2.13 mm). Axles must not be connected to any device that mechanically alters rotation or spin. Axles must be mounted into the wood sections of car. Drilled holes or slots can be used.

Approved lubricants are limited to graphite, Teflon, Nyoil, and Krytox:

Over-application of lubricant which results in excessive shedding onto the track is not allowed.

INSPECTION:

Each car must pass inspection by the Official Inspection Committee before it may compete. The Inspectors will disqualify any car not meeting these rules. Any adult or scout may appeal the findings of the Inspectors to the Race Committee Chair-person, whose decision is final. After acceptance only race officials will handle the cars. Cars may be reclassified or disqualified if they are determined by the race officials to not meet these requirements. The judges may use calipers, standard templates, and scales to evaluate the car and/or the car parts for compliance with legal dimensions and weight as deemed necessary.

WEIGHTS:

The drilling/removal of lead will NOT be allowed at the race venues or at check-in time due to the toxicity of the material. PLEASE avoid lead in cars this year! If you decide to ignore the law and put lead into a child's toy, the lead must be completely sealed and safe from all possible contact with the youth.

REPAIRS:

Any car losing wheels or any part that prevents it from running cannot be repaired after the inspection and weigh in.

EXCEPTION:

Race officials may authorize repairs, usually when damage is caused by collision with another vehicle or object. The Cub Scout is in charge of all car repairs. Guidance is allowed and encouraged. Ideally repairs can be done before the next heat that the car is in starts. After the car is repaired, Officials will run the race again. If the car cannot be repaired before its' next race starts, that race will also be delayed until the end of the heat.

BEHAVIOR:

GOOD SPORTSMANSHIP AND BEHAVIOR IS EXPECTED. Race Officials may ask anyone not following this rule to leave.

QUESTIONS:

Questions may be addressed to the Race Officials. The Council Derby Race Event Chair may be contacted at sparky_90806@yahoo.com or the staff advisor rebekah.havard@scouting.org