

2018 Pitt District Pinewood Derby Basic Rules

Overall: All cars must be built for the current Pinewood Derby Racing Season. NO REPEATS or REPAIRS. In order to race at the District championship the youth must be a registered Cub Scout. Car must have been built this year from an **Official Cub Scout Grand Prix Pinewood Derby** Kit with the help of his parents by the scout and must be raced by the Cub Scout who built the car (The Cub Scout must be present to race, no exceptions and (if possible) in Class "A" uniform). All race heats will be run on time/speed using Official Pinewood Derby Software and scoring system. Each racer will be allowed to race a predetermined number of times in each lane. The car with the fastest average time will be declared the Winner.

Body: The main body structure must be made of wood. Cars that were purchased completed may not be used. If the builder lacks the resources to cut out a car from a stock block of wood, attendance at a workshop through the Pack or District is strongly encouraged. Alternately, a pre-shaped block may be purchased to be used with the stock BSA Wheels and approved Axles as noted below.

Car Specifications:

- **Width: 2 ¾ "**
- **Length: 7"**
- **Weight: No more than 141.8 grams (5.0oz)**
- **Axle Width: 1 ¾ "**
- **Height: Must fit under the finish line mechanism.**

❖ Clearance:

- Center Rail Width: Must clear center guide rails, typically no less than 1-3/4 inches minimum.
- Bottom: No less than 3/8 inches from track surface between center rails.
- 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. No loose parts inside or outside the car.

❖ **Wheels:** Use only Stock Official Scout Grand Prix wheels.

- **(BSA Kit wheel weight / size: 2.6 (g) / 0.13 (oz) X 1.185" Dia. X 0.313" wide)**
- The wheels must be from the official B.S.A. Pinewood Derby kit or official Pinewood Derby wheel replacement kit. 12-spoke or 14-spoke wheels marked "OFFICIAL BSA MADE IN USA" are permitted, including official factory-colored plastic wheels. No "PineCar" wheels are allowed. Wheels made after January 2009 are preferred because of the smooth tread that requires no sanding.
- It is acceptable to use wheels with matching mold numbers from different sets of official Pinewood Derby wheel replacement kits.
- All lettering/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 may be lightly polished to remove surface imperfections; mold casting burrs (if present).
- Outer wheel surface must not be reshaped in any way in an attempt to lighten the wheel, minimize tread contact or alter aerodynamics.
- NO MATERIAL shall be removed from inside the wheel surface at any point
- Sanding, cutting down or lathing the wheel to reduce actual material, weight and diameter of the kit wheel is **STRICTLY PROHIBITED.**
- Tread surface must be flat and parallel to the wheel bore.
- When the car is placed on a flat surface, the clearance of any wheel and the surface shall not be greater than the width of a dime (each wheel must push the dime) Tech Inspector determines this not a parent.

- Four (4) wheels must be raced (two on each side of the car and adjacent to one another) No staggering of the wheels allowed. Both Front and Rear wheels must be positioned directly across from the other. Making the car ride on three (3) wheels is not permitted.
- No *Cambering of the wheels is allowed. This will give the car an unfair advantage and could potentially cause the wheel to ride on the inside edge of the wheel (likewise for negative camber) and the wheel not to run flat and horizontal to the track surface.

Note: Judges reserve the right to measure the wheel with calipers to verify dimensional compliance with official wheel size restrictions.

- The following wheel modifications are **PROHIBITED**:
 - Doming or Rounding outside/inside of the wheel edges
 - Removing the “fluting, spokes or other markings on the outside wheel area
 - (“fluting” refers to the small bumps on the outside edge of the tread)
 - Grooving, H-cutting or V-cutting
 - Altering of wheel profile
 - Narrowing the tread surface, other than truing inside tread edge
 - Drilling sidewalls
 - Hollowing, sanding, or otherwise removing or modifying material from inside the wheel
 - Filling of any wheel surface with any type of material
- *No Cambering (as explained above)

STOP: Some online vendors sell aftermarket BSA wheels that have been lightened by removing material from inside the wheel surfaces. These wheels are NOT allowed and are easily recognized at inspection. Cars with these wheels will NOT be permitted to race. If you plan to use aftermarket wheels, confirm with the vender that no weight is removed from inside the wheel. The wheel must conform to the guideline stated above.

❖ **Axles: Only Kit Axles out of the box may be used.**

- Removal of the metal flashing on the underside of the axle nail is permitted. The axle may be polished. The axle SHALL NOT be modified in any way (other than described), including, but limited to, scoring, slotting, pitting or flattening the outside of the nail head. Cutting grooves in the axle reducing contact surface to the wheel hub is PROHIBITED. Additional axles will be provided if needed. No other type axles will be permitted.
- Only dry lubricant including graphite powder, Teflon powder, or others, may be used to lubricate wheels. Non-dry lubricants including those with a petroleum, solvent, or non-dry base may attack the plastic wheels and keep them from turning freely, or can damage or contaminate the track, and are not permitted under any circumstances. Do not use oil or grease as a lubricant.

❖ **Car Design Criteria:** 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.

- Details are permitted as long as they do not exceed size or weight specifications.
- The car shall not extend beyond the starting pin when placed on the track. The nose of the car should rest flush to the starting pin.

❖ **The following items are PROHIBITED:**

- Springs
- Starting devices or propellants
- Electronic or L.E.D. lighting devices are allowed as long as they do not interfere with the race electronics.
- Liquids, wet paint, oil, sticky substance, or powders of any kind (other than axle lubrication)
- Glass or excessively fragile parts
- Bearings, bushings, washers, sleeves, hubcaps or inserts attached to or in contact with the axle, body or wheels.
- Loose objects on car
- Magnets

Please note: Rules are subject to be revised at any time as deemed necessary by the Pinewood Derby Chairman and committee.

❖ **Mechanical Issues:**

- If a car jumps off track, or leaves its lane, the heat will be run again. If the same car jumps off the track or leaves its lane a second time, it will automatically lose the heat.
- If a car suffers a mechanical problem, i.e. loses an axle, breaks a wheel, etc., and a repair can be accomplished within five (5) minutes, the heat will be run again upon completion of the repair. If the repairs cannot be accomplished within this time, the car will automatically lose the heat. **(Note: A parent or sponsor may accompany the scout to the pit area to make the needed repairs. The car will then be re-inspected before reentering the race. Additional lubrication may be applied only if a wheel or axle has been damaged and repaired or replaced as approved by the race official.)**

❖ **Race Format:** Racing format will be Heat Racing on Speed and Time and averaged by the number of heats.

❖ **Inspection:**

- Each car must pass inspection by the Official Inspection Committee before it may compete. After cars have passed inspection, they will be placed in "quarantine" until it is time for it to be raced.
- Race Officials may disqualify any car that in their determination is not in compliance with the spirit of these race rules. You are a Cub Scout, so Honesty is up to you.
- **If a car is suspected to have unapproved wheels or axles as outlined above, car owner may be asked to remove the wheels and axles from the car and replace them with wheels and axles from an unopened BSA Official Cub Scout Grand Prix Pinewood Kit for a small fee.**

INSPECTION PROCEDURE

1. The scout and one member of their construction team will present the car for inspection.
2. The scout will be asked how they were involved in the construction of the car.
3. The scout will be asked when the car was constructed.
4. The car will be placed on the official race scale to verify weight specifications have been followed. The readings of the official race scale will be considered final.
5. The car will be examined to verify there are no loose items, wet paint, or excessive lubrication.
6. The car wheels will be examined to verify specifications have been followed.
7. The car will be placed and rolled on a flat surface to verify all four wheels contact.
8. The car will be placed, front end first, in an inspection box to verify car dimensions and clearances.
9. Once car specifications have been verified, the scout will again be asked which end of the car is the front, and a car number will be placed on the bottom of the car.
10. Once the car has passed inspection, it will be placed in the race staging area until it is called forward for racing.
11. Note: A pit area will be set up for the modification, lubrication, or repair of cars.

INSPECTION AND DISPUTES:

1. Each car must pass inspection by the Race Committee before it may compete. The inspection team has the right to disqualify those cars which do not meet the provided specifications. The car owner will be informed of any violations and given an opportunity to modify the car to bring it into compliance prior to the end of the specified inspection period. Once the car has passed inspection, only race officials or the car owner are to move it.
2. Any participant (including the parent or sponsor of the participant) may appeal to the Race Committee for an interpretation of the rules prior to the start of the race.
3. In the event of an issue not covered specifically by these rules, the Race Committee will convene and make a ruling.
4. Decisions of the Race Committee will be considered final.

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5. Only race officials and others authorized by the Race Committee will be allowed into the staging and track area. This rule will be strictly enforced.

NOTE: Race officials reserve the right to perform a destructive teardown inspection of wheels, axles, or other systems on any car entered in the Official race. Any such inspections will be performed after all races have been completed, and should a car fail the inspection, the final race results will be adjusted. Race officials will return all parts to the participant, but will not be responsible for restoring the car.

NOTICE

FOLLOWING THE CHAMIONSHIP RACE, CARS THAT PLACE FIRST AND SECOND WILL BE ASKED TO REMOVE THE WHEELS AND AXLES OFF THE CAR FOR POST RACE INSPECTION BY RACE TEAM COMMITTEE. IF FOR ANY REASON SIGNIFICANT ALTERATIONS TO ANY AXLE OR WHEEL ARE FOUND NOT IN COMPLIANCE AND ARE AGREED UPON BY ALL ON THE INSPECTION TEAM THE CAR WILL BE DISQUALIFIED AND ELIMINATED FROM THE FIELD. THE NEXT PLACE CAR WILL BE MOVED FORWARD IN RANKING ORDER AND WILL BE SUBJECT TO THE SAME INSPECTION.

In Conclusion

"I wanted to devise a wholesome, constructive activity that would foster a closer father-son relationship and promote craftsmanship and good sportsmanship through competition." Don Murphy, Cub Master of Cub Scout Pack 280C Founder of the Pinewood Derby 1953

The purpose of the Pinewood Derby is for our scouts to learn, have fun, and spend quality time with the adult helping them construct their car. The scout should perform as much of the design and construction of the car as their skills allow. The scout should observe all steps in the project that he does not do himself in order to learn more about the construction of the car. Please observe this spirit when helping your scout construct their car. The purpose of these rules is to make sure that no one gains an unfair advantage and everyone has access to the same materials and tools used for the construction of their cars. The primary objective of the race is to instill in the scout the value of competition for enjoyment. Winning is not everything, but participation is – Todd Smith