

PACK 301 Pinewood Derby Rules



General Rules:

1. Early registration is strongly encouraged.
2. No Scout, parent or leader will be allowed into the race or show areas once cars have been registered, except to volunteer, or to make repairs, and in case of repair then only under the supervision of a Derby official.
3. During the Derby, all Scouts, leaders, and parents are expected to exhibit their BEST Scout behavior and manners, and exercise good sportsmanship.
4. No running or disruptive behavior will be allowed at any time. Non-compliance may result in disqualification from the Derby.
5. Race Officials may ask anyone not following this rule to leave.

Basic Rules – All cars must comply with the following:

1. Cars must be made from the items — block of wood, axles and wheels — in the official Cub Scout Grand Prix Pinewood Derby kit and/or official parts bought from BSA. Cars made from pre-cut/pre-shaped pinewood Derby car kits will not be allowed.
2. Car specifications are as follows:
 - Width not to exceed 2-3/4"
 - Width between wheels must be 1-3/4"
 - Length not to exceed 7"
 - Wheelbase must be 4-3/8"
 - Bottom clearance between bottom of car and track must be at least 3/8"
3. Cars must be made during the *current* Scouting year. NO REPEATS or REPAINTS. Cars from previous years will not be allowed.
4. Cars must not be altered once they have competed in their respective Pack Pinewood Derbies.
5. All cars will enter both events (Show & Speed.)
6. Only one car can be entered for each Scout.
7. Each car must pass inspection by the official inspection committee before it will be allowed to compete. The Inspection Committee has the responsibility to disqualify those cars that do not meet the specifications.
8. **VERY IMPORTANT:** No car with wet glue will pass inspection or be allowed to race. The glue will foul the track and may harm other cars. Please apply glue at home at least six hours in advance.

SHOW Event Rules –

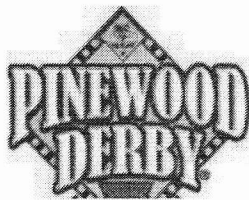
1. All Basic Rules Apply.
2. Cars entered for Show must still be able to perform the basic functions of a Derby car (i.e. have a body, wheels, and be able to fit one lane of the track).
3. Show Car specifications are as follows
 - The height of show cars may be 7".
 - Cars that were purchased completed may not be used
4. Trophies:
 - Trophies will be awarded for 1st, 2nd, and 3rd place in each rank for Show.
 - Trophies will be awarded for categories as described in the current year flyer in the Show event.

SPEED Event Rules –

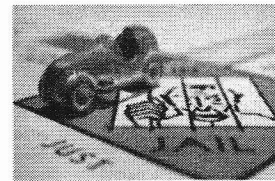
1. All Basic Rules Apply.
2. **INSPECTION:**
 - Each car must pass inspection by the Official Inspection Committee before it may compete. The Inspectors will disqualify any car not meeting these rules. Any adult or scout may appeal the findings of the Inspectors to the Race Committee Chair-person, whose 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.
 - Any car that in the opinion of the Derby Chair has an unfair advantage over other cars — due to construction, materials, wheels, or rule violation — will be disqualified.
 - In case of close calls or questions, the decision of the Derby Chair is final.

Race Car specifications are as follows:

3. **BODY:**

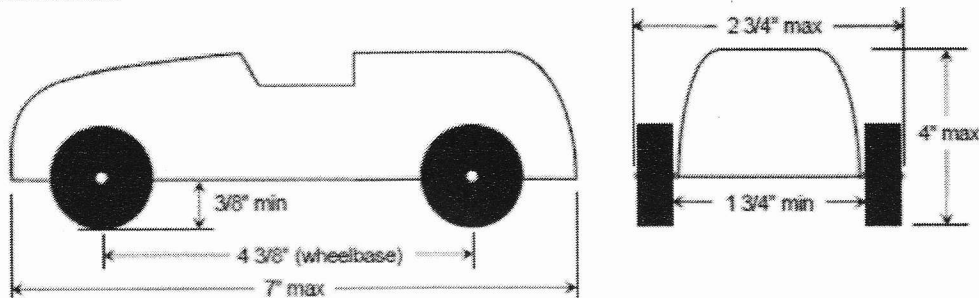


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- The main body structure must be made of wood. Cars that were purchased completed may not be used. If the builder lacks the resources to cut out a car from a stock block of wood, attendance at a workshop (den/pack/district/council) is strongly encouraged.
- Notch or channel cut on the front, forward facing edge of a racing car intended to release the car earlier when the Starting Pin drops at the start of a race are prohibited. (see Quick Start Bar/Fronts (QSF) defined at the end)

4. DIMENSIONS:



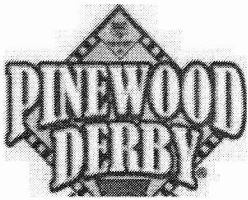
- A. Width - Not to exceed 2 3/4 inches
- B. Length - Not to exceed 7 inches
- C. Weight - Not to exceed 5.0 ounces on scale accurate to 1/10 ounce.
- D. Height - Recommend 3 inches, car not exceed 7 inches.
- E. Clearances:
 - Center Rail Width: Must clear center guide rails, typically no less than 1-3/4 inches minimum.
 - Bottom: No less than 3/8 inches from track surface between center rails. 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 of 4-3/8", 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.
- G. Front End
 - Height: 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 1" above the track.
 - Width: The front end must be at least 1/2 inches wide in the middle.
 - No part of the car body, wheels or attachments 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.

5. PROHIBITED Items:

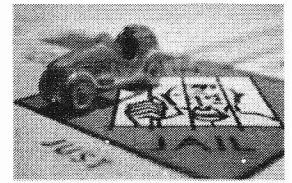
- A. Springs
- B. Starting devices or propellants
- C. Electronic or lighting devices that interfere with the race electronics.
- D. Liquids, wet paint, oil, sticky substance, or powders of any kind (other than axle lubrication)
- E. Glass or excessively fragile parts
- F. Bearings, bushings, washers,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

6. WHEELS:

- A. Use only Official Scout Grand Prix wheels. 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 sanded, shaved, or polished to remove surface imperfections, mold casting burrs, and correct off center wheel bores. Outer wheel surface must not be reshaped 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



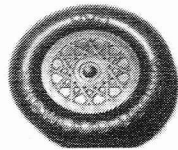
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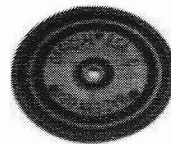
edge is allowed. Tread width may not be less than 7.5 mm. You may add material such as glue, fingernail polish, or tape, to the inside of the wheel to aid in balancing of the wheel, but no material may be removed from the inside surfaces. Minimum diameter of wheel is 1.16" to maintain the ridges on the outer edge.

- 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.
- C. There must be at least four wheels on the car. All four wheels must touch the track surface. Some minor play will be allowed, e.g., due to unintentional placement of the axles in the grooves, but offsetting that in the opinion of the Derby Chair is intentional will be disqualified.
- D. Each wheel must be mounted on an axle, on the outside of the car, in the vertical position. 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. The two rear wheels and the two front wheels must be positioned directly across the body from each another. Staggered wheelbases are not allowed.
- E. Please note: There are after-market modified wheels that are 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 EASILY RECOGNIZED at inspection. Cars with these wheels will not be permitted to race.
- F. 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.
- G. The following wheel modifications are PROHIBITED:
 - A. Rounding of tread surface/wheel edges
 - B. Grooving, H-cutting or V-cutting
 - C. Altering of wheel profile
 - D. Narrowing the tread surface, other than truing inside tread edge
 - E. Drilling sidewalls
 - F. Hollowing, sanding, or otherwise removing or modifying material from inside the wheel
 - G. Filling of any wheel surface with any type of material
 - H. Wheel bearings, washers, and bushings are prohibited

Here is what your wheels must look like from the outside and inside. If they don't look like this, you will not be allowed to race:



OUTSIDE



INSIDE

7. AXLES:

- BSA Nail type axles are required with an overall diameter of no less than .084 inches for each wheel. Some polishing and/or modification is allowed as long as overall diameter is not reduced below .084 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.
- Axles may only be polished to remove burrs.
- 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.
- Only dry lubricants (i.e. graphite, Teflon) are permitted. Wet lubricants (i.e. oil) are prohibited.
- No hubcaps or wheel coverings may be used to hold lubricant in.
- Excess graphite will be removed by Derby Officials during inspection.
- Over-application of lubricant which results in excessive shedding onto the track is not allowed.

8. WEIGHTS:

- All weights must be securely fastened to the car. No sliding or liquid based weights are allowed.
- Weights shall not be paced more than 3 inches above the wheel base level.

9. REPAIRS:

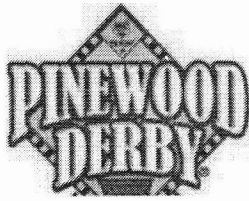
- Any car losing wheels or any part that prevents it from running cannot be repaired after the inspection and weigh in.
- EXCEPTION: Race officials may authorize repairs, usually when damage is caused by collision with another vehicle or object. The Cub Scout is in charge of all car repairs. During Race repair time is limited to 5 minutes. 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 or move the car to a later race time or disqualified if the repairs will take a significant amount of time.

10. QUESTIONS:

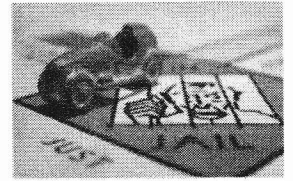
Questions may be addressed to the Race Officials.

11. TROPHIES:

- Trophies will be awarded for 1st, 2nd, and 3rd place in each rank for Speed.
- Trophies will be awarded for 1st, 2nd, and 3rd place Overall Speed.



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Additional Prohibited Items in Your PWD Car:

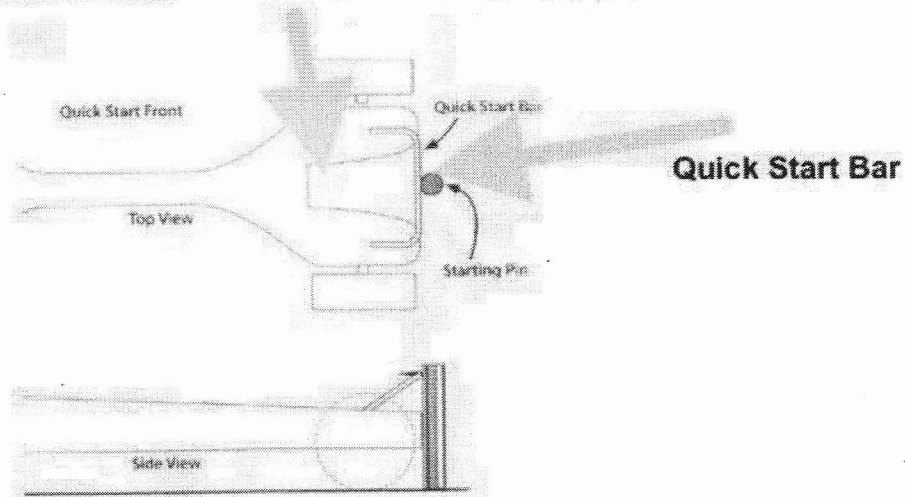
Quick Start Fronts (QSF) on Pinewood Derby Cars are prohibited.

QSF Defined:

Usually a notch or channel cut on the front, forward facing edge of a racing car intended to release the car earlier when the Starting Pin drops at the start of a race; more often than not, incorporating a Quick Start Bar positioned above the channel which rests against the Starting Pin at the start of the race. This will not be reconsidered as a "Decoration."

Prohibited Construction:

notch in front end of car



"Cheater bar" or any raised bar in front of car that rests against the starting pin or gate.

