

2014 Delaware District Pinewood Derby Rules

General Rules

- Most important: HAVE FUN!
- Open to all registered Scouts of the Delaware District who placed in the top 3 of their Den.
- Each Scout may enter one (1) car and must be present to be included in the competition.
- Good sportsmanship is expected at all times by everyone present at the race.
- Cars must be constructed since last year's race. Scout may enter a different car than Pack race.
- The scout is to work on every part of the car, with adult guidance/supervision/help: body, axles, wheels, lubrication, weighting, assembly, and paint/decorating. Adults may cut the body out.
- **No completed cars or completed parts may be purchased. A Scout is on his honor here.**

Car Body/Dimensions

- **Wheel Base:** Any (you may drill axle holes or use the slots provided or cut new slots)
- **Height:** 3" inches Maximum
- **Length:** 7" inches Maximum
- **Width:** 2 3/4" inches Maximum
- **Weight:** 5.0 ounces Maximum as measured on the Official Scale
- **Center Rail Clearance** – minimum 3/8 inch clearance under the entire bottom of the car.

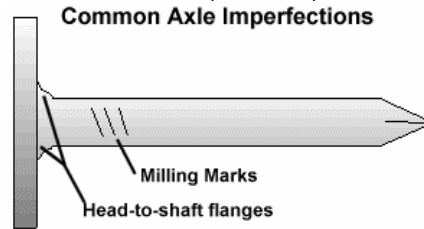
Wheels

- Only Official BSA Wheels are allowed (either new style & old style). **ALL markings must be intact inside and outside wheel.** You MAY use the Official BSA Colored wheels.
- Outer wheel surface may be sanded, shaved, lathed or polished to remove any imperfections, true roundness, remove mold castings and burrs, but must not be reshaped in any way to minimize tread contact or alter aerodynamics.
 - The fluting (small decorative dots on the edge) must remain visible around the entire circumference.
 - The tread/contact surface must remain flat and parallel to the bore.
 - The width of the tread must not be less than 7.5mm
 - No removing or reducing the letters or spokes or drilling additional holes.
- The following wheel modifications are NOT Allowed
 - No Rounding of the wheel treads – they must remain flat.
 - No Grooving, H-cutting, V-cutting, Crowing, Tapering or Dishing
 - No Narrowing of the tread surface or Altering the wheel profile
 - No Drilling sidewalls
 - No Filling of any wheel surface with any type of material
- Coning the hubs, truing the inside edge of the wheel, and removing the outer hub step down is allowed.
- Wheel Bore treatment is allowed including polishing, sanding and/or tapping.
 - Wheel bores may not be filled and re-drilled
- 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 – one wheel may be lifted from the track surface.
 - Each wheel must be mounted on an axle, on the outside of the car, on the vertical side of the car.
 - Each wheel must be attached by an axle and spin freely

Axles

- Nail type axles as found in the Official Pinewood Derby kit are to be used.
- Axle modifications ALLOWED:
 - De-burring the head-to-shaft flanges, filing off milling marks, straightening, sanding, polishing, canting, grooving, bending of axles to aid in steering/alignment, beveling of axle head, and tapering of axle head.

- Axles can be mounted by drilling Axle holes, cutting new slots, or inserted into the existing slots.
- Wheel must spin on said axle.
- Diameter may not be less than .084 inches (2.13mm).



Lubricants

- Any lubricant may be used, but it must be “dry on the axle” at the time of inspection (will not shed on the track). All excess lubrication must be removed before it passes inspection. Do not coat your wheel tread surface with graphite or other lubricant that will foul the track.
- Recommended lubes: graphite, Teflon powder, NyOil, Krytox 100 (1-2 drops for oil is plenty).

Reasons for Disqualification

Magnets, starting or finish line devices, electronic or lighting devices (if lights are on the car they must be turned off), glass, liquids (besides lubricant), fragile parts, wet paint, sticky material or substances, sharp objects, sandpaper, parts beyond the starting peg, propellants, wheels and axles attached to any device that mechanically alters rotation or spin, springs or suspension systems of any type, solid one-piece rod style axles.

- No bushings, sleeves, bearings, hubcaps or inserts attached to or in contact with the axle, body or wheels.

Helpful Resources

- Tools specifically designed for pinewood derby cars are available at www.ScoutStuff.org.
- Helpful car building websites include: <http://5kidsracing.webs.com/cubscoutbuildtips.htm>; www.PineWoodDerbyOnline.com; www.DerbyTalk.com

Inspection Procedure

- Cars will be weighed and measured for “Car Body/Dimension” requirements.
- Wheels measured (minimum 7.5mm tread width) and inspected for compliance (they are Official BSA wheels, all lettering and markings are intact inside and outside, “fluting” remains visible around circumference of the wheel, tread is flat and parallel to the bore).
- Loose materials on cars will be removed.
- Check for shedding of excess lubricant.
- Check for “Reasons for Disqualification”

ADULT/OPEN DIVISION RULES

- Each car must pass a Pre-Race Technical Inspection based on the following rules:
 - The above “General” and “Car Body/Dimension” “Lubricants” and “Reasons for Disqualification” rules apply completely
 - Wheels: any kind of wheel; no greater than 1.22 inches (31mm) wheel diameter
 - Axle: any kind of axle
 - Washers, bushings, sleeves, bearings, hubcaps or inserts ARE ALLOWED; wheel bore MAY be filled or re-drilled.
- Each Adult may enter up to five (5) cars, but can only place once regardless of the number of cars that qualify to win. Separate entrance fee for each car. Must be present to be included in the competition.
- Trophies will be awarded to 1st, 2nd and 3rd place.