

2025 Prairie Fox Pinewood Derby Rules – 1/20/2025

Basic Qualifications:

Competition in the 2025 Prairie Fox Pinewood Derby is open to Scouts registered as of February 1, 2024.

Basic Car Specifications:

Dimensions and weights:

Cars must have been built during the 2024-2025 Pinewood Derby racing season using an **Official BSA Pinewood Derby Kit**.

Width, including wheels and axles, must not exceed 2 3/4 inches (6.99cm).

Length shall not exceed 7 inches (17.78cm).

Weight shall be at least 4.0 ounces and not exceed 5.0 ounces (141.74 grams) measured on a scale accurate to 1/10th of an ounce. Overweight cars must be reduced to running weight or below before they can be entered. The official race scale shall be considered final.

Cars must clear the guide rails of the track along the entire length of the car. Guide rails are 1 5/8 inches wide by 1/4 inch tall with a 1 inch wide opening between the rails, Minimum clearance between the bottom of the car and the bottom of the wheels shall be 3/8 of an inch to avoid contact with the track. Avoid things below the bottom of the car to ensure the car does not contact the track at any time other than the wheels.

No part of the car may protrude beyond the starting pin. The front edge of the car must not be more than 1 inch above the wheel lane of the track and be at least 1/4 inch wide at the center of the car.

No part of the car may exceed 4 inches in height.

Any details added must be within length, width, and weight limits.

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.

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.

Examples (not a full list) of prohibited items that CANNOT be used:

Magnets, springs, or suspension systems of any type

Starting devices, finish line devices, propellants, or propulsion systems

Wet paint, glitter or sticky substances, glass or excessively fragile parts

Electronic or lighting devices that would interfere with the timing system (if lights are on the car they must be turned off)

No bearings or solid one-piece rod style axles

Axles and wheels attached to any device that mechanically alters rotation or spin

Loose objects on car - all weights must be securely fastened or embedded in the car

Wheels:

Use only Official BSA Wheels; colored wheels are permitted.

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 1.170 inches (29.72mm). Outer wheel surface must not be reshaped or have the contour changed 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 1.170 inch (29.72mm), in order to maintain the ridges on the outer edge.

Derby officials reserve the right to measure the wheel with calipers to verify dimensional compliance with official wheel size restrictions.

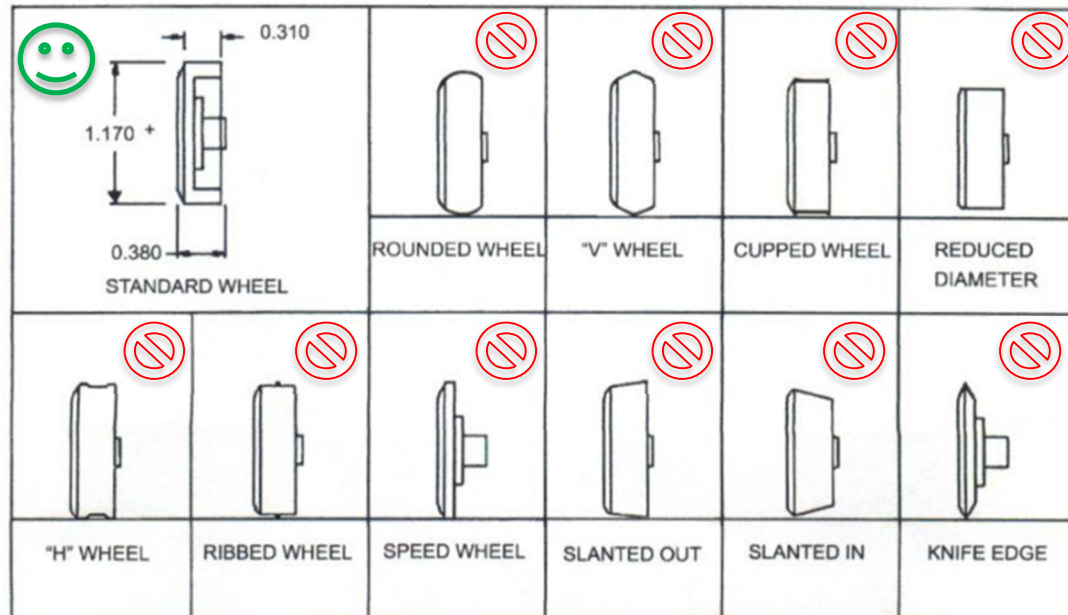
The weight of the wheel shall not be increased or decreased except where limited amounts of material are removed from the tread or inside tread edge to remove minor imperfections. No material such as glue, fingernail polish, or tape, may be added to the inside of the wheel increasing its weight.

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).

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, but can be no more than a 20-30 Degree angle from the perpendicular side of the car and must be less than 1/4" off of the track to prevent the car jumping off of the track. The other 3 wheels must fully contact the track. All wheels, dominant or lifted, must meet wheel specifications. Each wheel must be mounted on an axle, on the outside side of the car.

CLARIFICATION OF DISQUALIFYING / ALTERED WHEELS

No alteration, narrowing, lathe cutting, or re-shaping of wheels (inside or outside) is allowed!!!!



NO LIGHTENING OF THE WHEEL IS ALLOWED

LIGHT SANDING OF WHEEL TREAD TO REMOVE IRREGULARITIES IS PERMISSABLE. WHEEL TREAD MUST BE FLAT!

MINIMUM WHEEL DIAMETER ALLOWABLE IS 1.170 INCHES.

MINIMUM WHEEL WEIGHT OF EACH WHEEL IS 2.45 GRAMS. = 0.086 ounces

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 or will be disqualified from trophy placement.

Axles:

Nail type axles are to be used. You are to use those found in the Official Pinewood Derby kit.

Minor modifications to the axles are allowed that include deburring, straightening, sanding, as long as the Diameter of the Axle is not reduced. The Diameter may not be less than 0.084 inches (2.13mm).

Axles can be mounted by drilling axle holes or inserted into the slots on the side of the car as long as all other specifications are met.

Graphite is the only lubricant allowed to be used at any time on the Pinewood Derby car.

PRO STOCK Concepts: Wheels, Axles, or modifications other than those provided above are NOT permitted. This race is NOT a professional race, it is intended as a race of cars built by scouts with the help of their parents or adult helpers. As such, Pro Stock DOES NOT APPLY.

General Rule: Seek clarification of the rules prior to race day. If the rules don't specifically address something you would like to do, please seek permission ahead of time. Questions can be submitted to

Dean Danner dean@esitec.net for review by a group of Derby officials. The goal is not to have to disqualify Scouts on race day.