



# Tecumseh District Pinewood Derby Rules



Our focus as parents and leaders should be to make this a FUN and rewarding experience for the boys. Yet, the reason we have so many rules etched below is because years of “creative tweaking” have been conducted by parents across the country in the effort to create a winning car. Together we hope to build winners out of our boys, so please keep the tweaking within the boundaries of the rules below. Cub Scouting is a place to learn honesty and good sportsmanship; this is no place for bending the rules.

**Each car for the District racing must be the same car that was raced in your local Pack for this year. Changing of any body, wheels, or axles is strictly prohibited.**

## 1. Racing:

Cub Scouts must be present at the time of their race to participate. Cars cannot be raced by parents, friends, siblings, other relatives, or leaders.

**ARRIVE ON TIME.** Race day is very busy. All Cub Scouts should respect other racers by arriving at the venue a **MINIMUM** of 15 minutes prior to their race’s scheduled registration time.

## 2. Body:

The main body structure must be made of the wood from the Official Pinewood Derby Car Kit. Cars purchased complete may not be used.

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.

## Car Specs:

- A. **Width** - Not to exceed 2  $\frac{3}{4}$  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** - Not to exceed 5  $\frac{1}{2}$  inches
- E. **Center Rail Width Clearance** – Must clear center guide rails, typically no less than 1-3/4 inches minimum.
- F. **Bottom Clearance** - No less than 3/8 inches from track surface. Fender flairs with less clearance are acceptable as long as the center rail width clearance is the same in rule E. 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.
- G. **Wheelbase** - All cars must have a wheel base no less than 4", 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.
- H. **Front End** - Depending upon the track, the front of the car may rest against a short starting pin. We therefore require that the front bottom of the car which rests on the pin is no higher than 1" above the track. **The front end must be at least  $\frac{1}{2}$  inches wide in the middle.** No part of the car can extend beyond the starting pin. 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. No part of the car body, wheels or attachments may protrude in front of the starting peg.



Wheel well add-ons to make the cars look like NASCAR racers have proven problematic in the past – they come into contact with other cars. Cars without adequate clearance that interfere with other cars will unfortunately be disqualified.

**The following items are PROHIBITED:**

- 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
- I. No part of any car or attachment to any car that is metal, pointed, sharp, and/or jagged may be capable of contacting any part of the track.
- J. Any mechanical addition.

**Wheels:**

Use only Official Scout Grand Prix wheels.

- A. All wheel lettering, both inside and outside, must remain and be visible. The fluting and other BSA markings on the outside wheel area must remain visible. **Outer wheel surface may be lightly sanded, shaved, or polished to remove surface imperfections and mold casting burrs, but must not be reshaped in any way in an attempt to lighten the wheel, minimize tread contact or alter aerodynamics.** Tread surface must be flat and parallel to the wheel bore. Coning the hubs and truing the inside edge is allowed. Tread width may not be less than 7.5 mm.
- B. Wheel Bore treatment is allowed including polishing. Wheel bores **may not** be filled and redrilled to alter bore diameter or to achieve better fit with the axle.

**The following wheel modifications are PROHIBITED:**

- A. Rounding of wheel edges
- B. Grooving, H-cutting or V-cutting
- C. Altering of wheel profile
- D. Narrowing the tread surface
- 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

**There must be at least four wheels on the car.**

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 car by an axle and spin freely. No part of the wheel may overlap the center guide rail by more than 1/8 inch.

**Please note:** aftermarket modified wheels that are **LIGHTENED** exist. There are also aftermarket modified axles available. This is usually done by turning the wheels/axles on a lathe and removing material from them. **These wheels and axles are NOT allowed and are EASILY RECOGNIZED at inspection. Cars with these wheels or axles will not be permitted to race.** No part of the car or any attachment to the car may be capable of coming into contact with the track other than the wheel(s).

**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. Axles may be bent as necessary to approve alignment.

**Axle grooves are not allowed.**

Axles must not be connected to any device that mechanically alters rotation and spin. Axles must be mounted into the wood sections of car. Pre-drilled or newly drilled holes or slots can be used. Over application of lubricant which results in excessive shedding onto the track is not allowed. Approved lubricants include (but are not limited to) graphite, Teflon, Nyloil, and Krytox.

**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 Chairperson, whose decision is final. Cars may be reclassified or disqualified if they are determined by the race officials to not meet these requirements.

**Weights:**

The drilling/removal of Lead (Pb) will NOT be allowed at the race venues or at check-in time due to the toxicity of the material. All Lead (Pb) 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 when damage is caused by collision with another vehicle or object. The Cub Scout is in charge of making 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 car will be disqualified.

**What happens if... :**

A car leaves the track. Cars with raised wheels, excessively long wheel bases, or low bodies tend to jump the track. While the race committee will make every attempt to ensure the track sections are smooth, small "bumps" between sections cannot be eliminated and should be expected as an inherent part of Pinewood Derby racing. If a car leaves the track because of one of these bumps, or it leaves the track for any other reason, the heat will be re-run, and the car will be issued a warning. If a car with a warning leaves the track again, it will be disqualified. If any car leaving the track interferes with another car, the heat will be re-run.

**Behavior:**

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