

2018

South Mountain District

Pinewood Derby Rules

"The purpose of the Pinewood Derby is to help the Cub Scout build a team relationship with their parent or helper, experience the sense of accomplishment and the excitement of competition, learn Win/Lose good sportsmanship, and to have fun."
Source: usscouts.org

Minsi Trail Councils is honored to have you participate in their Annual South Mountain District Pinewood Derby Race. The Pinewood Derby has been a part of the Cub Scout Program since 1953.

General Rules

- ❖ The first rule of the South Mountain District (**SMD**¹) Pinewood Derby (**PWD**²) Race is to HAVE FUN.
- ❖ Cars must have been built during the Current School Year Pinewood Derby Racing Season from an Official BSA Pinewood Derby Car Kit (**The Kit**³) #17006 Copyright© 2012 (or after 2012).
- ❖ Please be aware of your surroundings while attending the **SMD PWD**. We depend on these facilities and businesses for our continued success. Any facility and/or business where we are a guest deserves our every courtesy. We are ALL guests and must adhere to any established rules.
- ❖ All persons attending are expected to follow the Scout Law, Oath, and Leave No Trace Principals at all times. Leaders and Cub Scouts are encouraged to remind one another and their guests.
- ❖ Adult partner(s) supervision, guidance, and assistance is encouraged and allowed, however, the Cub Scout should substantially, within their own abilities, build the majority of their OWN car. Finished, prebuilt, kit, and internet cars are not allowed. Professionally modified, hobby shop, or pre-modified purchased or non-purchased parts including; wheels, axles, and bodies, even if they claim to be, or are labeled "Official BSA" are not allowed. It is expected that all car construction and modification will be done by the Cub Scout with assistance as needed from their adult partner(s), starting with the stock materials from the Official Pinewood Derby Racing Car Kit #17006 Copyright© 2012 (or after 2012).
- ❖ Cub Scout must be currently registered with **SMD** Minsi Trail Council by February 28, 2018 to participate in **SMD PWD**.
- ❖ The car must remain untouched after completing its Pack **PWD** Race. NO modifications are permitted except for the addition of dry lubricant to the attached wheels and axles.
- ❖ The Cub Scout and an adult partner must be present during the **SMD PWD** race.
- ❖ Do your best and don't worry if it's not good enough. Some of the most unlikely cars have won!

Basic Car Specifications

- ❖ **Dimensions and Weight (reference diagrams page 2):**
 - Height (overall) not to exceed 6 inches (finishing gate clearance).
 - Length (overall) shall not exceed 7 inches.
 - Width (overall) including wheels and axles, must not exceed 2¾ inches.
 - Width (between wheels) not less than 1 ¾ inches.
 - Axles are positioned 1 inch from one end and 1 5/8 inches from the other end of the Pinewood block.

¹ **SMD** – South Mountain District

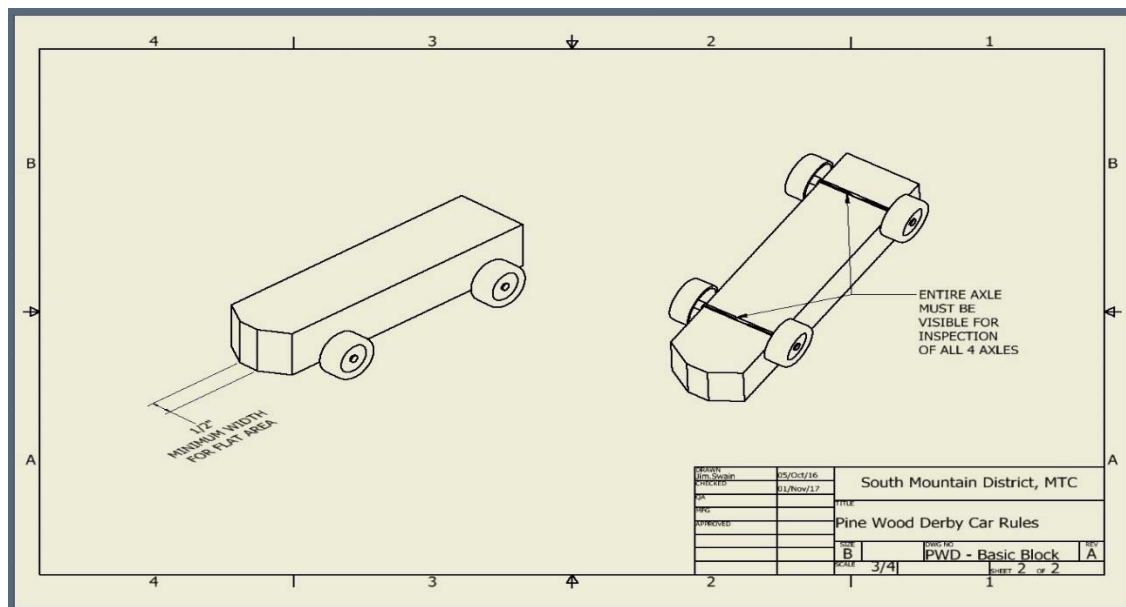
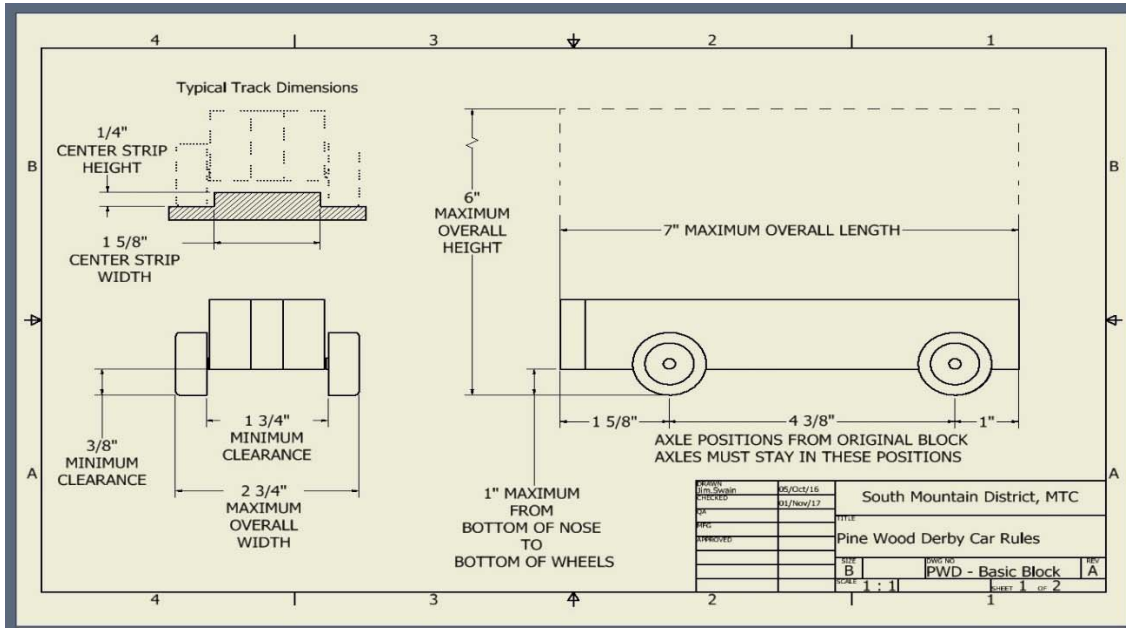
² **PWD** – Pine Wood Derby

³ **The Kit** – Refers to the Pinewood Derby Block, Wheels & Axles that come in the box acquired from your Pack Pinewood Derby Chair or **SMD** Council Store.

Basic Car Specifications (cont.)

❖ Dimensions and weight (cont.):

- Weight shall not exceed 5 ounces measured on a scale accurate to 1/100th of an ounce. Overweight cars must be reduced to running weight or below before they can be entered. The official **SMD PWD** race scale is final.
- Cars must clear the center rail of the track, which is 1 5/8 inches wide by 1/4 inch tall along the entire length of the car. 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 tracks center guide strip. In other words, no thick material on the bottom of the car, especially near edges.



- Use only the wheelbase set by the precut axle grooves⁴ of the Pinewood block. The wheelbase is 4 3/8 inches, center to center. The two rear wheels must be positioned directly across the body from one another. The two front wheels must be positioned directly across the body from one another. No portion of the wheels may extend beyond the front or rear of the car.
- 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 1/2 inch wide at the center of the car.

⁴ Axle Groove/Slot – Area on the bottom of the Pinewood block precut for the axle.

Basic Car Specifications (cont.)

❖ Dimensions and weights (cont.):

- Any details added must be within Height, Length, Width and Weight limits.
- 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.

❖ Axles⁵ and Axle Grooves:

- Only the 4 axles from **The Kit**, or the axles that are included with the colored wheels (see wheel section on page 3), are permitted.
- Polishing and lubricating the axle is highly encouraged.
 - **Only powdered graphite is permitted.** – PERIOD
 - **No lubricating oil or liquid lubricant of any kind may be used.** – PERIOD
- Axles must be left otherwise untouched. Prohibited examples;
 - No bending axles.
 - No machined axles.
 - Axles must be used as they were out of **The Kit**. No bending or straightening.
- Removal of the burrs, crimps, and shoulders⁶ on the axle is highly encouraged.
- Each axle (the tip at a minimum) must be visible to verify each nail is being used. (In other words: no Pro Axle Guard on the completed car).
- The **CIT**⁷ may use magnets to ensure approved axles are being used.
- The axle groove must be visible.
- The axle must be inserted into the axle groove. The axle does not need to be parallel to the track.
- All 4 wheels must be in contact with the track at all times. No raised wheels.
- If you have any bad or missing axles, contact your Pack **PWD** Chair.

USE THE NAILS IN YOUR KIT



❖ Wheels: (Reference Diagram page 4)

- Only Official BSA Wheels from **The Kit**, or approved colored wheels can be used. Colored wheels can be purchased at the Minsi Trails Council Scout Store or at www.scoutstuff.org. Approved colored wheel kits are;
 - Black 17553
 - Ragin' Red 17554
 - Screaming' Yellow 17555
 - Blazin' Blue 17556
 - Outrageous Orange 17557
- All lettering and numbering, both inside and outside, must remain complete and be visible. No wheel covers, inside or outside, may be used.
- All sidewall details (including the bumps along the edge between the outside sidewall and the outer tread) must remain visible.

⁵ Axle – Refers to the nails provided in The Kit.

⁶ Shoulder – Tapered part of the nail that leads to the point.

⁷ **CIT** – Car Inspection Team.

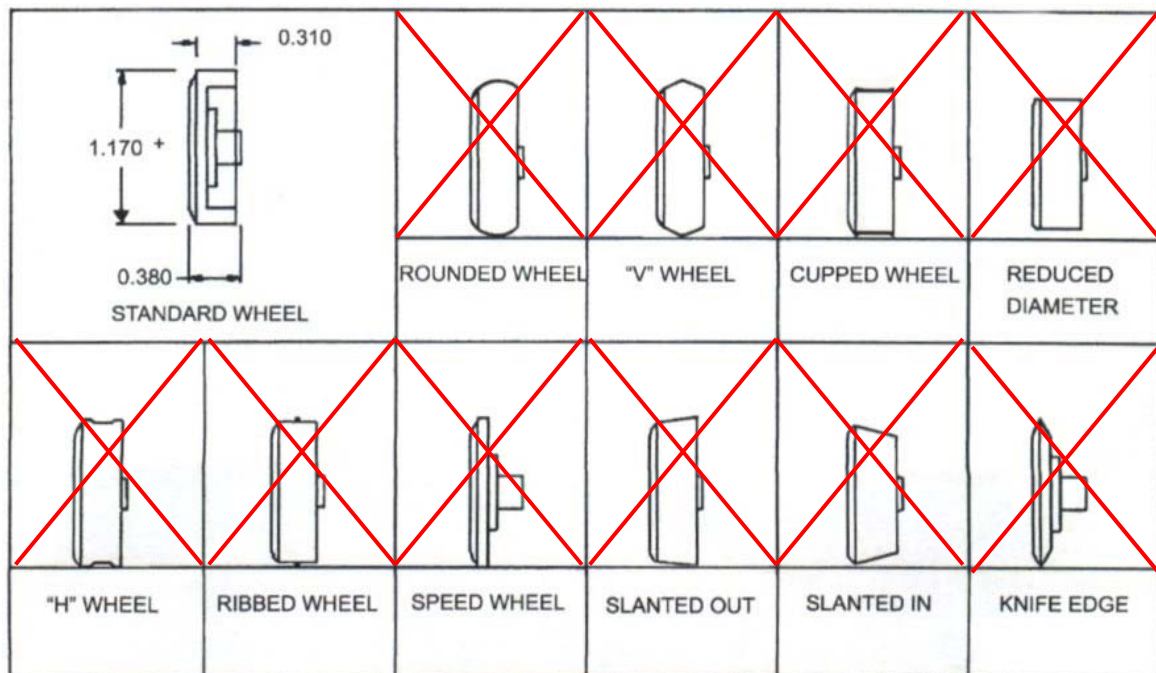
Basic Car Specifications (cont.)

❖ Wheels (cont.): Reference Diagram below

- 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.
- No alteration, narrowing, lathe cutting, or reshaping of wheels (inside or outside) is allowed!!!!
- **NO LIGHTENING OF THE WHEEL IS ALLOWED.**
- No material may be removed from the inside wheel surfaces at any point.
- Light sanding of the wheel tread to remove irregularities is allowed. Wheel tread must be flat!
- Minimum outside diameter of wheel must be equal to or greater than 1.170 inches.
- Minimum wheel weight of each wheel is 2.45 grams (0.0864 ounces).
- No material may be added other than limited powdered graphite.
- Wheel bore treatment is allowed including polishing. Wheel bores may not be filled and re-drilled to alter bore diameter or to achieve better fit with the axle.
- **CIT** reserves the right to measure the wheel to verify compliance.
- All 4 wheels must be in contact with the track at all times. No raised wheels.
- If you have any bad or missing wheels, contact your Pack **PWD** Chair.

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.

The following diagram offers examples of disqualifying / altered wheel.



❖ **Examples of Prohibited Items which CANNOT be used:**

- Springs or suspension systems of any type.
- Magnets, starting devices, finish line devices, propellants, or propulsion systems.
 - The car must be freewheeling.
- Wet paint or sticky substances.
- Glass or excessively fragile parts.
- Bearings, washers or bushings.
- Solid one-piece rod style axles.
- Axles and wheels attached to any device that mechanically alters rotation or spin.
- Loose objects on car. All weight must be securely fastened or embedded in the car.
- Electronic or lighting devices, if lights are part of the car they must be turned off. Lights must be off due to electronic timer.