BLUE HILLS DISTRICT
PINEWOOD DERBY RULES

(Revised 1/2017)

The Pinewood Derby is open to all Cub Scouts. Cars should be built by the Cub Scouts with some adult guidance. Any technical assistance should be fully explained to the Cub Scout so that he can use that knowledge on future projects. It is a joint venture **where the Scout is expected to do most of the work.** This will give the Scout a positive experience.

Everyone is expected to have fun and show Scout-like behavior throughout the event

Step 1. Knowing the rules

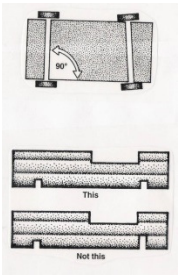
A. The car must be made during the current year. (The year the race is held)
B. **Only official BSA equipment may be used. Official supplies come in the Pinewood Derby Car kit or are purchased from the BSA Scout Service Center or BSA catalog.**
C. Car Specifications:
    - Maximum length – 7”
    - Maximum width – 2 ¾” Minimum width between wheels – 1 ¾”
    - Maximum weight – 5 ounces
    - Bottom clearance – 3/8”
    - Wheelbase between the grooves – 4 3/8”. Alterations will be disqualified.
D. Details, such as steering wheel and driver are permissible as long as they do not exceed the maximum length, width, and weight specifications.
E. No loose objects, such as details, weight, etc. These must be securely fastened to the car.
F. Wheel bearings, washers, and bushings are prohibited.
G. The car shall not ride on any type of spring.
H. The car must be freewheeling, with no starting devices.
I. Only Official BSA wheels are allowed. The wheels may not be cut, drilled, beveled or rounded. You may remove the seams and imperfections from the wheels.
J. Only Official axles are allowed. Sanding and polishing to remove burrs is allowed.
K. Only dry lubricant, such as graphite or silicone is allowed. No spray lubricants allowed. Lubricant can only be applied before the race starts and not during race.
L. All cars **must** pass inspection to qualify for the race. After they pass inspection, they are to be put at a designated location and left there. Absolutely no touching of cars will be permitted, except by race officials. If a car does not pass inspection, the owner will be informed of the reason for failure, and will be given time within the official weigh-in time period to make the adjustment. After final approval, cars will not be re-inspected unless the car is damaged in handling or in a race.
M. Each heat will be announced. The car that crosses the finish line first is the winner.
N. If a car leaves the track during a heat, the heat will be declared no contest and rerun. If the same car leaves the track during the second heat, it will be disqualified from the heat race. Only exception to this is that debris on the track or the track itself caused the problem.
O. Scouts may claim their cars and awards after the final race.
P. **The decision of the Derby Committee is final and does their best to be fair to everyone.**

HAVE FUN!
SHOW GOOD SPORTSMANSHIP!
CHEER ON YOUR FELLOW SCOUT!

Step 2. Design the Car's Body

First, choose your favorite design. Outline it onto your paper template. Remember, to maintain the width specified in Step 1C, where the metal axle is to be inserted. Then, outline the block of wood onto paper as shown below. Feel free to design anything you want, as long as your car meets qualifications. A car with a flat nose wins as often as a car that is thick at the nose. Some experts recommend, however, that the underside be kept flat to prevent wind resistance.

Step 3. Shape the Cars Body



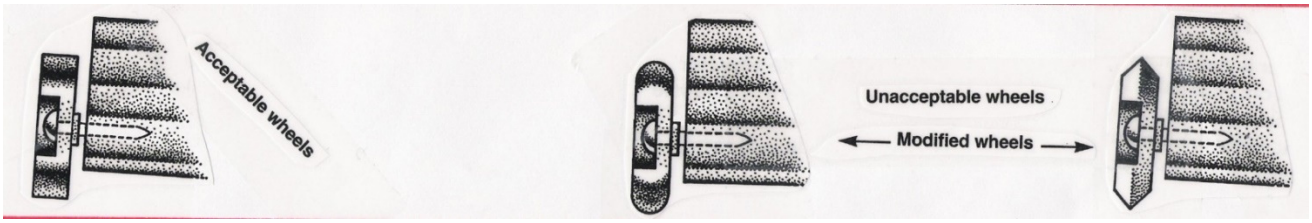
It is up to the Cub Scout and his partner as to how detailed the car is built. Keep in mind the tools you have available: saws, drills, sanders, etc. Bear in mind, too, the safety of the Cub Scout. Generally, the adult makes the major cuts with the power tools, and then lets the Cub Scout file and complete the sanding.

Before cutting out the car, look at the axle grooves that came with your kit. Check the grooves to ensure that each is at a perfect 90-degree angle to the car body. A car with untrue axles tends to steer to one side or the other, causing it to rub up against the side of the lane strop, slowing it down. You can check the groove angles by using a square, a protractor, or even a piece of paper. Both angle grooves must be at 90-degree angles. If your block of wood grooves is not at 90-degree angles, you must show your car to the local pack leader, who will verify and mark down that this Scout's wheel grooves, had to be adjusted.

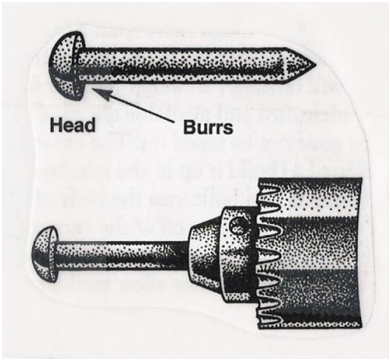
Once the design is transferred to the clock of wood and the axles are true, you can continue shaping. As stated previously, you may use power tools, files, planes, etc. Do not forget to have a place for weight if you need it. Weight may be placed anywhere as long as it is not taped on and does not exceed the qualifications. You can even bolt it on if you like. Keep details such as drivers, steering wheel, and roll bar for last.

Step 4. Inspect the Wheels

Only the official wheels are accepted. Wheels may not be modified. Cars with modified or old-style wheels will be disqualified. Modifying the wheels could allow the car to interfere with cars on adjacent lanes. Wheels can be sanded to remove surface imperfections, but the treads must be left flat. Inspecting the wheels is important. Make sure all wheels roll freely and smoothly around the axle. Get a drill bit that fits just inside the wheel where the axle fits. This cleans out the roughness and burrs that could cause the wheels not to spin freely on the axles. Wheels and Axles must be inspected to verify official equipment has been used. DO NOT cover with paint, stickers or cover the axles.



Step 5. Preparing the Axles



To insert axles into the body block, use the technique mentioned in Step 3. The axles themselves may need special attention. Check each axle to see if there is a burr on the underside of the head. To let the wheels run as freely as possible, place an axle in electric or hand-drill chuck, then smooth the burrs with a fine emery cloth or file. To fine tune your axles, polish them with a jewelers rouge or fine emery paper. These items can be purchased at a local Hardware store. Sanding is allowed to remove burrs only, original width may not be changed, wheels that are sanded round or edges sanded off may be disqualified. DO NOT install the Wheels yet.

Step 6. Paint

Sanding sealer is one of many types of primer; most can be found at local automotive parts or hardware stores. After molding and sanding your car to your satisfaction, prime it, sand it with fine sandpaper and add additional coats of paint. Do not glue decals on it yet.

Step 7. Install Wheels and Axles

Now, put the axles and wheels on the car, but don't glue the axles on yet. Weigh your car, being sure to place the car and the accessories (driver, steering wheel, roll bar, etc.) on the scale.

Step 8. Add Weight

The car may not weigh more than 5 ounces. Get your car as close to 5 ounces as possible. You can pre-check the weight at any Post Office. The scale at the District Pinewood Derby will weigh all cars, and scouts can adjust their cars according to this scale. The car may be hollowed out and weight inserted to build it up to the maximum weight. Make sure it is securely recessed or built into your body of the car, and that the car at 3/8" clearance. The officials do not want any objects falling off of the cars and onto the track. If your car is not up to or close to the official weight on the day of the race, you may add more weight, but this weight may not be taped to the car. Weights may be applied under the car, but MAY NOT extend below the profile of the wood block. Once you are satisfied with the weight, then secure the accessories and glue axles to secure them.