

## Heartland District Race Format and Eligibility

The 2021 Heartland District Pinewood Derby is being adjusted due to COVID. For the safety of Scouts and Families, the race will be conducted virtually. Cars will be checked-in the week prior to race day and transported to the race site. On race day all racing will be streamed live.

### **Race Format:**

The derby will run on a multi-lane track with every car racing once in each lane (Perfect-N format). The times for each race will be added together - lower total time is better. Volunteers will help by acting as a proxy driver and place your car on the track for each race. With the car owner's permission, volunteers will also provide pit-crew services if needed.

### **Eligibility:**

The Heartland Pinewood Derby is open to ALL registered Cub Scouts, and Webelos Scouts. Participation or placement in a Pack Derby **IS NOT REQUIRED** to compete in the district derby. Only Scouts registered in a Heartland District Pack will be eligible for best in show and fastest car awards. Family members and out of district Scouts may participate but will be in a separate race and not eligible for the fastest car or best in show awards.

### **Classes of Racing:**

Cub Scouts will compete based on their "Cub Scout Year." There will be only one class for Webelos. In most cases this aligns with their year in school: Lion = Kindergarten; Tiger = 1<sup>st</sup> grade; Wolf = 2<sup>nd</sup> grade; Bear = 3<sup>rd</sup> grade; Webelos = 4<sup>th</sup> and 5<sup>th</sup> grade.

### **Sportsmanship:**

How we act and behave while participating in the Pinewood Derby is the utmost importance. This is called sportsmanship.

The first thing to remember about sportsmanship is that everyone's skills are a little different. Your car building skills may be just developing, while someone else may have more experience. Parents have different skill levels too. Whether or not you feel you have good car-building or racing skills, remember, you and your fellow scouts are individuals first and racers second. Have respect for others.

The second thing to remember is to follow the rules. Without rules, there would be no Pinewood Derby. You will never know if you are really good at doing something unless you follow the rules. This is being honest.

The third thing to remember about good sportsmanship is that there are winners and losers in every competition. You accept this when you choose to compete. There may be times when you win and feel happy, and times when you lose and feel unhappy. Being a winner is easy while losing is sometimes hard. If you win, you must not brag or gloat. If you lose, you must not feel jealous or bitter. To be a good sportsman, you must be able to say, "I did my best" and be satisfied with the results. You must appreciate and feel happy for someone else who builds a good car and runs a great race.

Good sportsmanship is demonstrated both in person and online.

Good Luck Scouts!



## Car Design and Construction Rules

### General:

1. Cars **must** be built after June 1, 2020 using the materials in the Official Pinewood Derby Racing Car Kit (part# 17006) or the Official Wheel/Axle Kit (part# 17553-17557) as sold by the Scout Service Center. Kits and parts may be purchased elsewhere if they are of the exact type specified above. For these rules, substitution parts of identical geometry are considered to have been contained in the kit. Precut kits with the BSA logo are acceptable. Hobby shop parts such as Pinecar precut car bodies, Pinecar axles, Pinecar wheels, axle tubes, bearings and springs are prohibited.
2. Cars **must** have been built by the Cub Scout participant. (Some parental or other adult assistance is permitted.)

### Size and Shape:

1. The pine wood block may be shaped in any way desired as long as it follows the Car Design and Construction Rules outlined here.
2. Overall **length** cannot exceed 7 inches.
3. Overall **width** cannot exceed  $2\frac{3}{4}$  (2.75) inches.
4. Overall **height** cannot exceed 4 inches (**To fit under the top of the electronic timer at Finish Line**).
5. Underside clearance of at least  $\frac{3}{8}$  (0.375) inches and inside wheel-to-wheel clearance of at least  $1\frac{3}{4}$  (1.75) inches is required so that the car will run on the racetrack. Adequate clearance is the responsibility of the race car builder.
6. The front of the car must have a minimum of a  $\frac{1}{4}$ " flat surface in the center to be placed against the starting mechanism (i.e., it cannot have a cutout notch). No part of the car may extend beyond the starting mechanism.
7. If you choose a narrow body design, make sure the areas where the axles are inserted into the body remains  $2\frac{3}{4}$  inches wide.

### Weight:

1. "Weight" is considered to be any material on the car that is not provided in the kit. Race cars may weigh no more than five (5) ounces (total weight) at the time of check-in ~~registration on Derby Day~~ using the official scale and judged by a member of the race staff. Official scale will have (2) two places after the decimal point (example 5.00).
2. Weight may be added to the car and will be considered part of the car for purposes of all measurements. Added weight must be of a solid material (e.g., metal, plastic, wood, etc.).
3. All weight must be securely fastened to the car, e.g. by permanent glue, nails or screws and not by "sticky substances" such as tape or tack spray. Weights shall be passive, i.e. non-moveable, non-magnetic, non-electric, non-sticky, etc.

### Decorations:

1. Moveable (i.e., loose) parts are not permitted.
2. Added design features are permitted if they comply with all other Car Design and Construction Rules.
3. Cars must be clean and dry. (No wet glue, paint or lubricant).

**Wheels:**

1. Wheels **must** be the Official B.S.A. wheels provided in the Pinewood Derby Kit.
2. Removal of any material from the wheel sidewalls or face is **not** allowed. The outside wheel sidewalls and face must remain intact. All wheels must have the “BSA” and “Pinewood Derby” words on the sidewall completely intact. The picture of the wheel to the right is what the judges will expect to see on the cars. Anything else will result in disqualification.
3. Wheels may be lightly sanded to remove seam or other ‘bumps’ for truing. Be careful not to reduce the wheel diameter or round the tread face.
4. Width of the wheels cannot be altered. Wheels must remain FLAT. Rounding or thinning of the wheels is prohibited.
5. Wheels **must** be able to come into direct contact with the body of the car.
6. All cars **must** have four wheels; at least three need to touch the track surface. Underside clearance must be maintained at all times.
7. Hubcaps are not permitted.



**Axels:**

1. Axels (nails) **must** be the Official B.S.A. axels provided in the Pinewood Derby Kit. **Solid axels are not permitted.**
2. Bearings, washers, sleeves or bushings on the wheels or axels are prohibited.
3. Springs or suspensions of any kind are prohibited.
4. The axle nails shall be firmly affixed to the wood of the car body. The outside surface of the axle head (the non-contact surface) may not be changed, such as, by polishing, painting or filing down. **It must be obvious to the judges that the wheels and the nails from the kit are being used.**
5. The axels/wheels **should** be placed in the slots provided. If you choose not to use the provided slot, you are still responsible to maintain all clearance requirements.
6. Removing the pinch marks and mold ridges on the axels by sanding and polishing the axels is allowed. The axle dimensions may not be changed.

**Lubricant:**

Dry powdered graphite is the only lubricant permitted. Many other lubricants have been used over time however graphite has been proven to work best and cause the fewest problems. **Liquid lubricants are not permitted.**

**Repair during race:**

1. If, during the race, a wheel falls off or the car becomes otherwise damaged, a member of the volunteer “pit crew” will make repairs. During registration, the Scout can leave a contact number and the pit crew will make every effort to include the Scout in the repair process. If a car is damaged due to track fault or due to fault of another car or Scout, then the track chairman, at his sole discretion, may allow additional repair assistance. Only in this instance can replacement wheels be re-lubricated.
2. A repaired car must be re-inspected and meet the registration requirements before continuing to race.
3. If repairs are required to the track, the previous heat may need to be re-run.

**Interference during a race:**

1. If a car leaves its lane and, in so doing, interferes with another racer, then the cars will be reset and raced again. If a car jumps the track a second time without being interfered with, that car will be disqualified.
2. If a car leaves its lane but proceeds down the track in a manner that does not interfere with its opponents, the car will be placed in the order it crosses the finish line.
3. If a car leaves the track without interfering with its opponent, it shall be considered to have ended its heat at that point and be given last place.