

## Pack 50 2020 Pinewood Derby Official Rules

These are the official rules and specifications for the Pack 50 Pinewood Derby. *If there are conflicts with the rules used at other Derbies or with those on the leaflet included in the Official BSA Pinewood Derby Car Kit, these rules will prevail.* The Pinewood Derby is a family participation event. Cub Scouts, their parents and friends join together to design and build a miniature racecar. While building the fastest car is a goal of many, the real winners are the majority of Scouts who have learned new skills and developed a positive bond with their parents or others as they build their cars. It is a joint venture where the **Scout is expected to do most of the work**. The Cub Scout will not have this positive experience if parents or other skilled adults assemble his car.

### Rules

1. The Pinewood Derby Car shall be constructed from an Official BSA Kit. The block of wood, wheels and axles in the Derby Kit must be used. The use of other wheels and axles, or other wood for the body, is strictly prohibited.
2. All cars entered in the January 2020 Derby are to be built and finished by the Cub Scout between December 2019 and Registration Night, January 22, 2020.
3. A Cub Scout need not personally attend Registration Night, but his car must be registered on Registration Night in order to race.
4. The Cub Scout should be present at the Derby Race while his car is racing. However, if an emergency arises, another Cub Scout of the same rank may serve as a substitute and race the car on behalf of the Cub Scout who cannot attend.
5. Dry graphite is the only lubrication allowed on wheels and axles. You may choose to apply your graphite at home, or a Scout may choose to have it applied after inspection and prior to impoundment by race officials. No lubrication will be applied on race day.
6. If during inspection, a car does not meet racing specifications, the builder will be allowed to correct those areas in violation of the racing specifications. Corrections must be made and the car brought into specification before the close of registration on Wednesday.
7. Each car must pass all Derby Committee inspections before being considered registered and allowed to participate in the race. The race officials will impound all registered cars after they pass inspection.
8. Track officials will only handle the car after it is impounded until the end of racing. After each heat, the car will be returned to the judge's table. A Scout may not handle his or any other car during the race.
9. If a car leaves the track during a heat, the heat will be declared invalid and will be rerun. However, if the same car leaves the track during the second run, it will be disqualified in that heat. An exception will be made if track debris or the track itself is found to cause the problem.
10. If it comes to the attention of the Derby Committee during or after racing that a car does not comply with these rules or specifications, the car will be disqualified from the Derby and considered to have finished in last place.
11. Scouts may claim their car and any awards that have been earned after the final race in their age group.
12. No Scout or other participant shall step on or over the track.
13. Each Scout will race in at least three heats, once in each lane on the track. Although cars are raced together, scoring is determined by the elapsed time to complete the race as determined by electronic start/finish measurements. Trophy placement will be the result of a three heat competition between the fastest three racers. *Because of this it is possible for a scout to win 1<sup>st</sup> place in his age group even if his car never came in 1<sup>st</sup> place in any individual race.*
14. Dummy or non-competitive cars may be introduced as necessary to fill heats to three cars.
15. All decisions of the Derby Committee are final. The Derby Committee will do his or her best to be fair to everyone.

### Car Specifications and Limitations

#### Wheels:

Only new wheels supplied in the Official BSA Car Kit or in an Official BSA replacement parts kit may be used. The wheels may not be sanded, shaped, ground, machined, tooled or polished. Rounding the tread area to minimize wheel surface contact is not allowed. Spot sanding of small burrs or imperfections is allowed. No hubcaps or wheel coverings are allowed which obscure the axle. **If replacements are necessary, Pack 50 will allow any color BSA wheels.**

#### Axles:

The axles supplied in the Official BSA Car Kit or in an Official BSA replacement parts kit must be used. Polishing to remove small burrs and imperfections is allowed. Axles may be fixed in position with glue. The four points of the axle nails must be visible in the slots under the car in order to demonstrate that a solid axle was not used.

### Car Assembly

- The front of the car may not have slots to improve the starting position of the car. The front edge of car must touch the starting pin in the center of the track.
- Axle nails must be driven into the existing wooden block axle grooves. Pre-cut axle grooves may be modified only if they are found not to be at true right angles to the car body. Placement of the grooves may not be adjusted more than 1/4" if new grooves must be cut.
- Axles must maintain the wheelbase of 4 3/8 inches from groove to groove.
- To fit in the track grooves, wheel track must be at least 1 3/4 inches, measured between the inside edges of the wheels.
- All four-axle points must be visible within the axle grooves.
- All material added to the car must be secured to the body of the car. No loose items will be permitted.
- No bearings, washers, bushings or springs may be employed in the wheel assemblies.
- The bottom of the car must clear the raised lane keeper on the track. A 3/8 inch clearance is required.
- Center mounted tires will not be permitted.
- Weights or attachments should not protrude below the car's bottom. Stationary weights may be embedded inside the car body or added to the exterior surface.
- Tape or filler must be used to cover or fill all voids, except the axle grooves, on the car's bottom.
- The car must be freewheeling with no starting or acceleration devices.

### Final Dimensions

Width: Not to exceed 2  $\frac{3}{4}$  inches (including wheels)

Length: Not to exceed 7 inches

Weight: Maximum weight of 5.00 ounces as measured by the Derby Committee scale  
(Note: those cars that weigh as close to the maximum allowed, all other factors being equal, will perform better)

Height: Maximum height of 5 inches (the clearance of the finish line gate)

Clearance: Minimum  $\frac{3}{8}$  inches from floor to bottom of car

Wheel Base: 4  $\frac{3}{8}$  inches from axle groove to axle groove

Wheel Track: 1  $\frac{3}{4}$  inches, measured between the inside edges of the wheels