Pathway to Adventure Council

Chicago Blackhawks Pinewood Derby Rules

The Pinewood Derby is open to all Cub Scouts and Webelos. Cars should be built by the Scouts with adult guidance. Technical assistance should be fully explained to the scouts so that he can use the knowledge in future races. Racing requires participants to learn two main things: the craft skills necessary to make your car and the rules that must be followed. There is also a third part to competition that's very important.... SPORTSMANSHIP. This has to do with how you act and behave while participating in the derby. You can't use cars from past years

REMEMBER THE CUB SCOUT MOTTO - DO YOUR BEST. IT SAYS NOTHING ABOUT BEING PERFECT.

Registration and Inspection

All cars must pass inspection to qualify for the race. Each car must pass inspection by the race officials before it will be allowed to compete. The officials have the right to disqualify those cars that do not meet specifications. Cars not passing inspection for minor infractions, i.e., weight, wheel width, loose body trim, will have an opportunity for re-inspection. Part of the Scout experience is working within rules to achieve a goal.

DON'T DISAPPOINT YOUR SCOUT BY HAVING THEIR CAR DISQUALIFIED, AS THESE RULES WILL BE ENFORCED!

Official's decisions are final. The car will be impounded when registered until the races are complete. After being impounded, repairs will be limited to replacement of axles/wheels that are broken/lost during the race. Any other piece of the car that is broken/lost during the race cannot be replaced.

Inspection points

The car must have been made during the current scout year.

The body in the BSA Pinewood Derby Kit. You can't use other wood blocks. The body may be shaped, hollowed out, or built up from the original block, as long as it meets all other specifications. Any additions to the original body, i.e. steering wheels, drivers, decals, paint, weights, etc., must be firmly attached.

>Axles, wheels and body wood shall only be official BSA Pinewood Derby. No straight, one-piece

Specifications

WIDTH: The car width at the wheels may not be modified; it must be the same as the original kit. Width must not exceed 2 ¾".

LENGTH: Overall length may not exceed 7".

WHEELBASE: Wheelbase must clear the ground by at least 3/8 inch. You do NOT have to use the axle slots provided in the BSA blocks (as they are sometimes not even drilled perpendicular), but you DO have to keep the length between them the same**. The standard wheel base (distance between front and rear axles) may not be changed from the kit body distance of 4-1/4". This rule has been unclear in previous years and not enforced, but will be this year!**

Wheels cannot be placed at each end of the 7-inch block. At least 3 wheels must be touching the track.

WHEELS: Wheels and axles must be as furnished in the official kit. NO washers, bushings, bearings or springs are allowed. Wheels may be sanded or lathed to remove the flashing only. **Any coating or paint on the wheels is prohibited**. No drilling holes in the hubs. Burrs inside the wheel where the axles go may be removed. The criteria used for this is that tire should look 99% like it was straight from the box.

AXLES: BSA approved axles must be used. Burrs on the underside of the heads of the axles may be sanded/grounded down. Solid axles are not allowed. General rule of thumb: use the axles provided in the kits.

WEIGHT: The weight of the race-ready car must not exceed five (5) ounces as measured on the official scales.

LUBRICATION: **Use dry powdered graphite or dry Teflon ONLY.** You may not use any other lubricant, especially oils and silicone sprays. No graphite may be applied after car inspection or between races.

OTHER: The car must be freewheeling, with no starting devices. No loose materials of any kind (lead shot, marbles, etc.) are allowed inside or outside the body of the car.

Racing and Awards

If a car leaves the track, runs out of its lane, interferes with another car, etc., the heat will be rerun. If the same car gets into trouble on the second run, the contestant is disqualified and automatically loses the race. During racing, repairs will be limited to replacement of axles/wheels that are broken/lost during the race. Any other piece of the car that is broken/lost during the race cannot be replaced or reattached.

Tips and Hints

FRICTION: One of the best ways to eliminate friction is graphite. A good dosage may not do wonders for the paint job, but it will for your axles (hopefully you didn't glue the axles too far in or that will impair the wheel).

Most axles in the kits have burrs on them around the head. De-burr the axles with a small file.

WEIGHT: It boils down to this, the closer you get to 5 ounces without going over, the better off you will be. The placement of the weight on the car (front or back) is an item which has been argued for years. Weight toward the rear seems to work best, along as the front wheels track straight. Just remember - gravity is the only power these cars use.

AERODYNAMICS: There are just about as many arguments on this topic as there are Pinewood Derby racers.

It has been tried, several times, to race a car, as is, straight out of the box with no cutting, shaping or painting of the wood. These cars seem to perform, on average, just as well as the low, sleek, aerodynamic models. The bottom line is: Let the boy design the car, and help him achieve his design! If the adult wants to tinker with the car, tinker with the wheels and axles. The car design has almost no bearing on the outcome of the race.

ALIGNMENT: Make sure that the car's wheels are placed as straight as possible. Place the car on the floor and roll it about 8 to 10 feet. The car should go in a straight line. Adjust with the axle placement to make double sure the car will roll straight.

WHEELS and AXLES: Make sure that the axles are glued securely to the wood. Also ensure that the wheel is not glued to the axle. The wheels are single most important part. Make sure the wheels are on straight and turn freely.

DESIGN / SHAPE: The finish line uses electronic infrared sensors to detect the car moving across the finish line. These sensors are directly centered in each lane of the track. The starting gate of the track uses a piece of wood in the center of the track. This is to ensure that the length of roll each car will have to the finish line sensors will be the same for each car no matter what the shape of each car is. Keep a high track clearance so that nothing has a chance to rub on the underside of the car. Remember that the cars straddle a wood lath as they roll down the track.

PAINT: Let your imagination run wild!! Whether you use 50 coats of hand rubbed lacquer, olive drab or no paint at all, all it will do is affect the looks of your car. It will not fun any faster or slower whether it’s red, blue, green, yellow, flames, etc. Let the boy paint the car. Drips of spray paint don’t slow the car down.

ACCESSORIES: Glue those Legos on to the car. Anything that falls off in the race stays off. This can lighten your car enough to slow it down.