

Pinewood Derby Tips, With Comments on the Official Council Pinewood Derby Rules (2008)

Craig Lanoue put together the following comments on the Northern Star Council's official pinewood derby rules for 2008. His comments do an excellent job of explaining the reasoning behind these rules. He also includes some tips on car construction. NOTE: Always refer to the Northern Star Council's rules for the current year in case there have been changes since 2008.

Each participant may enter one (1) car per year. The car should be built for the current year of competition and not raced in previous years. The Cub Scout needs to be present and in uniform for the car to compete. ***The primary purposes of the Pinewood Derby are to learn something and to have fun.***

The race will be a timed event. The best accumulative time will determine the winner. ***This makes the race quick and easy to run.***

After registration, inspection, and weigh-in the car will be impounded. You will not be allowed access to your car until after the end of the event. A car losing a wheel or any part that prevents running cannot be repaired after weigh-in. Exception: Race officials may authorize repairs when damage is caused by collision with another vehicle or object. Repairs must be completed within a limited time allowed by the Race officials. ***Again, this makes the race quick and easy to run. If we allowed people to make adjustments, the race would never get done. We have the weigh-in night for adjustments.***

If a car leaves the track in two (2) consecutive races, it is disqualified. Exception: When a car is caused to leave the track because of a collision with another car. ***Again, this makes the race quick and easy to run.***

The cars will rest against a starting pin; therefore it is advisable that they do not come to a sharp point in front. Due to a short starting pin, the front end should not be any higher than ¼" above the axle line. ***Looking from the top of the car, if the front is not straight (or close to straight) it is harder to line up on the starting pin. Your car is more likely to bump the railings and slow down. Looking from the side of the cars, have the front slanted back so it will reduce contact with the starting pin as it drops. Also note that no part of the car may protrude over the starting pin.***

Only the official Cub Scout Grand Prix Pinewood Derby kit should be used. ***All scouts get a kit. The items in the kit are not high quality products. That is intentional, so the scouts can work on them. There are a lot of businesses that sell unofficial pinewood derby products that will make it unfair to the ones that use the pieces that came in the kit. Sometimes you will get a really bad nail or wheel. The scout store sells these pieces so you can replace the bad piece.***

Width – overall width will not exceed 2-3/4". This is for your benefit, so your car doesn't get stuck on some tracks.

Length – overall length will not exceed 7". Wheels will not extend past the front or rear of the car body. ***All things being equal, a long car will be faster than a short car if weighted properly, so there is a maximum allowable length. If the wheels extend beyond the front of the car, they will start ahead of the starting pin and will cross the finish line before the rest of the car. If the rear wheels extend beyond the back of the car, it will allow you to move the center of gravity back on the car.***

Width – between wheels – will not be less than 1-3/4". ***Again, this is for your benefit, so your car doesn't get stuck on some tracks.***

Bottom Clearance – Clearance between the car and track will not be less than ¼". Note: some tracks may require 3/8" clearance. ***Have a 3/8" clearance. Since there are no turns, there is no benefit to having a low car (center of gravity). If your car drags on the track it will slow down.***

Weight – will not exceed 5 ounces. *All things being equal, a heavy car (within reason) will be faster than a light car. Try to get as close to 5 ounces as you can without going over. Also, you want the center of gravity to be just in front of the rear axle.*

Height – will not exceed 4” so that it will clear most tracks. *Again, this is for your benefit, so your car doesn’t get stuck at the finish line.*

Only the official current Cub Scout Grand Prix Pinewood Derby wheels and axles are permitted. (See pictures and notes). You may not change the wheel dimensions. Wheels may not be rounded, pointed, concaved, shaved, or otherwise modified. You may, however, sand the tread or tire contact area of the wheel to smooth out the rough spots. Wheel bearings, washers, and bushings are prohibited. The car will not ride on springs of any type. Wheel covers or hub caps are prohibited. The head of the nail must be viewable for inspection. The axles (nails) may be polished and stamping imperfections removed, but the shape and size of the head may not be altered. The recommended wheel and axle lubricant is dry, powdered graphite. Only use graphite as a lubricant. *Don’t mess with the wheels, if you have a bad wheel, get a different one. Fixing a bad wheel will most likely result in an illegal wheel. Use gloss or enamel paint on the sides of the car, these are slippery compared to flat paint. Also, rub some graphite in the side of the car where the hub will make contact. Paint your car before you put the wheels on.*

Other items – details such as steering wheel, a driver, and decals are permissible as long as these details do not exceed the width, length, height, clearance, and weight specifications. All details must be securely attached to the car. *Make sure nothing falls off your car. Glue everything well, including gluing the axles to the car. Remember to glue anything on the bottom of the car extra well, because the bottom is used for stopping the car.*

All cars will be free wheeling with no starting devices. Magnets and slip weights are prohibited. All weights must be securely attached to the car. *The starting pins used to be made of steel, so the magnet would pull the car forward. Our pin is aluminum, so a magnet would be of no value anyway. Don’t use liquid weights, they actually slow a car down and can create a mess.*

Inspection: Each car must pass an inspection by the official inspection Committee before it may compete. The inspectors have the right to disqualify those cars which do not meet the rules and specifications outlined above, even though your car passed inspection for the pack or District level. If a car does not pass inspection, the owner will be informed of the reason for the failure and will be given a time within the official registration period to make adjustments. *Pack 461 uses the official council rules instead of its own rules so that there are no surprises if a car makes it to the Council race.*