

Faster Pinewood Derby Cars

Here are a few speed tips on how to make your Pinewood Derby cars faster.
For more details, go to www.PullenInc.com/pinewood/

1. **Lubrication:** Use graphite to lubricate the wheel axles. Graphite can be found at almost any hardware store or lock shop. Tip: Test run the car several times after adding graphite, or at least spin the wheels (with the car upside down). The car will go faster when the graphite is worn in a little.
2. **Axle Location:** Having the rear axle closer to the back of the car will give you an edge on a standard curved track. The car kits have one wheel slot close the end of the block and the other slot is farther away. Design your car so the slot closest to the end is at the back. This will keep the wheels on the slope of the track as long as possible.
3. **Weight Location:** Having the weight more toward the rear of the car will give you an extra boost of energy on a curved track. Having the car balance about an inch in front of the rear wheels is optimal. Also, keeping the center of gravity low helps. Add the weight to the bottom instead of the top of the car if you can. (If you add weight to the bottom, make sure you don't reduce the ground clearance under the car.)
4. **Aerodynamics:** A streamline design will give you a slight edge over a non-aerodynamic shape. (It helps.)
5. **Wheels:** Sand the rough spots off the wheels and axles, then wax the wheels with car wax. If you have several sets of wheels, try spinning the wheels on the axels and pick the ones that spin the longest and smoothest. Use the best wheels in the back.
6. **Alignment:** Roll the car 3 or 4 feet on a smooth flat surface like a tabletop. Make sure it rolls in a straight line without guides. If it curves, try adjusting the axels until it goes straight.
7. **Not a toy:** Once the car is tuned up, put it away in a safe place and don't play with it. A small bump in the wrong place can dramatically slow down the car. Once the races are over, then the car can be a toy. (Unless you are going to the District or Council races.)
8. **The Number One Biggest tip of them all:** Have fun! (Dad and Scout)



You can find more speed tips by searching the Internet. **Check to make sure the modifications you find are legal.** Several tips found on the Internet are NOT legal at the District or Council races. Check your District and Council rules before you build your car.