

# PINWOOD DERBY RULES

## Cub Scout Pack 678 Race Committee

Effective 1 February 2015

The Cub Scout should have the fun of racing a car he has helped to build from materials in the Pinewood Derby kit. The purpose of the derby is not just to win! It is a fun event, where parents get to assist their sons on a project. Help your son design, cut, build, paint, finish, and whatever, his car. Many tasks associated with building a derby car are challenging for adults and next to impossible for the boys. There may be many tasks that the Cub Scout just doesn't have the knowledge or ability to do -- so help him out! Parents should not build the entire car for him. The intent is for the Cub Scout to learn from the experience, so please explain any tasks performed by the parent/adult so he understands.

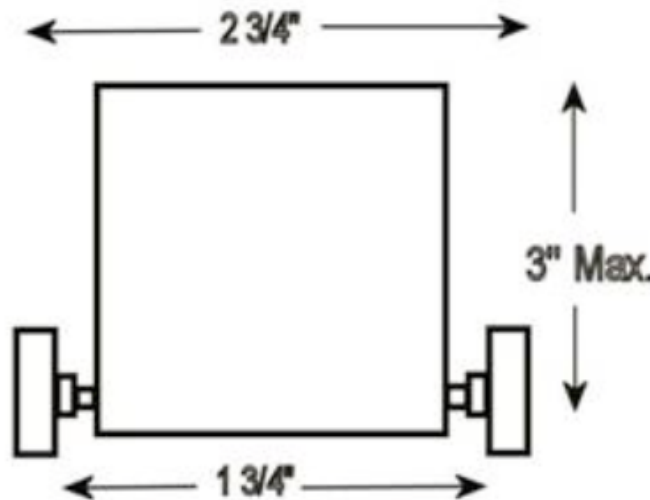
These rules for our pack are intended to allow all Scouts an equal chance to do their best and have a chance at winning.

Note – The rules were updated on 1/1/13 to prohibit the use of reduced weight wheels and “quick start” front ends. The rules were updated again on 2/1/15 to clarify the wheel-contact rules, and to clarify the intent of racing cars in heats. The reason for updating the rules is to create a more equal and competitive racing environment.

### Race Car Rules

Cars entered must be made from an official Cub Scout pinewood derby kit. Cars from previous season are not allowed.

1. **WIDTH:** Car cannot be more than 2 3/4 inches wide.
2. **LENGTH:** Car cannot be more than 7 inches long.
3. **WEIGHT:** Finished car cannot weigh more than 5 ounces. The weight shown on the Official Race Scale is final. All car parts and materials must be firmly attached. To increase the car's weight, add wood, metal, or plastic only. Mercury is not allowed.
4. When the electronic judging device is used, there is a maximum height of 3 inches. Race officials may be flexible on the height restriction as long as the overall height does not interfere with the electronic timing device. The intention is not to limit a Cub's creativity, but to be sure the race runs smoothly and timing equipment is not damaged.



5. **WHEEL PLACEMENT:** The car body must be at least 1 3/4 inches wide at the axles. It must clear the ground by at least 3/8 inch. If desired, you may change the wheelbase (distance between front and rear axles). Any wheel placement is allowed so long as all four wheels are attached, and the three cars can reliably race the track without jumping lanes.

6. **WHEELS AND AXLES:** Use only Official Cub Scout Grand Prix wheels and axles. The nails can be polished/modified. Graphite coated axles are not allowed.

You may lightly sand the wheels to remove the molding seam on the tread, other imperfections, or to “true up” the roundness of the wheels. You may not use bearings, washers or bushings. Graphite coated (permanently applied through a coating process) wheels are not allowed. “Reduced weight” or “reduced mass” wheels are not allowed. These wheels have reduced wheel thickness or width and therefore reduce the overall weight of the wheel. Upon inspection, wheel width and thickness must maintain the approximate width and thickness of Official Cub Scout Grand Prix wheels. Colored wheels, as long as they are Official Cub Scout Grand Prix wheels as sold by the Scout Store, will be allowed.

7. SPRINGING: The car may not ride on any type of springs.

8. DETAILS/ACCESSORIES: Details such as Steering Wheel, Driver, Decals, Painting, and Interior Details are okay. Additional wood, plastic, and metal items can be attached as long as the car meets the above requirements. Cars with wet paint will not be accepted. No loose materials of any kind are permitted on or inside the car.

9. Indented noses are prohibited. All cars must be designed so that they do not stage beyond the starting pin. An indented nose car would stage further down the track and thus not transverse the same distance as other cars. A front-end design referred to as a "quick start front end" is no longer allowed as of 1/1/2013. Please see the attached Appendix 1 for more information on this front-end design that is no longer permitted.

10. ATTACHMENTS: The car must be freewheeling with no starting devices.

11. LUBRICATION: **Use dry powdered graphite ONLY.** You may not use any other lubricant, especially oils and silicone prays.

**Cars may not be lubricated after inspection and check-in.**

12. INSPECTION: Each car must pass inspection by the Official Inspection Committee before it may compete. Scouts will be informed of the violations and given an opportunity to modify the car to meet these rules. The Inspectors have the right to disqualify any car not meeting these rules. Any adult or Scout may appeal the findings of the Inspectors to the Race Committee Chairperson, whose decision is final.

13. Cub Scouts must be present in order to be eligible to race their car.

14. Cub Scouts may not race another Cub’s car or race a car previously raced in the Pinewood Derby.

### **Race Ground Rules**

1. GOOD SPORTSMANSHIP AND BEHAVIOR IS EXPECTED. Race Officials may ask anyone not following this rule to leave. 2. The Pinewood Derby is open to all Cub Scouts in Pack 678.

3. If a car jumps off of the track (leaves its lane), the heat will be run again. Each car will have 3 chances to complete a heat. If the same car leaves its lane a third time, it will automatically lose the heat. If the car leaves its lane and interferes with another car on the third try, the heat will be run a fourth time without the interfering car.

4. The track can be fixed or repaired before cars begin the race. The track is an aluminum track and does have some imperfections. To ensure the race is fair and all cars have the same odds, the track will not be altered in the middle of a Den, Rank or Pack race, except in the event of severe track failure. A car must leave the track for a heat to be run again (see ground rule 3).

5. If a car breaks down, the scout is allowed five minutes to fix the car. Then Officials will run the heat again. If the car cannot be fixed in five minutes, it loses the heat. If this loss is the car’s first and the Scout can fix the car before the start, it may run in its next scheduled heat.

6. In the event that the electronic scoring device malfunctions or is unavailable, the Race Officials decide if the race will be run again.

7. Only Race Officials, Den Leaders, and Scouts involved in the current heat(s) are permitted inside the track area. Drinks allowed inside the race area.

8. Scoring is by done by the computerized software and is based on race times. 9. There will be tiebreakers when two or more cars have the same time.

### **Race Procedures**

No food or

1. Each Scout must bring his car to the Inspection Table for check in at the scheduled time for his den. If the car fails to meet any rules, the Inspectors tell the scout the exact problems. The Scout may change the car to meet the rules if it can be changed in a reasonable period of time as not to delay the start of the race.

2. After inspection, Official Scorer registers the cars. The Official Scorer sets-up and maintains the race heats and tells the Official Starters which cars run in each heat.

3. After registration, the Scout's car will be placed on the Starters' Table. Scouts may not handle their car again unless:

1. Retrieving the car and putting it on the Starter's Table after a heat, or
2. Fixing the car as allowed in Ground Rule 5.

Don't take a car off the Starter's Table for any other reason. **Scouts are not allowed to touch any car but their own.**

4. Only the Scouts involved in the current race and their leaders are allowed in the racetrack area. Scouts go to the finish line to watch the heat. Scouts retrieve their own car in an orderly fashion and return it to the Starter's table. Race officials will hand the car to a Scout retrieving their car after the end of each race.

5. The car whose nose is first over the finish line is the winner. If the Official Judge can't agree on heat results, Officials will run the heat again. Judges tell the Official Scorer which car wins each heat. If an automatic scorer is used, judges will not be used.

6. The two fastest cars from each den will advance to the Rank run-off. The two fastest cars from the Rank run-off will advance to the Pack Championship. Race Officials may need to alter the number of cars advancing to the Championship rounds if time is limited.

Note: The purpose of the race being divided into heats is to allow each car an opportunity to race on each lane of the racetrack. It has been noted that cars will go faster on a particular lane, and we want to give each car an opportunity to race on that lane, whichever lane that turns out to be. But winning a heat does NOT guarantee that the winner of the heat will win a top spot in the race, or move on to the Rank run-off. Regardless of how many heats are run, ONLY the two fastest cars will advance, based on their times.

7. Officials present racing awards at the end of each Den, Rank, and Pack levels.

## APPENDIX 1: QUICK START DESIGN RULES

### Quick Start Fronts (QSFs) on Pinewood Derby Cars are prohibited.

QFS Defined:

Usually a notch or channel cut on the front, forward-facing edge of a racing car intended to release the car earlier when the Starting Pin drops at the start of a race; more often than not, incorporating a Quick Start Bar positioned above the channel which rests against the Starting Pin at the start of the race. This will not be reconsidered as a “Decoration”.

### Prohibited Construction:

