



2019 District Pinewood Derby
Saturday, April 6th 2019 at
Fritz Elementary School (845 Hornig Rd.) – off of Rt. 23/New Holland Pike.
Registration, inspection, and weigh-in: 8:45 a.m. - 9:45 a.m.
Race: 10:00 a.m.

Registration and Inspection

- a. Registration due dates can be found on the District Activities webpage:
www.padutchbsa.org/districts/conestoga-river/conestoga-river-district-activities
- b. Registration is \$7 per Scout. Pack Leaders should submit payment via Tentaroo.
- c. The top 7 finishers from each Pack are invited to race in the District Derby.
- d. Two alternates can also be registered in case an original participant(s) is unable to attend. (If you know that an alternate will be running please notify Derby Officials as soon as possible so that their registration can be complete.)
- e. Second-Year Webelos are invited to participate even if they have already crossed over to the Troop.
- f. Cars will be weighed, inspected, and registered between 8:45 a.m. and 9:45 a.m. If you are not in line by 9:45am, you will not be allowed to race.
- g. Only an officially designated scale will be used to weigh cars. Scales vary widely so be prepared to adjust the weight of your car up or down at the time of inspection.
- h. A plastic container will be used to determine if the car complies with the dimension limitations (length, width, height, wheelbase, and ground clearance). It will also be used to make sure the nose of the car sits properly on the pin. See entry "a" under "Modifications."
- i. No modifications are allowed to be made once the car passes inspection. No graphite may be added after inspection.
- j. Derby cars that do not pass inspection could be disqualified. Each Scout will be given the opportunity to modify his car to meet derby regulations or he may choose to run his car as-is but will not qualify for an award. The car must be re-inspected after the modifications are made. The car must be ready for re-inspection before 9:45 a.m.
- k. The derby's inspection team (3 Scout leaders) will have the final say as to whether a car qualifies to race or not.

Race Procedures

- a. Once the car is inspected, the race official will register the car.
- b. After the car is registered, the Scout will place his car on the Starter's Table.
- c. A Scout may not handle his car again unless (1) he is getting the car for the start of a heat; (2) he is putting the car on the Starter's Table after a heat; or (3) he is fixing his car as allowed in entry "g" under "General Rules."
- d. Cars will remain on the Starter's Table until the end of the race unless it is running in a heat.
- e. Race officials will call Scouts to the gate for their heats. Scouts will place their cars at the start then go to the finish line to watch the heat.
- f. The electronic finish line determines the winner. This result is official and is not to be questioned.
- g. As Scouts place their cars at the starting line, the Scouts racing in the next heat will be called to the on-deck area.

The Track

- a. The surface and guide rails of the track are smooth aluminum and are cleaned prior to the race. The track will also be cleaned after half of the cars are run during the heat race. It will be cleaned again before the finals.
- b. The track is equipped with an electronic starting gate and electronic finish line timer system. Software is used to determine exact heat timing for each car as well as the heat and overall finish order.
- c. The computer software will randomly select the racing order. You may be called to race your car at any time so listen for your name and be ready to race!
- d. Every attempt shall be made to ensure that all running lanes of the track are equal.
- e. Each car will run one time in each of the four lanes to average out any minor track imperfection.
- f. Race standings and results are displayed by a video projector onto a screen for all participants and spectators to see.
- g. Race officials will strive to make the race as absolutely fair as possible.

General Rules

- a. A Scout may race only the car that he built. No Scout may race the car of another Scout.
- b. Each car entered in the race must be newly built for the current Cub Scouting year.
- c. The car should be built by the Cub Scout. Parents are encouraged to supervise, guide, and/or assist the Scout, but should not build the car for the Cub Scout.
- d. The body of the car must use the wood provided in an official B.S.A. Pinewood Derby Grand Prix kit as its basis.
- e. Cub Scouts should be dressed in a neat, clean, Class A uniform at the race event.
- f. If a Scout leaves before the race is over, he must take his car with him and forfeits the chance to win a speed award.
- g. If the car loses a wheel, or is otherwise damaged, the racer shall have 5 minutes to make repairs. The Scout must do the work himself but can be assisted by a parent or guardian. Once repairs have been made the car will be re-inspected. If repairs cannot be made within 5 minutes, the car will be disqualified. Only the part of the car that is damaged may be modified.
- h. Each car must pass inspection by the inspection team before it will be allowed to compete.
- i. The inspection team has the responsibility to disqualify those cars that do not meet these rules.
- j. A dummy car will be used if a heat is run with only 3 cars. The purpose of the dummy car is to trip the lane's sensor at the finish line. All four sensors must be tripped for the software to compute the standings.
- k. Each heat will begin with the Scout positioning his car on the track. An official may adjust the car so that it is properly sitting on the track.
- l. Scouts will retrieve their cars from the finish line and return them to the Starter's Table. Spectators should not touch the cars at any time during the race.
- m. A heat may be re-run – and the original results thrown out – if there is any breakdown in the track, the track software, or if there is an error in the set-up of the cars (cars jumping their lanes, cars positioned in the wrong lane).
- n. If a car jumps the track more than once, it will be disqualified.
- o. Each car will run 1 time in each of the 4 lanes. Each car's time from each heat is added together by the race software, and the car with the lowest combined time is the winning car. Cars are ranked for standings by their combined times.
- p. The top 20 fastest cars will move on to the final round where they will once again run 1 time in each of the 4 lanes.
- q. Good sportsmanship and behavior are expected.

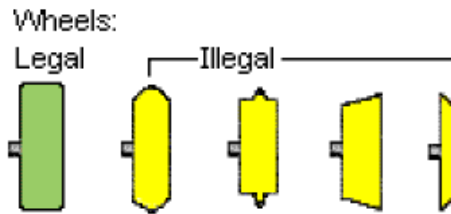
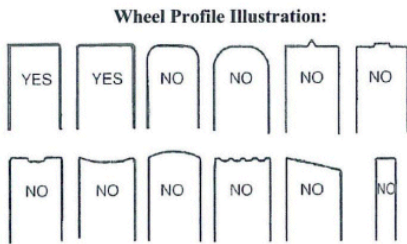
Dimensions & Weight

- a. The overall length of the car shall not exceed 7 inches.
- b. There is no minimum, but the wheelbase should be at least 4-1/2 inches and not exceed 5-1/2 inches. (The wheels may not sit past the front or back of the car.)

- c. The overall width of the car shall not exceed 2-3/4 inches.
- d. The overall height of the car shall not exceed 2-1/2 inches – this includes accessories.
- e. The car must have 1-3/4 inches of clearance between the wheels.
- f. The car must have 3/8 of an inch clearance underneath the body so it does not rub on the track.
- g. The lowest point on the leading end of the car shall not be more than 1-1/4 inches above the surface of the track.
- h. The car shall not exceed 5.0 ounces
- i. The weight shown on the official race scale that is used at inspection shall be considered final.
- j. Use of liquid metal to add weight will result in the car's disqualification.
- k. Other materials such as wood, plastic, or metal may be added to the original block of wood from the official kit as long as the car is within the allowed dimensions.
- l. If an axle slot is not straight, is broken, defective, or otherwise not usable as determined by the car builder, a new slot or hole(s) may be cut or drilled. The new hole or slots should be spaced apart (or have a wheelbase of) at least 4-1/2 inches but not more than 5-1/2 inches. Note that too long of a wheelbase is a common cause for car disqualification, so please pay particular attention to this rule. It is acceptable to true the original slots or cut or drill the new slots or holes. If you drill new holes, you should use a saw to cut a slot so that the entire length of the axles can be inspected.
- m. Cars must be powered by gravity only.
- n. Projectiles are not allowed. No part of the car may intentionally detach from the car during the race, come into contact with any other car, or extend outside the allowed dimensions at any time.
- o. Electronics are allowed as long as they do not provide any propulsion.

Wheels and Axles

- a. Wheels may not ride on the center guide strip of the track.
- b. If the front of the car is designed to gain an unfair advantage by shortening the distance between the start pin and the finish line sensor, or the car design otherwise interferes with a fair start, race officials reserve the right to require the racer to modify the front of the car to eliminate the advantage, or the car will be disqualified.
- c. The wheels and axles of the car must be from an official B.S.A. Pinewood Derby kit or an official Pinewood Derby wheel replacement kit.
- d. Axles must be firmly attached to the wood of the car and may not pivot in the body.
- e. Axles may be polished, but may not be machined, reduced in diameter, or plated or permanently coated with any finish. The heads on the axles may not be modified or reduced except to remove flashing or to polish.
- f. Bearings, washers, and bushings are not allowed.
- g. Solid axles are not allowed. Nails must be used.
- h. The use of a flexible or sprung suspension system of any type is prohibited.
- i. The wheels must be from the official B.S.A. Pinewood Derby kit or official Pinewood Derby wheel replacement kit
- j. Wheel treads may not be altered in any way other than removal of defects and polishing (see illustration below).
- k. Any defect on the wheel treads may be removed by lightly sanding them. Wheels supplied in official BSA kits since January 2009, however, do NOT require sanding at all because they are manufactured using seamless molds. Lightly sanding, polishing, or finishing with graphite to enhance smoothness is allowed. You may not reshape, reform, or round off the wheels in any way. The car will be disqualified if 1) excessive sanding or finishing is detected; 2) the corners are even slightly rounded off; 3) the tiny bumps on the outside corners of the tread are removed; or 4) any other alteration is detected. No exceptions! The inspector's decision is final. Altering the wheels is the largest cause of car disqualification. Whether reshaped intentionally or by accident, the car will be disqualified. Please be warned: DO NOT RESHAPE THE TREAD OF THE WHEELS IN ANY WAY OR YOUR CAR WILL BE DISQUALIFIED REGARDLESS OF INTENT. Below are acceptable and unacceptable wheel profiles:



l. If commercial aftermarket wheels or axles that have been professionally polished, rounded, grooved, lightened, lathed, machined, trimmed, or shaved are detected, the car will be disqualified. You are expected to prepare the wheels and axles yourself.

m. The bore of the wheels may be reamed, coned, and polished, but not otherwise altered. This is not required on wheels made after January 2009.

n. No car will be accepted into the race where bearings, washers, spacers, or any materials other than dry lubricant or paint are placed between the axle/body assembly and the wheel or are used as part of the wheel assembly.

o. Hubcaps or coverings that conceal the axle end and/or contain a reservoir of lubricant are prohibited.

p. The car may not ride on any type of spring.

q. Old style vintage kits with tall skinny wheels are not permitted, nor are other non-official kits.

Modifications

a. Absolutely NO notches or "quick release" bars will be permitted. The nose of the car (the actual wood of the car) must be flush with the starting pin with nothing extending past the pin. No Exceptions!



b. Details such as steering wheels, a driver, decals, paint, and interior details are okay. The finished car must meet the maximum length, width, and weight rules. Cars with wet paint will not be accepted.

c. Only dry lubricants including graphite powder and Teflon powder may be used to lubricate wheels. Wet lubricants, including those with a petroleum, solvent, or non-dry base, may attack the plastic wheels and keep them from turning freely, can damage or contaminate the track, and are not permitted under any circumstances. Do not use oil or grease as a lubricant.

d. Lubricant reservoirs that re built into the car are prohibited.

e. Other than the limitations and prohibitions described in this document, it is acceptable for the car to employ any other "tricks" such as making the car ride on 3 wheels; favoring front, mid, or rear weighting; streamlining; or any other techniques that the builder feels will make the car faster.

f. Race officials may disqualify any car that in their determination is not in compliance with the spirit of these race rules.

Remember the focus of this event is not to win at any cost but for each Scout to DO HIS BEST and HAVE FUN!

Please distribute a copy of the current Official Pinewood Derby Construction Rules to every scout parent.

Refreshments will be available for purchase.

For additional information, contact Alex Marburger at amarburger27@gmail.com