



BOY SCOUTS OF AMERICA®

MECKLENBURG COUNTY COUNCIL

2023 Mecklenburg County Council Pinewood Derby Championship at UNCC Cone University Center on March 16, 2024

PLEASE NOTE: It is the responsibility of the Scout/Parent helper to review these rules in their entirety to ensure their car complies. Cars will be inspected before the race. Any car not meeting these rules will not be allowed to compete.

I. The Scouts:

- A. Race is open to ALL Cub Scouts who are registered and active Lions, Tigers, Wolves, Bears, Webelos and Arrow of Lights (as of January 1, 2023).
- B. Running or qualifying in a previous Pack or District race is NOT required. Race is open to all current Scouts, even first-time racers.
- C. All entrants are required to wear their Class "A" Cub Scout BSA uniform on Race Day.
- D. Scouts must register in advance of the race.

II. General Rules:

- A. Car must be gravity powered.
- B. Wheel bearings, washers, and bushings are prohibited.
- C. The car must not ride on springs.
- D. Add-ons/accessories such as steering wheel, driver, spoiler etc. are permissible as long as these items do not exceed the maximum length, width, and weight specifications.
- E. No electronic or lighting devices that interfere with the race electronics.
- F. The car must be free-wheeling, with no starting devices.
- G. Each car must pass inspection. If a car does not pass the inspection, the owner will be informed of the reason for failure, and will be given time within the official weigh-in period to make the required adjustments. If a car does not pass inspection, it will be disqualified.
- H. After final approval and check-in, cars will not be returned to the owner unless the car is damaged in handling or during a race.

III. Car Specifications:

- A. A new car must be constructed for each racing year.
- B. Car Overall Dimensions: The overall length of the car must not exceed 7 inches including accessories. The overall width of the car with axles/wheels installed must not exceed $2 \frac{3}{4}$ (2.75) inches. Suggestions for smooth operation on the track: the car should have a minimum of $1 \frac{3}{4}$ (1.75) inches of clearance between the wheels. The car should have a minimum of $\frac{3}{8}$ (.375) inch clearance underneath the entire body so it does not rub on the track. The maximum height of the car should not exceed $2 \frac{5}{8}$ (2.625) inches so it will fit under the finish gate.
- C. Car Weight: The maximum weight of the car must not exceed 5.0 ounces on official race scales. Given variability in scales, racers need to be aware that weighing to exactly 5.0 ounces on a different scale may result in over weight at time of inspection and check-in, thus requiring weight to be removed or added to achieve the 5.0 ounce maximum. If racers plan on adding weight at time of check-in, please be sure the weight is secured appropriately and any attached weights do not violate car specifications.

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D. Car Body: The wood block provided in an official BSA Pinewood Derby kit must be used. The block may be shaped any way that is desired. Note the track utilizes a launching mechanism that holds the car in pre-launch position at the center of the front of the car. No part of the front of the car will be allowed to extend past the starting pin and the full 7 inches of car must be behind the starting pin.

E. Wheels:

- Only current, (post 2009) official BSA wheels are allowed (see figure #1&2 below). Official BSA wheels come in many colors and are available at the Scout Store.
- All four wheels must be attached to the sides of the car, directly across from each other with two toward the front of the car and two toward the back of the car.
- **All lettering and numbering, both inside and outside of the wheel must remain and be visible with the wheel on the car in racing position** (see figure #1 below).
- The spokes on the outside of the wheel must remain (see figure #1 below).

Figure #1



Figure #2



- The width measured from the outer-sidewall to the inside tread edge must **not be LESS THAN 0.325 inches** (see figure #2 below).
- The tread surface must be flat and parallel to the wheel bore.
- The following wheel modifications are **PROHIBITED**:
 - Rounding of the tread surface (see figure #3).
 - Grooving, H cutting, or V cutting the tread surface (see figure #3)
 - Drilling holes in the tread, sidewalls, or spoke area,
 - Filling wheel tread with any type of material,
 - Filling and re-drilling the wheel bores.

Figure #2

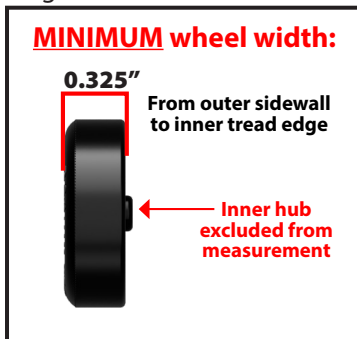
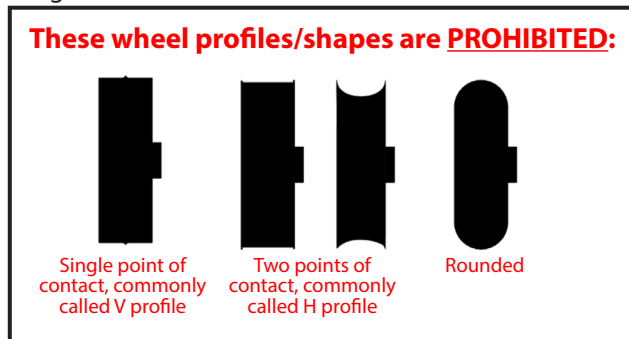


Figure #3



- The rules permit many wheel modification so long as you observe the dimension limits and restrictions listed above. Common allowed modifications include but are not limited to:
 - Truing the tread surface with sandpaper, straight edge, etc.
 - Truing and shaping the inner edge of the tread surface.
 - Applying wheel bore treatments such as polish and wax to smooth the bore.
 - Truing and re-coning the tip of the inner hub.
 - Removing the double step from the outer hub.

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F. Axles:

- Metal axles with a nail type head are required.
- One-piece axles extending through the width of the car to support both wheels are prohibited.
- Axles may be sanded, polished, grooved, bent, lubricated etc.
- May use powdered or liquid lubricant.
- Excessive lubrication that sheds onto the track is prohibited.

G. Car Wheel Position: Racers can adjust fore/aft axle placement as long as NO PART of the wheel protrudes past the front and/or back of the body. The pre-cut axle slots in the raw block of wood do NOT have to be utilized. It is not necessary that all 4 wheels be in contact with the track.

H. Car must not have any loose or moving parts (excluding the wheels).

I. No wet paint or other sticky substances.

IV. The Derby

A. The car entered must be built the year of the race season. NO REPEATS or REPAINTS allowed.

B. Race Officials reserve the right to verify that the body of the race car is wood including drilling and/or removing paint.

C. **A complete car purchase from a third party is not allowed.**

D. **The car entered may not be sent to third party facilities for tuning or other performance enhancements.**

E. The race will be run utilizing a multiple lane track with an electronic timing system. Each car will race once in each lane. All times will be added together and then averaged to determine each car's official time.

F. For Den-level races, heats will be generated in a "snaking" schedule. Cars will race consecutively in successive lanes to support efficient, timely administration of the heats. For the subsequent Championship race, cars will be randomized in order to change-up opponents, but will still race once in each lane.

G. All entrants must be checked-in and impounded in the pits within the allotted check-in period. No entrant for any race will be accepted after Official Check-in period is closed.

H. After a car goes through the Official Check-in and placed into impound in the pits, it cannot be touched by anyone other than Race Officials.

I. Under no circumstances will any lubrication be applied to any axles or wheels once car is placed into the impound pits.

J. Anyone touching or attempting to touch another racer's car without expressed permission of the car owner/racer and under supervision of Race Officials, will be asked to leave the race area. If this person is a racer, their car can be disqualified.

K. If a car is broken during the derby, at the sole discretion of the Race Official, may allow it to be repaired and re-checked to the Race Official for re-inspection.

L. If during a heat a car leaves it's lane or is otherwise hindered, the heat will be rerun. If the car leaves it's lane again it will be awarded the maximum time for the heat in the software.

M. If during a heat no cars reaches the finish line on the track, the car that went the farthest in its lane shall be declared as the heat winner.

N. No car will be allowed to be entered in the Derby unless the Cub Scout owning the car is present at race. The Cub Scout racing the car must be the individual entering the car for inspection and official check-in.

O. Any person displaying poor behavior, making negative comments or showing bad sportsmanship will be asked to leave the race area. Parents need to remind Scouts the qualities of good sportsmanship.

P. Decisions made by Race Officials shall be final.