



## Pinewood Derby Rules Scout Division and Kids Division

A Cub Scout Gives Goodwill. Good sportsmanship is expected of all Scouts, responsible parents, and other representatives of the participating packs. All Race Officials have the authority to immediately disqualify a Scout should his behavior, or the behavior of his responsible adult, or the behavior of any representative of his pack is deemed either verbally or physically disruptive, abusive, or inconsistent with the Scout Oath and Law. Behavior-based disqualifications may not be appealed. All must keep in mind the larger goal of Cub Scouts in setting the example of good citizenship and character, demonstrating kindness and courtesy at all times.

### Car Specifications:

#### Dimensions and weights:

- Cars must have been built during the 2020 Pinewood Derby racing season using an Official BSA Pinewood Derby Kit.
- Width, including wheels and axles, must not exceed 2.75 inches (6.99cm).
- Length shall not exceed 7 inches (17.78cm).
- Weight shall not exceed 5.04 oz. (143.4 grams). Overweight cars must be reduced to running weight or below before they can be entered. The official race scale shall be considered final.
- Cars must clear the center rail of the track, which is 1 5/8 inches wide by 1/4 inch tall along the entire length of the car. Minimum clearance between the bottom of the car and the bottom of the wheels shall be 3/8 of an inch to avoid contact with the tracks center guide strip.
- No part of the car may protrude beyond the starting pin. The front edge of the car must not be more than 1 inch above the wheel lane of the track and be at least 1/2 inch wide at the center of the car.
- Any details added must be within length, width, and weight limits.
- All cars must have a wheel base that uses the standard axle slots, with the two rear wheels being positioned directly across the body from one another and the two front wheels being positioned directly across the body from one another.
- No part of the car or any attachment to the car may be capable of coming into contact with the track other than the wheels.

#### Axles and Suspension:

- BSA nail type axles only
- Axles may be polished, de-burred, straightened, bent and lubricated.
- No grooved axles are allowed
- Only powdered graphite lubricant is permitted.
- Factory axle slots in the car block must be used
- No Extended wheels bases (Standard wheel base is 4 3/8)
- It is NOT required for 4 wheels to touch the track
- No Oil lubricants, even those that dry after application

#### Examples of Prohibited Items which CANNOT be used:

- Magnets, springs or suspension systems of any type.
- Starting devices, finish line devices, propellants, or propulsion systems
- Wet paint, or Sticky substances
- Glass or excessively fragile parts
- Electronic or lighting devices (if lights are on the car they must be turned off)
- No Bearings or Solid one-piece rod style axles
- Axles and wheels attached to any device that mechanically alters rotation or spin.
- Loose objects on car. All weight must be securely fastened or embedded in the car.
- Only graphite lubricant may be used, no liquid or oil lubricants will be allowed. If the inspection judge cannot tell if the car

has graphite contestants may be asked to re-apply graphite in front of the judges.

- No live ammunition allowed.
- Air shields, wheel well covers or any other device that covers the hollow area of the wheel
- Washers between the wheels and car body

### Wheels:

- Use only Official BSA Wheels; colored wheels are permitted.
- Wheels may not be run in reversed position.
- All lettering and numbering, both inside and outside, must remain complete and be visible.
- The fluting and other BSA markings on the outside wheel area must remain visible.
- Outer wheel surface (tread area only) may be lightly sanded, shaved, or polished to remove minor surface imperfections, mold casting burrs, and correct off center wheel bores; but total wheel diameter may not be reduced below 1.170 inches (29.72mm). Outer wheel surface must not be reshaped or have the contour changed in any way in an attempt to minimize tread contact or alter aerodynamics.
- Tread surface must be flat and parallel to the wheel bore.
- Coning the inner hubs and truing the inside tread edge is allowed, as long as overall wheel width is not reduced below 0.36 inches (9.14 mm). Outer hubs may not be modified at all.
- No material may be removed from the inside wheel surfaces at any point.
- Minimum outside diameter of wheel must be equal to or greater than 1.170 inch (29.72mm), in order to maintain the ridges on the outer edge.
- Judges reserve the right to measure the wheel with calipers to verify dimensional compliance with official wheel size restrictions.
- The weight of the wheel shall not be increased or decreased except where limited amounts of material are removed from the tread or inside tread edge to remove minor imperfections. No material such as glue, fingernail polish, or tape, may be added to the inside of the wheel increasing its weight.
- Wheel Bore treatment is allowed but limited to polishing. Wheel bores may not be filled and re-drilled to alter bore diameter or to achieve better fit with the axle (no material may be added to the wheels).

### CLARIFICATION OF DISQUALIFYING / ALTERED WHEELS

No alteration, narrowing, lathe cutting, or re-shaping of wheels (inside or outside) is allowed!!!!

<p>STANDARD WHEEL</p>	FAIL	FAIL	FAIL	FAIL	
	ROUNDED WHEEL	"V" WHEEL	CUPPED WHEEL	REDUCED DIAMETER	
"H" WHEEL FAIL	RIBBED WHEEL FAIL	SPEED WHEEL FAIL	SLANTED OUT FAIL	SLANTED IN FAIL	KNIFE EDGE FAIL

### NO LIGHTENING OF THE WHEEL IS ALLOWED

LIGHT SANDING OF WHEEL TREAD TO REMOVE IRREGULARITIES IS PERMISSABLE. WHEEL TREAD MUST BE FLAT!

MINIMUM WHEEL DIAMETER ALLOWABLE IS 1.170 INCHES.  
MINIMUM WHEEL WEIGHT OF EACH WHEEL IS 2.45 GRAMS.

**Note:** There are after-market modified wheels available that have been LIGHTENED. This is usually done by turning the wheels on a lathe and removing material from the inside of the wheel. These wheels are NOT allowed and can be EASILY RECOGNIZED at inspection.

### Race Operations and Miscellaneous Rules

- **All Cars MUST pass inspection before being allowed to race based on the rules and specification**
- An approved inspected car will then be checked in and not be touched by anyone but the race officials. Until the cars are released by Race Officials.
- Cars will be checked in before every event at the Pack, District and Council Races to check for rule compliance. Just because a car passed at one event does not mean it will automatically pass at the next event.

- After the Pack and District races it is the Scout who qualifies to move on not the car. It is not required to race the same car in each race.
- All lubrication of wheels must take place prior to final inspection check in and before Final Race
- Officials have the Right to Disqualify Any Car, which does not meet all of the stated rules and specifications. The Officials Decision is Final.
- Appealing a decision – if a Race Official makes a ruling and you wish to appeal it – all Officials will be assembled and based on majority rule the decision will be upheld or overturned.
- Each race is timed with electronic equipment.
- In the event the equipment fails, the race(s) will be re-run.

***FINALS – If Run (Determined by each race organizer based on available time and other constraints)***

- Final Races awards will be based on the average of times in this Final Race – dropping the slowest time.
- In the Event of a Tie a run-off will be run.

**During Races**

- If a car jumps the track and interferes with another car then the race will automatically have to be re-run. If the same car jumps the track again, then it is disqualified (after interfering)
- If a car jumps the track and does not interfere with another car, and finishes the race it will not be re-run.
- If a car jumps the track and does not interfere with another car, but does not cross the finish line a time of 9.9999 seconds will be assigned to that car's race.
- If an item affixed to a car falls off during a race, and in the opinion of the race official the car is still able to race, repairs will not be allowed.
- If a car suffers a mechanical failure or is unable to finish, the individual will be allowed 5 minutes to make the repair under the supervision of a race official. No weight can be added to the car as part of the repair action. If the car is unfit to race after the 5 minute period, or becomes disabled after further racing, it will be disqualified and taken out of the race. No other modifications are allowed – such as re-lubing; only the repair to the item(s) can be performed.
- Any car that is discovered to be illegal during the competition by a Race Official will be disqualified from competition.

**After the Races**

- The following Awards will be presented. (Could vary by district)
  - Scout Race
    - 1<sup>st</sup> – 3<sup>rd</sup> Lion
    - 1<sup>st</sup> – 3<sup>rd</sup> Tiger
    - 1<sup>st</sup> – 3<sup>rd</sup> Wolf
    - 1<sup>st</sup> – 3<sup>rd</sup> Bear
    - 1<sup>st</sup> – 3<sup>rd</sup> Webelos
    - 1<sup>st</sup> – 3<sup>rd</sup> Arrow of Light
    - 1<sup>st</sup> – 3<sup>rd</sup> Overall
  - Open Kids – (If this race is held)
    - 1<sup>st</sup> – 3<sup>rd</sup> Overall
  - Best In show, scout division only. Voted on by the scouts.
- After the district race all scouts who qualify for the Council Pinewood Derby will be responsible for getting their car to the Council event and re-checking the car. Cars will NOT be impounded after the district race and it is encouraged to not impound them after the pack race.