



April 13 - April 14, 2024

CherryVale Mall (Rockford, IL)

2024

PINEWOOD DERBY RULES

(Version 1/16/24)

Event Chair: Andy Myshkowec, pinewoodbac@gmail.com • Staff Advisor: Megan Crain, Megan.Crain@scouting.org



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1 GENERAL

1.1 RACE FORMAT

LION – ARROW OF LIGHT: Single elimination tournament conducted in heats. No more than 3 cars will race at a time, each car making one run down each of the 3 designated lanes. Heat winners will be determined by a total point system, whereby a car will be assigned 1 point for First Place, 3 points for Second Place, or 4 points for Third Place after each of the three races in a heat. The car with the least total points at the end of a heat will advance to another heat. The other two cars will be eliminated from the Derby. No completed races will be rerun unless a broken car results in a collision which interferes with the race completion of another car.

TIES: Races that end in ties on a Pack level must be run over until a winner and runner-up is determined. Any entries that are received at council level that show a tie will be returned and the Pack will not be registered for the races until they re-submit the entry without any ties.

1.2 PARTICIPANTS: Each Pack may enter two participants per rank for the Race category and one participant for the Best Design category. The race entrants shall be the winners (First Place) and runners-ups (Second Place) from their Pack derby. If a Pack does not hold a local race, the unit may still register youth to fill each of the categories in the Council race. A Cub Scout may be entered in only one category. **NO DUPLICATE YOUTH ENTRIES.**



If a Scout is both winner of Pack race **AND** design judging, they must choose which category to participate at the Council race.

1.3 The car must be built for the current Pinewood Derby Racing Season. (Built after May 15, 2023). The car must be the **SAME** car ran by the entrant in the Pack race.

1.4 A completed car purchased from a third party is not allowed.

1.5 The car may **NOT** be sent to third party facilities for tuning or other performance enhancements.

1.6 PREPARING THE CARS: Each Scout who qualifies should have their car boxed and sealed individually Label box with the following information:

- Race Chairman or Cubmaster
- Pack number and District
- Category (For example: 2nd Grade Runner-up, 3rd Grade Design, Lion, etc.)
- Name of Cub Scout

1.7 ONLINE ENTRY FORM MUST BE SUBMITTED BY March 22, 2024.

1.7.1 All Pack race coordinators or Cubmasters may complete an online entry form at www.blackhawkscouting.org. Please contact the event chair/staff advisor for other assistance.

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- 1.7.2 After March 22, 20**, the Pack race coordinator or Cubmaster will be notified with the racing date and starting time for each entrant's race. **It is your responsibility to contact the participant's family with that information.** Entrants must be on time, but **NO** earlier than 15 min before their check in time - any race entry may be eliminated if the starting time is delayed more than 5 minutes and any design entry may be eliminated if they check in after the scheduled judging time.
- 1.7.3** Prior to packaging and sealing by the pack, each car shall be re-inspected for conformity to the Council Derby Rules. This is the time for minor repairs. Pack and seal each car in a box - **1 car per box.**
- 1.7.4 No graphite or other lubrication will be allowed to be added during Council Pinewood Derby. All lubrication must be done before boxing the cars. NO liquid lubrication is allowed only powder graphite is acceptable. Failure to comply will result in disqualification.**
- 1.8 SPECIAL NOTE:** If you do not receive an email acknowledgment of your Pack entry and payment immediately upon registration, please call the Blackhawk Area Council Service Center at 815- 397-0210. Registration fees will increase for all entries received starting March 22, 2024.

If your Pack schedules its derby just before or after the early entry deadline and would like to participate in the Council Pinewood Derby, please submit an entry form using "Scout 1", "Scout 2", etc. in place of youth names. Winners may be phoned in to the Pinewood Derby Chairman later and the Pack receives the early entry fee discount.

- 1.9 FIFTH GRADE ARROW OF LIGHT SCOUT POLICY:** Arrow of Light Scouts who cross-over to a Scouts BSA Troop prior to their Pack's race may return and participate in the unit's race. Those who qualify to advance after their local race, may also participate in the Council Pinewood Derby race.

1.9.1 PACK VOLUNTEERS:

The Council Pinewood Derby Committee is asking each Pack to submit the name of a person(s) who would be willing to volunteer their time to help at the event. Total time commitment is approximately three hours. Please provide the names and phone numbers on your Pack's entry form during the online registration. A rep from your district will contact this person to explain what's involved and the specific time schedule. This event needs 150 volunteers to run successfully.

1.9.2 CUBMASTER/ RACE CHAIRMAN CHECK LIST:

- Pick up pinewood car kits from the National Scout Shop as early as you can to avoid the rush.
- Conduct your Pack races (preferably prior to March 17th, 2024).
- Submit your Pack Entry Form before the early fee deadline March 22, 2024
- Remind all Cub Scouts and their parents who qualify the location of the race.
- Notify the Scouts (and parents) as soon as you receive their race times (after March 22, 2024).
- Indicate where you plan to meet the youth to give them their cars at the Council Race location.
- Encourage all Scouts and leaders to wear their uniforms and a smile.
- Plan to have fun!

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2 BODY

- 2.1** The main body structure (chassis) must be made from the wood block provided in the Grand Prix kit #17006 or #17000 . Any additions must be firmly attached, non-moving, and meet car size specifications. If you lack the tools or resources to cut out a car from a stock block of wood, we encourage you to attend a workshop hosted by your den, Pack or Scout Shop. Cars may NOT be 3d printed – only attachments to the car may be 3d printed. Cars with 3D printed attachments still MUST conform to all car size specifications after attachment.



The following **guidelines are intended to help you construct a car with the necessary clearance for most tracks. If any question arises about a car's clearance during check in, race inspectors should place the car on the track to verify that only the wheels can touch the track.

- Car bottom: to clear a solid center rail, the bottom of the car should be no less than 3/8 inch from the surface.
- Fenders: Fenders or other body parts may extend below 3/8 inch from the track surface. Remember the guide rail width so the fenders do not rub.
- Weights: To aid in a safe stop at the end of the track, we recommend that you insert weight inside the body or place it on the top of the car. Avoid placing thick (over 1/8") weight on the bottom of the car as they may not clear the track and may destabilize the car on the stop section.

- 2.2** The car must meet the following specifications:

2.2.1 Width: not to exceed 2 3/4 inches

2.2.2 Length: not to exceed 7 inches

2.2.3 Weight: not to exceed 5.0 ounces on an accurate scale.

2.2.4 Height: not to exceed 3 inches

2.2.5 Clearance: **The wheels are the only part of the car allowed to touch the track.**

2.2.6 Center rail width: Wheels must clear center guide rails, no less than 1 3/4 inches minimum.

2.3 WHEELBASE: the distance between the center of the front and rear wheel must be no less than 4 inches. Extended wheelbases are allowed provided the wheels do not extend past the car body.

2.4 FRONT EDGE: The front edge of the car must rest against the starting peg on the track so that the entire car is behind the peg. This rule ensures the car rests securely against the starting pin when placed in the starting position and is wide enough to trigger electronic finish lines. Another way to say this is no needle nose cars.

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- 2.5 SUSPENSION:** The car shall have a solid suspension consisting of the wheels and axles rigidly mounted to the car body. No springs, linkages, shock absorbing materials or other constructions which provide a non-rigid or floating-type suspension are permitted. Axles **MUST** be those provided in the Pinewood kit.
- 2.6** At least 4 wheels must be attached to the **sides** of the car body. **Each wheel must be attached to the car's wood chassis with a legal axle. Legal axels are those included in the kit and may NOT be purchased from a 3rd party.**
- 2.7** The front most and rear most wheels must be positioned across the body from one another.
- 2.8** Details/decals such as steering wheel, windshield, driver, exhaust pipes, trim, etc., are only permitted if they are rigidly mounted to the car body and do not exceed the overall car specifications.
- 2.9** The following items are prohibited:
- Springs
 - Starting devices or propellants
 - Electronic or lighting devices that interfere with the race electronics.
 - Liquids, wet paint, oil, sticky substance, or powders of any kind (other than axle lubrication)
 - Glass or excessively fragile parts
 - Bearings, sleeves and or bushings
 - Hubcaps covering the nail head
 - Loose/moving objects on or in the car



Although 4 wheels are required, it is not required that all 4 wheels touch the track surface. It can be difficult to get all 4 of the wheels to touch simultaneously. The rationale for 4 wheels is that it ensures the car will stay on the track and not slide off the center rail and collide with another car. Three (3) wheels touching the track are allowed provided the 4th wheel is within 1/16" (.0625) of the track surface.



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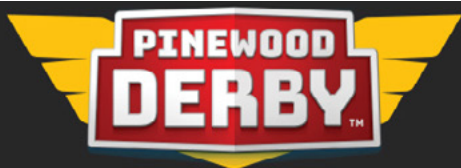
3 WHEELS

- 3.1 WHEELS:** The only wheels allowed are those from Official Pinewood Derby Car Kits #17006 or #17000, or Official Pinewood Derby Wheels and Axles #17553, #647053 - #647056, or #647826 (black and colored wheels). Car kits, including wheels and axles from any other source are not allowed. Wheels must be original width, thickness and height and the tread surface must remain flat. **Wheels may NOT be shaved. NO other modifications are allowed including coloring/painting of wheels.**
- 3.1.1** Although 4 wheels are required, it is not required that all 4 wheels touch the track surface. It can be difficult to get all 4 of the wheels to touch simultaneously. Three wheels touching the track are allowed provided the 4th wheel is within 1/16" (.0625) of the track surface.
- 3.2** All lettering and numbering, both inside and outside of the wheel, must remain complete and be visible with the wheel on the car.
- 3.3** The fluting, spokes and other markings on the outside wheel area must remain visible.
- 3.4** The wheel diameter must NOT be changed.
- 3.5** The tread and sidewall width must NOT be changed from the original wheel.
- 3.6** The tread surface must be flat and parallel to the wheel bore.
- 3.6.1** ALL modifications are **prohibited including but not limited to:**
- Rounding of the tread surface
 - Grooving, H cutting, or V cutting the tread surface.
 - Truing the tread surface with sandpaper, straight edge, or lathe to correct "out of round" wheels.
 - Truing and shaping the inner edge of the tread surface.
 - Removing material from the inside tread surface or the inside sidewall surface
 - Drilling holes in the sidewalls or tread area
 - Filling wheel tread with any type of material including painting graphite onto tread surfaces.
 - Filling the wheel bores and re-drilling the bore
 - Tapping the wheel bore
 - Balancing the wheel by adding material such as glue or fingernail polish to the inside of the wheel



Some online vendors, and the Scout shop, sell aftermarket BSA wheels that have been lightened by removing material from inside the wheel surfaces. Per rule 3.7, these wheels are NOT allowed and are easily recognized at inspection. Cars with these wheels will NOT be permitted to race. **ALL AFTERMARKET WHEELS ARE PROHIBITED.**

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4 AXLES

- 4.1 All axles MUST be those provided in a Pinewood Car Kit.
- 4.2 Metal Axles with a nail head are required with an overall diameter of no less than .084 inches.
- 4.3 One-piece axles that extend through the width of the car to support both wheels are not allowed.
- 4.4 Slight bending of the axles is allowed to help with stability.



The ONLY axles allowed are those axles from Official Pinewood Derby Car Kits #17006 or # 17000, or Official Pinewood Derby Wheels and Axles #17553, #647053 - #647056, or #647826 (black and colored wheels). Burrs on the underside of the axle head and ridges on the axle shaft (if any) may be removed. **If the underside of axle head is to be tapered, be careful not to reduce the diameter of the axle head.** Polishing of the axle shaft is allowed. The mating surface of the axle may not be bushed, sleeved, or lined. Only a dry non-permanent spray-on, brushed-on, or dusted lubrication compound is allowed. Bushings, sleeves, permanent coatings, thrust washers, and enclosed axles (with hubcaps) are prohibited.

You may also polish and groove the axle provided that the raised portion of the axle (the part the wheel rides on) is no less than .084 inches, roughly the same diameter as the original BSA axles.

5 LUBRICATION

- 5.1 Over application of lubricant, which results in excessive track contamination on the track is not allowed.
- 5.2 Only a dry, non-permanent, brushed-on, or dusted lubrication compound is allowed.
- 5.3 **NO LUBRICATION APPLICATION IS ALLOWED DURING THE COUNCIL PINEWOOD DERBY RACE. Doing so will lead to disqualification. – This rule applies across the board, even if you must make a wheel change.**

6 RACE DAY

- 6.1 Each car must pass inspection by the Official Inspection Committee before it may compete. The inspectors will 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. All appeals must take place immediately.
- 6.2 Every effort will be made to do the inspection without any altering of the car. **If we can't verify that the wheels have not been lightened due to interior wheel weights, fenders, or other reasons, we will ask YOU to take the wheels off for inspection. If you are unable to take the wheels off, the car will not pass inspection.**

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- 6.3 After a car has passed inspection, only race officials and the scout may handle the car.
- 6.4 After check-in, adjustments are not allowed. Car repairs during the race are not allowed unless authorized by the race officials.
- 6.5 Once Inspection is PASSED before the race, the car will not be re-inspected after the race for any reason.
- 6.6 Good sportsmanship and behavior is expected by Scouts, family members, and all visitors. Race officials may ask **anyone** not following this rule to leave.
- 6.7 Please register no sooner than 15 minutes prior to your assigned starting time so that your Cub Scouts can register, weigh in, and pass through inspection with their cars on time. Any one attempting to register more than 15 minutes prior to their assigned time will NOT be allowed to register and will be asked to come back at their scheduled time.
After a Cub Scout's car passes pit inspection and is placed on the pit table, he/she alone will be allowed in that pit area.



Typically, race officials will authorize a car repair if it was involved in a collision with another car or object. However, the decision to allow a repair is left entirely to the discretion of the race officials. Depending on the race officials, they may offer to assist with the repairs if needed.

7 BEST DESIGN JUDGING

- 7.1 In order to qualify for best Design judging, cars must comply with all requirements of sections 2 - 4.
 - 7.1.1 The car must fit in the inspection box during inspection.
- 7.2 The best design category is an in person event.
- 7.3 ONLY Scouts participating in the race and design competitions are allowed to vote.
 - 7.3.1 Parents, visitors, and siblings are NOT allowed to vote.
 - 7.3.2 No sharing of the cote link is allowed. Anyone caught sharing the vote link, voting more than once per scout, or otherwise attempting to "stuff the ballot box" will be disqualified.

ALL RACE RESULTS WILL BE DETERMINED BY THE ASSIGNED TRACK JUDGES, AND ALL TRACK JUDGE DECISIONS WILL BE FINAL. VIDEO REPLAYS, PHOTOS, ETC., WILL NOT BE CONSIDERED.

8 QUESTIONS

The Council Race Officials may be contacted at:

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