

Pack 89 Pinewood Derby Rules 2025 Edition

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I. GENERAL RULES: (Applies to all Race Events)

G-1. Qualification: All registered Pack Lions, Tiger, Wolf, Bear, and Webelos Scouts may design, build and enter cars that are eligible to participate in this "Cub Scout Race" event. At the Pack Level only, siblings, parents or guardians of Cub Scouts registered in their Pack may design, build and enter cars that are eligible to participate in an "Outlaw Race" event. Only registered Cub Scouts who placed 1,2,or 3 in den or pack races shall race at the District level.

G-2. Essential Materials: All cars entered **shall** be constructed from the "Official Grand Prix Pinewood Derby Kit" (currently BSA #17006 and referred to below as the kit). **Pre cut cars from Michael's, Lowe's, Revell, AFX, Woodland Scenic's, or various other vendors are not allowed even if BSA Licensed.** These pre-cut cars defeat the entire purpose of scout craftsmanship (see Sportsmanship Notes at the end of this document). A scout is "On his Honor" to adhere to all rules. All cars will be subject to inspection guidelines as set forth in the following rules. Additional kits may be purchased from the Colonial Virginia Council or Tidewater Council Scout Stores or www.scoutshop.org. (These kits may be purchased elsewhere only if they are of the EXACT manufactured and approved by BSA specifications.)

G-3. Competitor Categories: All Lions, Tigers, Wolves, Bears, and Webelos Scouts that are registered within their Pack may enter the Pinewood Derby. Cub Scouts will compete with others in the same Cub Scout Den or age group. The first, second, and third place winners in each Den will move on to the finals. Sibling and adult races are at the discretion of the Pack based on demand, manning, etc.

G-4. Attendance: The Cub Scout MUST enter his or her own car. This means that the Cub Scout must be present at "Inspection and Registration" to enter his car into competition. No car will be accepted without the scout present.

G-5. "New Work": Construction of ALL entries MUST have begun AFTER the last year's Pack Pinewood Derby races.

G-6. Single Entry per Person: Only one car may be registered by any person in the Pinewood Derby.

G-7. Inspection and Registration: Each car must pass a technical inspection before it may compete. Technical inspection will be conducted by registration staff using BSA template and certified scale.

G-8. Failure to Pass Inspection: The Inspection Committee shall disqualify cars which do not meet the rules as described herein. If a car does not pass inspection, the owner will be informed of the reason his car did not pass. Cars which fail the initial inspection may be taken to the "pit stop" area for modifications and brought back to the Inspection Committee. Cars returned after going to the "pit stop" area will be re-inspected.

G-9. Impound: No car may be altered in any way after it has been registered. After a car passes registration, it will be impounded by the Pinewood Derby Race Committee until race time.

G-10. Car Design Rules Interpretation: Interpretation of the rules described in G1 through G-10, and T-1 thru T-9 are at the sole discretion of the Inspection Committee Judges present during the Registration and Inspection process.

G11. Race-Day Rules Interpretation: On Race-Day, the Cub Scout must make all questions of rules interpretations and procedures to the Pinewood Derby Chairman or Race Officials promptly. Decisions of Race Officials on questions of rules interpretations and procedure may be appealed to the Pinewood Derby Chairman. All decisions of the Pinewood Derby Chairman are final. Decisions of Race Officials on questions of fact (i.e. the result of a specific race) may not be appealed beyond the Trackmaster and/or Finish Line Judges. **Note:** Unsportsmanlike conduct by any participant or spectator will be grounds for expulsion from the competition and/or the race area.

The Inspection Committee has the responsibility to disqualify those cars that do not meet rule specifications.

II. CUB SCOUT RACE CAR DESIGN STANDARDS

T-1. Material: Race cars should be constructed for this event from the parts contained in the Official Grand Prix Pinewood Derby Kit (referred to below as the kit) as sold by the Scout Store, 11834 Canon Boulevard, Suite L, Newport News, VA 23606. Materials from the kit may be supplemented but not replaced.

T-1.1. Prefabricated Cars: In recent years a number of pre-fabricated/pre-cut cars have been placed on the market, some even approved for use by the BSA. In the interest of making this event about boys competing against each other on a level playing field and honing their model building skills, pre-cut/pre-fabricated cars are not permitted to race. See rule (G-2).

T-2. Weight: Race cars may weigh no more than five (5) ounces (total weight) as determined on the official scales during the pre-race check-in. The official race scale that is used at car check-in shall be considered final.

T-3. Axles: The car shall roll on official BSA wheels and axles. These are the axles you MUST use. They may be lightly sanded, filed and/or polished. No beveling, rounding, tampering, thinning, perforating, or any other significant altering of the shape or performance of the axle or axle head is permitted. The colored BSA wheels are permitted.

T-3.1. Axle Mounting and Inspection: Each wheel must have one independent axle (nail). The axle nails shall be firmly affixed to the wood of the car body, and must be placed in the original 'axle grooves' in the supplied wooden block. It must be obvious to the judges that the grooves, wheels, and the nails from the kit are being used. That being said, the axles MUST be visible to the judges so they must not be covered with anything but a clear glue or epoxy.

T-3.2. Axle Guards: BSA now sells plastic axle guards that completely cover the axle groove and are held in place by mounting screws (see below). While cars with these guards will be allowed to race, they must still meet inspection criteria regarding weight, clearance, etc. Furthermore, the boy/parent / sibling entering the car must be prepared to unscrew and remove the guards to allow the judges to inspect the axles. In order to prevent any possible liability for damage to the car, the judges will not do this, the owner will.

Pinewood Derby® Axle Guard



[Enlarge image](#)

This patented new guard will keep your Pinewood Derby® car wheels aligned and secure race after race. Designed exclusively for BSA®, this under car plate has a ridge that slides right into the pre-cut axle groove to straighten and secure the axle to the car body.

Its unique design allows for adequate track clearance and has no interference with the performance of your car. It is simple to understand and includes 4 screws per plate, making it easy to apply to the car. The guard can also be used to repair broken or chipped axle grooves. Each plate is made of lightweight plastic. When applied with the 8 screws provided, 2 plates will add .2 oz to the weight of your car.

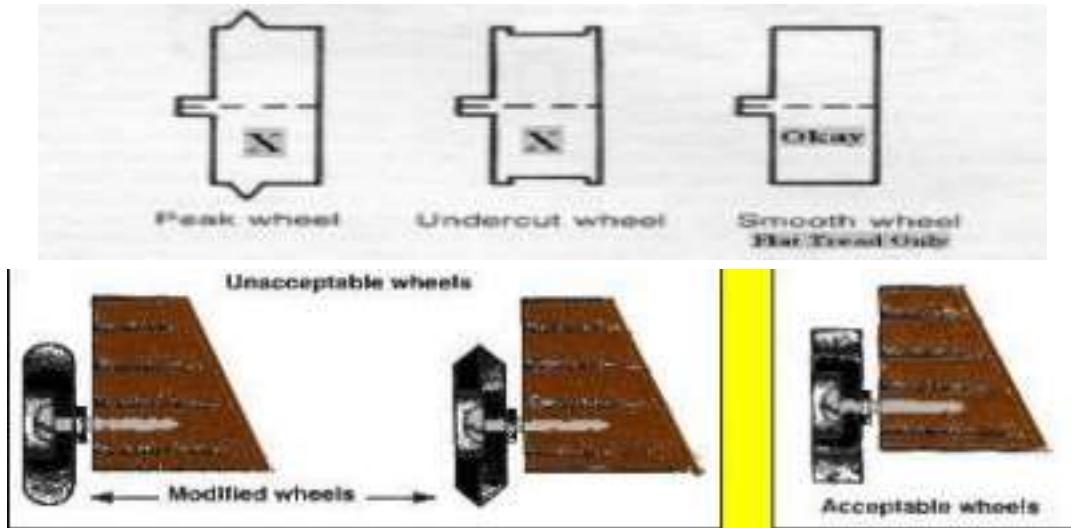
WARNING:

Choking hazard. Small parts. Not for children under 3 years.

T-4. Wheels: Wheels must be clearly labeled with the BSA – PINE WOOD DERBY letters on the outside of the wheel. NO NON-BSA WHEELS ARE ALLOWED. Cars with aftermarket wheels will be asked to change their wheels or they will not be permitted to race. The wheels shall turn about BSA axle nails from the official BSA kit.

T-4.1. Wheel Treatment: Light sanding and polishing of the wheel are the only modifications allowed. This may be done so that you may remove the seams and imperfections from the wheels. Injection moldings for wheels are located on the back side of the wheel hub. However, Wheel treatment (hub and tread smoothing and polishing) may not result in substantial removal of mass, nor in reducing the wheel width from the original kit wheels. Some of the original "tread marks" on the wheel facemust remain intact, i.e. apparent to the inspector

T-4.2. Wheel Disqualifiers: NO beveling, rounding, tapering, thinning, perforating or any other significant altering of the shape or performance of the wheel or wheel hub is permitted the wheel surface that contacts the track must remain parallel to the axle. Wheel bearings, washers, or bushings are prohibited. This includes "wheel covers", "hub caps", or anything else that would serve as a lubricant "well" or "tap". The car must not ride on any type of springs. Please see graphics below for both acceptable and the most common unacceptable wheel mountings and modifications.



T-4.3. Wheel Contact: All cars must have four wheels and all wheels should make full tread contact to the track. All cars should sit level on a flat surface. No wheel may be raised such that it does not spin when the car is rolled on a flat surface while the other 3 wheels are in contact.

T-4.4 Wheel Base: The wheel base of every car will be checked using an official BSA template plate. Shortened or lengthened wheel bases will not be permitted.

T-5. Size: Race cars may be no longer than 7 inches, nor wider than 2-3/4 (2.75) inches, as determined by the official gages during the Registration and Inspection. Underside clearance of at least 3/8 (0.375) inches and inside wheel to wheel clearance of at least 1-3/4 (1.75) inches is recommended, so that the car will run on the race track. Adequate clearance is the responsibility of the race car builder.

T-5.1. Design Considerations: Nothing shall protrude outward off the front bumper. Indented noses are prohibited. Center "front bumper" must be the furthest point from the front axle, which must fall within the maximum length. No portion of the car may protrude past the front bumper.

T-6. Weights and Attachment: Weight(s) may be added to the car and will be considered part of the car for purposes of all measurements. "Weight" is considered to be any material on the car that is not provided in the kit. All weight must be securely fastened to the car, e.g. by permanent glue, nails or screws, but not by "sticky substances", e.g. tape, or tack spray. Weights shall be passive, i.e. non-moveable, non magnetic, non-sticky, etc. No loose material of any kind may be used.

T-7. Unacceptable Construction: The following may NOT be used in conjunction with the wheels or axles: hubcaps, washers, inserts, sleeves, bearings.

T-8. Gravity Powered: The race car may not be constructed or treated in such a way that the track's starting mechanism imparts momentum to the car. (For instance, this provision disqualifies cars with sticky substances on the front of the car and protrusions which may catch on the starting pin.) No starting devices will be permitted. The car must be freewheeling

T-9. Lubricants: Only **dry** lubricants such as graphite or powdered teflon "white lube" will be allowed for lubricating the wheels. *Lubricants may not foul the track.* There will be a lubrication table set up at the race. In the interest of fairness, only one lubrication is allowed before the beginning of the first heat race. Lubrication must take place prior to initial inspection. No car will be returned for lubrication once impounded by the inspection/registration team. The rules prohibit the use of liquid lubricants on the wheels and axles to prevent slick spots from forming on the track

T-10 Paint: Cars with wet paint or sticky substances will not be accepted.

III. CONDUCT OF THE RACES

Competition will consist of heat races within each Den, and a series of final heats at the Pack level. Track officials are responsible for the proper conduct of the races.

C-1. Inspection Gages: The race-day "Registration Table" will have the official scale, BSA race template, and length box. That check-in equipment will be the official equipment for the race.

C-2. Race Day Lubrication: There will be a lubrication table set up at the race. In the interest of fairness, only one lubrication application is allowed before registration. Lubrication of cars must be complete before the registration process begins

C-3. Race Day Weigh-in and inspection: Even though a car may have weighed at or under 5 ounces at a previous race, we are only concerned with the weight on the current race day. Once a car meets weight it will be impounded and weight may not be added. If the car is overweight the scout will be allowed a limited number of opportunities to remove the excess weight and reweigh the car. Due to scale differences they should be prepared to make adjustments to their cars if necessary.

The Derby officials reserve the right to determine a car's eligibility or ineligibility to race if an unfair practice is discovered that is not covered in these rules. The officials' objective is to hold a race that is fair to all boys. Boys whose cars are in violation of the rules will be given the chance (time permitting) to make their cars legal. Any cars found to be in violation of the rules will be offered the opportunity to register for the Outlaw Class if they can meet those requirements.

C-3. Car Handling Responsibility: Scouts shall be responsible to present their own cars at the "Registration" area. Cars will be staged on the tracks by the "Starter Team."

C-4. Lane Assignment:

Tracks with Automatic Timer:

1. To equalize differences among track lanes, each car will race in each lane.

a.) Example:

Cars designated by the computer system will be placed in respective lanes. Cars beginning in lane one will continue to lanes 2 and 3 respectively in the next heat. The initial car in lane 3 may be removed from the track and set aside until called on to race in lanes 1 and 2 in further heats.

b.) Computer systems will average speed using all three runs to determine overall standings.

C-5. Car Leaves Lane: If, during a race heat, a car leaves its lane but proceeds down the track in a manner that does not interfere with its opponent, then the race will be called normally. If the car leaves its lane and interferes with another car, the Staff will inspect the car and the race will be re-staged and re-run. If the same car again leaves its lane and interferes with another car *and* that car cannot be repaired and pass reinspection, it will be judged last place and the race will be re-staged and re-run without that car.

C-6. Car Leaves Track: If, during a race heat, a car leaves the track without interfering with its opponent, it shall be considered to have ended its heat at that point.

C-7. Track Fault: If a car leaves its lane, at his sole discretion, the Trackmaster may inspect the track and, if a track fault is found which probably caused the initial violation, the Trackmaster may order the race heat to be rerun after the track is repaired.

C-8 Car Repair (With Fault): If a car is damaged due to track fault, or damage caused by another car or person, then the Trackmaster, at his sole discretion, may allow additional repair assistance to the Cub. The Car must pass a re-inspection at the registration table.

C-9. Car Repair (Without Fault): If, during the race, a wheel falls off or the car becomes otherwise damaged, then the SCOUT may, to the best of his ability perform repairs with the assistance of his adult partner or Pit Crewmember. The Car must pass a re inspection at the registration table.

C-10. No Finishers: If, during a race heat, no car reaches the finish line on the track, the car which went the farthest in its lane shall be declared as the heat winner.

C-11. Call to Race:

PACK RULES: Competitors will be called by Den number or group (ie Tiger, Bear, etc.) prior to each heat. If the Cub has not presented himself in time for his heat, he will be judged as placing last for that race heat. If no competitor is present, the track chairman may, *at his sole discretion*, defer the race heat in a manner that does not interfere with progress of the racing. Pack 89 shall follow District Rules for all races.

DISTRICT RULES: Staging of all cars for events will be conducted by the race staff. Cars will not be returned to Scouts until completion of the event.

C-12. Track Champion: The Champion from each Den shall be accompanied, with his car, to the stage by his parent or other designee. The car will be impounded on the stage until the start of the Final Heats. Inspection and repair to a car may be authorized by the track staff as necessary prior to the start of the Final Heats.

C-13. The Race Area: Only race officials may enter the track area. This rule will be strictly enforced.

C-14. Rewards and Recognition: The most important values in Pinewood Derby competition are parent/son participation, good sportsmanship and learning how to follow rules. The Awards Committee is responsible for recognizing and encouraging these qualities in addition to traditional racing awards. Racers will be recognized as follows:

1.) Pack Level:

- a.) Every participating Scout will receive a PWD patch and/or ribbon. b.) Cars may be eligible for a certificate and/or a ribbon for winning its own unique appearance category (Most Creative, Most Humorous, Most Colorful, Best Paint Job, and so on).
- b.) Medals will be awarded to the first through third-place finishers in each Den.
- c.) Medals or Trophies shall be awarded for the first through third-place finishers in the Pack Level competition.

IV. THE RACING ENVIRONMENT

R-1. Track Length and Drop: The track shall have a racing surface (starting line to finish line distance) of approximately 28 feet with a drop of approximately 4 feet.

R-2. Track Slope: The track slope shall decrease from approximately 30 degrees at the starting line to approximately 0 degrees at the finish line.

R-3. Lanes: Each lane will consist of a straight, smooth wooden or metal strip approximately 1-1/2 (1.50) inches, but certainly less than 1-3/4 (1.75) inches, wide and approximately 1/4 (0.25) inches, but certainly less than 3/8 (0.375) inches thick, centered on a smooth surface no less than 4 inches wide. Each race car shall straddle such a strip during its heats.

R-4. Starting Mechanism: The "starting line" shall consist of vertical pins, extending approximately 1 inch above the track surface and approximately centered in the each lane.

R-5. Finish Line Sensor Location: Track electronics called "finish line sensors" shall be in alignment with the corresponding starting line pin and be approximately centered in its lane.

R-6. Finish Line Judging: Impartial Finish Line Judges shall be at station to observe each heat, on each track. Heat finishes will be observed to verify finish line sensor accuracy. Sensor data may be challenged by a majority rule of the Official Finish Line Judges. If the track's electronic finish line sensor's result is challenged by the Finish Line Judges, the race will be re-staged and re-run.

R-7. Finish Line Judge Backup: Finish Line Judges will temporarily excuse themselves if they know that one of the heat contestants is a son or relative. Backup Finish Line Judges shall be available in case a judge needs to be excused for any reason.

R-8. Finish Line Electronics Sensitivity: Track Finish Line Electronics, if used, must trigger correctly if a lead pencil is passed 3/4 (0.75) inches above the track surface at a speed of 15 feet per second.

R-10. Finish Line Clearance: Track Finish Line Electronics and other track accessories, if used, must be no closer than 3 inches above the track.

VI. SPECIAL NOTES TO ALL CONCERNED

This project is a parent and son event, and is recommended as such by the National Boy

Scouts of America. The Pinewood Derby Committee STRONGLY SUGGESTS that each parent emphasize this idea with your son. In all of the events, we require that the cars be built this year.

Sportsmanship:

Two things the Pinewood Derby requires each participant to learn are 1) the craft skills necessary to build a car, and 2) the rules that must be followed. Even more important, though, is how we act and behave while participating in the Pinewood Derby or any other group activity. This is called sportsmanship.

The first thing to remember about sportsmanship is that everyone's skills are a little different. You may be good at something like singing or drawing, but not as good at something else like basketball or computers. Parents have different skill levels, too. This doesn't mean that you are a good person one time and not good another time. You can always be a good person, whether or not you have good car-building skills. Remember, you and your friends are individuals first and racers second. This idea is often called having respect for others.

The second thing to remember is to follow the rules. Without rules, there would be no Pinewood Derby. You will never know if you are really good at doing something unless you follow the rules. This is often called being honest.

The third thing to remember about good sportsmanship is that there are winners and losers in every competition. You accept this when you choose to compete. There may be times when you win and feel happy, and times when you lose and feel unhappy. Being a winner is easy, and losing is sometimes hard. If you win, you must not brag or gloat. If you lose, you must not feel jealous or bitter. To be a good sportsman, you must be able to say "I did my best" and be satisfied with the results. You must also be able to appreciate and feel happy for someone else when they run a good race or build a neat car.