



# OFFICIAL PACK 883 PINWOOD DERBY EVENT RULES AND PROCEDURES

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

**G-1. Qualification:** All registered Pack 883 Tiger Cubs, Cub Scouts, and Webelos Scouts may design, build, and enter cars that are eligible to participate in the "Cub Scout Race" event. Den chiefs or grandparents/parents/guardians/siblings of Cub Scouts registered in Pack 883 may design, build, and enter cars that are eligible to participate in the "Family Race" event.

**G-2. Essential Materials:** All cars entered shall be constructed from the "Official Grand Prix Pinewood Derby Kit" (referred to below as "the kit") as distributed by the Pack. Additional kits may be purchased from the Scout Store, [www.scoutstuff.org](http://www.scoutstuff.org), or elsewhere (if they are of the exact type manufactured by the BSA as specified above).

**G-3. Competitor Categories:** All Tiger Cubs, Cub Scouts, and Webelos Scouts that are registered within Pack 883, all Den Chiefs, and all grandparents/parents/guardians/siblings of Cub Scouts may enter this Pinewood Derby. Cub Scouts will compete with others in the same Cub Scout Den. The top three winners in each Den will move on to the finals.

**G-4. Attendance:** The Cub Scout MUST enter his own car. This means that the Cub Scout must be present at "Inspection and Registration" to enter his car into competition.

**G-5. "New Work":** Construction of ALL entries MUST have begun AFTER last year's Pack 883 Pinewood Derby Races.

**G-6. Single Entry per Person:** Only one car may be registered by any Cub Scout in the Pinewood Derby. Registrants in the Family Race may also register only one car.

**G-7. Inspection and Registration:** Each car must pass a technical inspection before it may compete. Technical inspection and registration of cars occurs from 11:00 a.m. to 1:00 p.m. on the race day.

**G-8. Late Registration and Inspection:** Cars MAY NOT be registered after the 1:00 p.m. deadline. No exceptions.

**G-9. 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 for modifications and brought back no later than 1:00 p.m. for final inspection and registration.

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**G-10. Impound:** No car may be altered in any way after it has been registered. After a car passes registration, it will be stored by the Pinewood Derby Race Committee until race.

**G-11. Car Design Rules Interpretation:** Interpretation of the rules described in this document is at the sole discretion of the Inspection Committee Judges present during the Registration and Inspection process.

**G12. 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.

## II. CUB SCOUT RACE CAR DESIGN STANDARDS

**T-1. Material:** All cars entered shall be constructed from the "Official Grand Prix Pinewood Derby Kit" (referred to below as "the kit") as distributed by the Pack. Additional kits may be purchased from the Scout Store, [www.scoutstuff.org](http://www.scoutstuff.org), or elsewhere (if they are of the exact type manufactured by the BSA as specified above). Materials from the kit may be supplemented but not replaced.

**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.

**T-3. Wheels and Axles:** The car shall roll on the wheels from the kit. The wheels shall turn about the axle nails from the kit. 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. **All four wheels must touch the track surface during the race.**

**T-4. Size:** Race cars may be no longer than 7 inches, nor wider than 2 <sup>3</sup>/<sub>4</sub> (2.75) inches, as determined by the official gauges used 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 <sup>3</sup>/<sub>4</sub> (1.75) inches is recommended so that the car will run on the race track. Ensuring adequate clearance of your car on the track is your responsibility as the race car builder.

**T-5. Weights and Attachment:** Weight 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-electric, non-sticky, etc.)

**T-6. Wheel Treatment:** 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 face must remain intact (i.e. be apparent to the inspector). Wheels may not be machined to a beveled condition and the portion of the wheel surface that contacts the track must remain parallel to the axle.

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

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**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.)

**T-9. Lubricants:** Only dry lubricants such as graphite or powdered Teflon "white lube" will be allowed for lubricating the wheels.

### 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 Gauges:** The race day "Pit Stop" area will have the official scale and length box. That check-in equipment will be considered the official equipment for the race. Please stress this fact to all Cub Scouts. They should be prepared to make adjustments to their cars if necessary.

**C-2. Car Handling Responsibility:** Scouts shall be responsible to present their own cars at the "Pit Stop" area for lubrication and at the starting line for staging. Cars will be staged on the tracks by the "Starter Team." If, in the opinion of the Trackmaster, a Scout's physical limitations prevent him from fully complying with this requirement, the Scout may nominate an assistant of approximately the same age who serves subject to approval of the Track Chairman. In any case, the Scout shall participate up to his limitations.

**C-3. Lane Assignment:** To equalize differences among track lanes, each heat will consist of a number of races equal to the number of cars running in that heat. For den heats, this will be the number of boys in each den. For Pack elimination heats, there will be six cars in each heat.

a.) In each heat, each car will race in each track lane used for that heat.

b.) From each heat, the top three cars will advance to race at the next level based on average times. The overall winner for each Den, Pack semi-finals, and Pack final races will be the car with the best average after the final race.

**C-4. 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 race will be re-staged and re-run. If the same car again leaves its lane and interferes with another car, that car will be judged last place, and the race will be re-staged and re-run without that car.

**C-5. 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-6. 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.

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**C-7. 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 Scout.

**C-8. 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-9. Call to Race:** Competitors will be called by Den number prior to each heat. When his Den number is called, each Scout will report to the staging area.

**C-10. Track Champion:** The top three winners from each Den shall be accompanied, with his car, from the track to the pit area. The car will be impounded on the table until the start of the Final Heats. Inspection, repairs (as necessary), and additional lubrication, all performed solely by the Cub Scout, will be permitted prior to the start of the Final Heats.

**C-11. Track Fault:** If a car leaves its lane, the Trackmaster, at his sole discretion, 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-12. The Race Area:** Only race officials may enter the track area. This rule will be strictly enforced.

**C-13. 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:

- a) Every participating Scout will receive a Pinewood Derby trophy, patch, or other participation award
- b) **1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place** trophies for Best Car Design will be awarded for each Den
- c) **1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place** trophies for Fastest Car will be awarded for each Den
- d) Trophies will be awarded for the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place finishers overall in Pack 883.

## 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 32 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 metal strip approximately 1 ½ (1.50) inches, but certainly less than 1 ¾ (1.75) inches, wide and approximately ¼ (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 of approximately 1/4 inch diameter, extending approximately 1 inch above the track surface and approximately centered in the each lane.

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

**R-6. Finish Line Judging:** A number of impartial Finish Line Judges shall be at station to observe each heat. Heat finish judging is determined by the finish line sensor, but may be challenged by a majority rule of the 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. The "Big Board":** Competition shall be head-to-head, multiple-elimination competition. The result of each heat will be displayed on from an LCD projector on the wall near the track.

**R-9. Finish Line Electronics Sensitivity:** Track finish line electronics, if used, must trigger correctly if a lead pencil is passed ¾ (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.

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## V. FAMILY RACE CAR DESIGN STANDARDS

*(... or "Why should the kids have ALL the fun?")*

The purpose of the Family Race event is to have a little fun. It will also help us to 'bleed' off some of our nervous competitive anxiety allowing us to be calm and collected during the Scouts race! (Right?)

The Family Race will be held right after the Scout Race. All den chiefs or any grandparent, guardian, parent, or sibling of a Cub Scout who is registered in Pack 883 may enter this race.

**P-1. Technical standards:** The Technical Standards for the Scout Race will be used in the Family Race.

**P-2. Entry Fee:** A pre-determined entry fee may be charged to those participating in the Family Race. For the 2010 Family Race, there will be no entry fee.

**P-3. Number of Entries:** Registrants may each race one car.

**P-4. The Car:** You may NOT use your son's current car for this race.

**P-5. Weigh-In:** Cars will be inspected, weighed, and registered just prior to the race.

**P-6. What Do The Winners Get?** Winners will be recognized with honor, glory, and some GREAT prizes!

## 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 to learn how to act and behave while participating in the Pinewood Derby (or, for that matter, 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.