

Pack 61 Pinewood Derby Rules
OFFICIAL PACK 61 PINEWOOD DERBY
EVENT RULES AND PROCEDURES
VFW Southbury, CT

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Official Pack 61 Pinewood Derby Rules

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

A. Qualification: All registered Pack 61 Tiger, Cub, and Webelos Scouts in Good Standing with the Pack may design, build and enter cars that are eligible to participate in the "Cub Scout Race" event.

1. "Good Standing with the Pack" is hereby defined as the following:

a. A Scout must be in good financial good standing having paid all dues and fees within 60 days of their due date and having no outstanding monies owed to the pack at the time of the race.

b. A Scout must have attended 50% or more of mandatory scouting events the year of the race.

B . Essential Materials: All cars entered shall be constructed from the "Official Grand Prix Pinewood Derby Kit" (referred to below as the kit) as distributed at the by Pack 61.

C. Competitor Categories: All Tiger Cubs, Cub Scouts, and Webelos Scouts that are registered within Pack 61 may enter this Pinewood Derby. Cub Scouts will compete with others in the same Cub Scout Den. The first and second place winners in each Den will move on to the finals.

D. 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.

E. "New Work": Construction of ALL entries MUST have begun AFTER last year's Pack 61 Pinewood Derby Races. A car from a previous year cannot be raced again.

F. Inspection and Registration: Each car must pass a technical inspection before it may compete. All cars must comply with the CUB SCOUT RACE CAR DESIGN STANDARDS as outlined below.

G: 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

A. Material: Race cars shall be constructed for this event from the parts contained in the Official Grand Prix Pinewood Derby Kit (referred to below as the kit). Materials from the kit may be supplemented but not replaced.

B. 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. Note: The official scale will be available prior to the race.

C. 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.

D. 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.

E. 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.

F. 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. 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. All four wheels of the car must be touching the race surface.

G. Construction: The car must be constructed by the Cub Scout with *assistance* from adults or siblings if needed. It is against the rules to pay for assistance building the car or to purchase a premade car or car kit.

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

I. 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.)

J. Front Design: The front of the car may not extend beyond the starting pin.

K. 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 and then once again before the beginning of the first race of the semi-finals and finals.

III: OUTLAW CLASS

A. Technical standards: Race cars may be no longer than 7 inches, nor wider than 2-³/₄ (2.75) inches, as determined by the official gauges 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.

B. 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, nonmagnetic, non-electric, non-sticky, etc.

C. Wheels and Axles: There are no limitations to the type of axles or wheels used. Bearings, bushings, washers, etc. may be used. Wheels need to remain no wider than kit wheels due to track limitations as well as high enough to maintain underside clearance of 3/8 inch. Kit wheels and axles from the kit may be altered or replaced entirely. The goal is to make the fastest possible car.

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D. The Car: You may NOT use the same car for this race and the standard car race.

E. 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 and then once again before the beginning of the first race of the semi-finals and finals.

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

G. Advancement: Winners in this race will not qualify for any higher level races. This is a Pack 61 only event.

IV. 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.

A. Inspection Gages: The race-day "Pit Stop" area will have the official scale and length box. That check-in equipment will be the official equipment for the race. (The same 5 oz. Master Weight used for scale calibration in pre-race check-in will also be available on race day. Please stress this fact to all Cub Scouts. They should be prepared to make adjustments to their cars if necessary.)

B. Race Day Lubrication: 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 and then once again before the beginning of the first race of the finals

C. 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.

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D. 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. For example, a Den heat with five cars would consist of five races with each car rotating through lanes 1, 2, 3, 4 and 5. The heat for a den with eight boys would have eight races, with two cars "sitting out" each race on a six lane track.

b. From each heat, the top two cars will advance to race at the next level based on number of points earned. In each heat, three points are awarded for first place, two for second, and one for third. The overall winner for each Den, Pack semi-finals, and Pack final races will be the car with the highest number of points after the final race.

E. 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 it's 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.

F. 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.

G. 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.

H 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.

I. 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.

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J. Call to Race: Competitors will be called by Den number prior to each heat. When his Den number is called, each SCOUT will retrieve his car from "the stage" and present himself, with his car, to the "Pit" area for lubrication. If the Cub does not respond, his name will be called a second and third time. 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.

K. Track Champion: The Champion from each Den shall be accompanied, with his car, from the track 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, repair as necessary and addition of graphite, all performed solely by the Cub Scout, will be permitted prior to the start of the Final Heats.

L. 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.

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

N. 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 patch.
- b. Ribbons will be awarded to the first, second and third-place finishers in each Den.
- c. Formal Trophies will be awarded for the 1st thru 3rd place finishers overall in Pack61.
- d. A Fun Trophy will be award to the 1st place winner of the outlaw race.

V. THE RACING ENVIRONMENT

A. 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.

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

C. Lanes: Each lane will consist of a straight, smooth wooden 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.

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

E. 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.

F. Finish Line Judging: Three impartial Finish Line Judges shall be at station to observe each heat, on each track. 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.

G. 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.

H. The "Big Board": Competition shall be head-to-head multiple-elimination competition. The result of each heat will be displayed on an event chart called the "Big Board." The Big Board will be located in the front of the auditorium.

I. 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.

J. 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.