



PACK 75 PINEWOOD DERBY RULES

GENERAL: (Applies to all Cub events)

G-1. Essential Materials: All cars entered shall be constructed from the **Official Grand Prix Pinewood Derby Kit** (referred to below as **the kit**) as sold by the Scout Service Center, (Kits may be purchased elsewhere if they are of the exact type specified above.)

G-2. Competitor Categories: Cub Scouts will compete with others in the same "Cub Scout Year." In most cases this aligns with their year in school: Tiger = 1st grade; Wolf = 2nd grade; Bear = 3rd grade; 1st year Webelos = 4th grade; 2nd year Webelos = 5th grade.

G-3. Attendance: Only the Cub Scout may enter his car. This means that the Cub Scout must be present to enter his car into competition.

G-4. "New Work": Construction of entries must not have begun before the previous year's Pinewood Derby Races. The scout cannot enter a car that was used in a prior Pinewood Derby race.

EVENT: FASTEST CAR:

Technical Standards:

T-1. Material: Racecars shall 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 Service Center. Materials from **the kit** may be supplemented but not replaced.

T-2. Weight: Racecars may weigh **no more than five (5) ounces (total weight)** as determined on the official scales during race day.

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. **It must be obvious to the judges that the wheels and the nails from the kit are being used. Please keep in mind that this year there are two (2) styles of wheels in the Grand Prix Pinewood Derby kits sold by the Boy Scouts Service Center. Both styles of wheels are current "Official BSA Grand Prix Pinewood Derby" wheels and are acceptable for district racing in 2001. Performance wheels and axles are PROHIBITED.** Performance wheels can be recognized by a slight indentation across the tread profile. This indentation is **not a legal profile**. A legal profile requires that the tread be straight across. (Reference: Rule **T-6**) Performance axles are recognized by an indentation on the outer face of the axle. These plus any straight solid axles, compounds to create any solid line will be disqualified at weigh in.

T-4: Size: Racecars may be no longer than 7 inches, nor wider than 2 3/4 (2.75) inches, nor taller than 3 inches, as determined by the official gages during 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 racetrack. (Adequate clearance is the responsibility of the race car builder).

T-5: Weights and Attachments: 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**. Permanent glue, nails or screws must securely fasten all weight to the car, 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. Remember **details or attachments** such as a steering wheel, driver, decals, painting and interior detail are permissible as long as these details do not exceed the maximum length, width and the **5 oz. total weight** requirements. (Also see **T-4** for exact car measurements).

T-6: Wheels: Wheel treatment (hub and tread smoothing and polishing) may not result in substantial removal of mass nor in reducing the tread (track contact) width from the original kit wheels. **Wheel tread surface must be cylindrical.** This means that the wheels may not be shaved, angled or brought to a point.

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 racecar 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, or cut-outs to the car's front end, allowing the starting pin to rest up to or close to the front axle of the car. Such designs give the car an approximate 1/2" lead advantage at the starting gate. These designs will be **disqualified** at the weigh-in process. (See **T-10**)

T-9: Lubricants: **Only** dry graphite lubricant may be used - no liquid Teflon or Teflon sprays - graphite only!

T-10: Staging: The **entire car** must stage behind the starting pin. (See **T-8**)

T-11: Body: The car body may have no moving parts.

Conduct of the Races:

Track officials are responsible for the proper conduct of the races. Decisions of track officials on questions of rules interpretations and procedures may be appealed to the event chairman. Decisions of track officials on questions of fact may not be appealed beyond the track chairman.

C-1: Inspection Gages: All inspection will be conducted by two (2) teams at a special area using scales and gages approved by the Chairman. There will be a special area setup and equipped with the proper tools to make adjustments to your car if necessary.

C-2: Impounding: Once the car has passed inspection and received its number sticker, the **SCOUT** will place his car on the table provided, and must not lubricate or otherwise improve that car until his racing is complete.

C-3: Car Handling Responsibility: Scouts shall be responsible to retrieve their cars at the finish line (after the race has been called) and return their cars to the pit after their heat is finished. If, in the opinion of the race coordinators, 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-4: Lane Assignment: Lane assignment for each heat shall be determined by the approved computer software.

C-5: Car Repair: If during the race, a wheel falls off or the car becomes otherwise damaged, then the **SCOUT** may seek advice for repairing the car, but may receive no other assistance. If a car is damaged due to track fault or due to fault of another **CAR** or **SCOUT**, then the track chairman, at his sole discretion, may allow additional repair assistance.

C-6: Car Interference: If, during a race heat, a car leaves its lane and, in so doing, interferes with another racer, then the car at fault and the car(s) that were interfered with will race again from their assigned lanes. If for any reason a car cannot cross the electronic finish line to record his time, that car will be disqualified for that heat only. (However, see **C-5** and **C-9**.)

C-7: 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. (However, see **C-5** and **C-9**.)

C-8: Car Leaves Track: If, during a race heat, a car leaves the track without interfering with its opponent, then a repair inspection will take place by the race judge(s). If it is found that repairs are needed, see **C-5**. If it is found that no repairs are required, then it shall be considered to have ended its heat at that point. (However, see **C-9**)

C-9: Track Fault: If a car leaves its lane, at his sole discretion, the track chairman may inspect the track and, if a track fault is found which probably caused the initial violation, track chairman may order the race heat to be rerun after the track is repaired.

C-10: No Finishers: Since electronic timers are being used to record and post race results, all cars must clear the finish line so their times can be recorded. If during a race heat a car fails to reach the finish line, then a repair inspection will take place by the race judge(s). If repairs are needed, see **C-5**. That car(s) will be given another try from the assigned lane from which he started that heat. Failure to cross the finish line at this point will result in that car(s) disqualification for that heat only.

C-11: Appeals: The Cub Scout must make all questions of rules interpretations, procedure and fact to the track officials promptly. A station at each track will be designated for this purpose.

C-12: Track Champion: The Champion from each grade's track shall be accompanied, with his car, from the track to Center Court by the track chairman or his designee. The car will be impounded at the Center Court until the start of the Race of Champions. Inspection, repair as necessary and addition of graphite, all performed solely by the Cub Scout, will be permitted prior to the start of the Race of Champions. Remember that these races are computer timed and the fastest cars via the lowest accumulation of total time wins!

C-13: Opponent Assignment: Until the finals, Scouts will be grouped with others of similar record. When the group races, Scouts will be lined up and mixed as well as possible. The line will be raced in approximately that order with some minor rearrangement possibly resulting from the lane drawing procedure. We will be using multiple track (6) lanes and the opponent assignment is computer generated via a random number generator.

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: The track will have (4) 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 racecar shall straddle such a strip during its heat.

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 each lane.

R-5: Finish Line Sensor/Location: This track is equipped with an electronic timing device at the finish line. It will record each lanes times and show these times in an **LED** read-out above each lane at 5 of 5 the finish line. The "finish line sensors" shall be in alignment with the corresponding starting line pin and be approximately centered in its lane. All times will be automatically recorded to a computer that is hooked up to the electronic timing device to record each scouts race. Since these races are computer timed, the fastest cars via the lowest accumulation of total time wins! (See **C-12**)

R-6: Finish Line Backup Judges: In the event that the electronic timing device fails, there will be (3) impartial finish line judges, assigned by the track chairman. Heat finish judging is by majority rule.

R-7: Competition Format: Format summary is (6) races per heat. Each car will race from a different lane per heat. Heats will match racers in similar age/rank groups. Once all racers from that particular age are complete the top cars will be announced but not individual times. Winning times will be announced at the awards ceremony immediately after the completion of the event. The top cars from each age bracket will move forward and race again to determine the top cars in the pack.

EVENT: LEADER'S/MOM'S & DAD'S RACE: All adults who want to enter their own cars may do so and the open competition will be held right after the Scouts' race and trophies will be awarded. You must use a car of your own design (boy's car may not be used.) Cars and materials from prior year's racing may not be used.

Chairman for Pinewood Derby Race