

2020 Pinewood Derby Rules

Cogioba District, Middle Tennessee Council (Version 2)

Montgomery, Stewart, and Houston Counties and Ft. Campbell

ARTICLE 1: OVERALL

The pinewood derby is a racing event for Cub Scouts in the Boy Scouts of America. Cub Scouts, with the help of parents, build their own cars from wood, usually from kits containing a block of pine, plastic wheels and metal axles. With the popularity of the pinewood derby, other organizations have developed similar events, and a small industry has developed to provide tracks, timers, scales and other products. The pinewood derby was selected as part of "America's 100 Best" in 2006 as "a celebrated rite of spring" by Reader's Digest.

SECTION 1: History of the Pinewood Derby.

Cubmaster Don Murphy organized the first pinewood derby, held on May 15, 1953, in Manhattan Beach, California, by Pack 280c. Murphy's son was too young to participate in the popular Soap Box Derby races, so he came up with the idea of racing miniature wood cars. The cars had the same gravity-powered concept as the full-size Soap Box Derby cars but were much smaller and easier to build. After Don Murphy's first race in 1953 the Los Angeles County Department of Recreation copied the pinewood derby with Murphy's permission. In the 1980s, the design of the block was changed from a cutout block, consistent with a 1940's style front-engined Indy 500 car, to a solid block. The tires were also changed from narrow, hard plastic, to wider "slicks".

SECTION 2: Ground Rules and Competition.

- A. The race is open to all Cub Scouts registered in a Pack in the Cogioba District.
- B. Each scout may enter only one car in the competition. Several cars may be constructed but only one may be registered and raced.
- C. The car must have been built during the current year (the school year in which the Derby is held). Cars that have competed in a previous Derby are not permitted. **NO REPEATS or REPAINTS. (See also, Amendment 2)**
- D. In order to race at the district/council championship the youth must have been a Cub Scout at some point since January 1st, of the current year in which the Pinewood Derby is held.
- E. Cars must be tuned or aligned with the racer; adult supervision is encouraged.
- F. Cars may NOT be sent to third party facilities for tuning or other performance enhancements.
- G. If a car becomes damaged and can be repaired in a reasonable amount of time, (3 minutes) the race will be run again. If not, the damaged car will automatically lose that race.
- H. Only race officials and scouts participating in the current race may enter the track area. This rule will be strictly enforced.
- I. Lubrication is messy! On race day all lubrication must be done at the "lube" station.
- J. Races are based on a Scout's average time over three races. Each Scout's car will race three times, each time on a different lane and we will do the best possible to have the Scout race

as many different other scouts as possible. The top three average times will be awarded 1st, 2nd and 3rd places.

K. If a car jumps the track, the race will be run again. If the same car jumps the track a second time, that car will automatically lose that race.

L. If a car leaves its lane and interferes with another car, the race will be run again. If the same car leaves its lane a second time and interferes with another car, the interfering car will automatically lose that race.

SECTION 3: Inspection and Registration.

A. Each car must pass a technical inspection before it may compete. Technical inspection and registration of cars occurs on the day of the race in the first 30 minutes. This inspection will be conducted by the Official Inspection Committee.

B. The Official Inspection Committee shall disqualify cars which do not meet these rules. If a car does not pass inspection, the owner will be informed of the reason his car did not pass (too long, too heavy, altered wheelbase, or the like). Cars which fail the initial inspection may be modified for final inspection and registration.

C. Any adult or scout may appeal the findings of the Inspectors to the Race Committee Chairperson, whose decision is final. After acceptance only race officials will handle the cars.

D. To enter the race, cars must have passed inspection and be registered by the Final Inspection Deadline 30 minutes after the start of the inspection.

E. No cars may be altered in any way after it has been registered. Damage repair shall be allowed during the Derby only if it does not delay the race, but no modifications shall be allowed.

F. After passing inspection, no car shall be re-inspected unless repaired after damage in handling or in a race.

G. Absolutely no touching of the cars after inspection.

H. Unkind or unsportsmanlike conduct by any participant or spectator will be grounds for expulsion from the competition and/or the race area.

Cars may be reclassified or disqualified if they are determined by the race officials to not meet these requirements.

SECTION 4: Repairs.

A. Any car losing wheels or any part that prevents it from running cannot be repaired after the inspection and weigh in. EXCEPTION: Race officials may authorize repairs, usually when damage is caused by collision with another vehicle or object.

B. The Cub Scout is in charge of all car repairs.

C. Guidance is allowed and encouraged.

D. Ideally repairs can be done before the next heat that the car is in starts.

E. After the car is repaired Officials will run the race again. If the car cannot be repaired before its next race starts; that race will also be delayed until the end of the races.

F. There will be a pit area to be available to cars that require repairs at inspection and during the race. During the race, the pit will be for repairs only. No modifications to cars to improve performance will be allowed after the cars have been weighed in.

SECTION 5: General schedule of Events.

A. Dates and times will be published.

B. After registration, there will be a break for Design Category judging, to include Coolest Car voting.

C. Preliminary heats will follow after judging followed by the open competition and then ending with the Pack Finals. Specific times will be provided separately.

ARTICLE 2: BODY/WHEELS/AXLES

The main body structure must be made of wood. Cars that were purchased completed may not be used. If the builder lacks the resources to cut out a car from a stock block of wood, attendance at a workshop (den/pack/district/council) is strongly encouraged. Alternately, a pre-shaped block may be purchased to be used with the stock BSA Wheels and approved Axles at any Scout Store as listed on the council webpage or through the BSA Service Center, BSA Catalog, or BSA Retail Outlet will be allowed! (<http://www.scoutstuff.org/>).

SECTION 1: Body Specifications & Prohibited Items

(1) BODY.

A. Width - Not to exceed 2 3/4 inches

B. Length - Not to exceed 7 inches

C. Weight - Not to exceed 5.0 ounces (or 143 grams) on scale accurate to 1/10 ounce. The reading of the official scale will be considered final. The car may be hollowed out and built up to the maximum weight by the addition of wood or metal only, provided the material is securely built into the body or firmly affixed to it. No liquids or loose materials of any kind are permitted in or on the car.

D. Height - Not to exceed 3 inches

E. Clearances:

(1) Center Rail Width - Must clear center guide rails, typically no less than 1-3/4 inches minimum.

(2) Bottom - No less than 3/8 inches from track surface between center rails.

(3) Other - Fender flairs with less clearance are acceptable as long as the center rail width clearance is maintained. Weights are preferred to be inset in the body or on top of the car to aid in a safe stop at the end of the track. No part of the car or attachment to any car, which is metal, pointed, sharp, and/or jagged, may be capable of contacting any part of the track.

F. Wheelbase - All cars must have a wheelbase no less than 4", with the two rear wheels being positioned directly across the body from one another and the two front wheels being positioned directly across the body from one another.

G. Front End:

(1) Height - Depending upon the track, the front of the car may rest against a short starting pin. Therefore, the front bottom of the car which rests on the pin is no higher than 1" above the track.

(2) Width - The front end must be at least ½ inches wide in the middle.

H. No part of the car body, wheels or attachments may protrude in front of the starting peg. The car design may be enhanced by the addition of other stable materials such as plastic or metal, such as steering wheel, driver, spoiler, decals, painting and interior details are permissible as long as these details do not exceed the maximum length, width or weight specifications. Any additions must be firmly attached and meet Car Size Requirements.

(2) PROHIBITED ITEMS:

A. Springs

B. Starting devices or propellants

C. Electronic or lighting devices that interfere with the race electronics

D. Liquids, wet paint, oil, sticky substance, or powders of any kind (other than axle lubrication)

E. Glass or excessively fragile parts

F. Bearings, bushings, washers, sleeves, hubcaps or inserts attached to or in contact with the axle, body or wheels.

G. Loose objects on car

H. Magnets

I. Cars with wet paint will not be accepted

J. No moving or liquid weights are allowed

SECTION 2: Wheels and Prohibited Modifications.

(1) WHEELS.

A. Use only Official BSA Scout Grand Prix wheels.

B. All four wheels must be used, and all four must touch the track **(and roll without downward pressure on the body)**. No wheel shall ride upon the center guide strip. No extra guide pins, rollers or wheels designed to ride on or against the center guide strip will be allowed.

B. All lettering/numbering, both inside and outside, must remain complete and be visible. The fluting and other BSA markings on the outside wheel area must remain visible. Outer wheel surface may be lightly sanded, shaved, or polished to remove surface imperfections and mold casting burrs but must not be reshaped in any way in an attempt to lighten the wheel, minimize tread contact or alter aerodynamics. Tread surface must be flat and parallel to the wheel bore. Coning the hubs and truing the inside tread edge is allowed. Tread width may not be less than 7.5 mm. You may add material such as glue, fingernail polish, or tape, to the inside of the wheel to aid in balancing of the wheel, but no material may be removed from the inside surfaces.

C. The wheels may be lightly sanded or polished to remove bumps and blemishes. They must not be ground down, grooved, hollowed out, carved, cut, shaved or otherwise redesigned. Original ridges and raised letters must still be visible.

D. Wheel Bore treatment is allowed including polishing and/or tapping. Wheel bores may not be filled and re-drilled to alter bore diameter or to achieve better fit with the axle.

(2) PROHIBITED WHEEL MODIFICATIONS:

- A. Rounding of tread surface/wheel edges
 - B. Grooving, H-cutting or V-cutting
 - C. Altering of wheel profile
 - D. Narrowing the tread surface, other than truing inside tread edge
 - E. Drilling sidewalls
 - F. Hollowing, sanding, or otherwise removing or modifying material from inside the wheel
 - G. Filling of any wheel surface with any type of material
 - H. There must four wheels on the car. Each wheel must be mounted on an axle, on the outside of the car, in the vertical position. Each wheel must be attached directly to the wood car body by an axle and spin freely. No part of the wheel may overlap the center guide rail by more than 1/8 inch. The two rear wheels and the two front wheels must be positioned directly across the body from each another. Staggered wheelbases are not allowed.
- Please note: There are aftermarket modified wheels that are LIGHTENED. This is usually done by turning the wheels on a lathe and removing material from the inside of the wheel. These wheels are NOT allowed and EASILY RECOGNIZED at inspection. Cars with these wheels will not be permitted to race.
- No part of the car or any attachment to the car may be capable of coming into contact with the track other than the wheels.

SECTION 3: Axles and Prohibited Modifications.

(1) AXLES.

- A. BSA Nail type axles are required with an overall diameter of no less than .084 inches for each wheel. Some polishing and/or modification is allowed as long as overall diameter is not reduced below .084 requirement.
- B. Grooves are allowed; the depth of the groove(s) is not limited so long as the journal portion of the axle (the part the wheel rides on) is no less than the stated minimum diameter.
- C. Axles must be mounted into the wood sections of car.
- D. Drilled holes or slots can be used.
- E. Approved lubricants include graphite and powdered Teflon (“White Lube”).

(2) PROHIBITED AXLE MODIFICATIONS:

- A. Axles must not be connected to any device that mechanically alters rotation and spin.
- B. Over-application of lubricant which results in excessive shedding onto the track is not allowed.

ARTICLE 3: WEIGHTS

The drilling/removal of lead (Pb) will NOT be allowed at the race venues or at check-in time due to the toxicity of the material. All lead (Pb) must be completely sealed and safe from all possible contact with the youth. PLEASE avoid lead (Pb) in cars!

ARTICLE 4: BEHAVIOR

GOOD SPORTSMANSHIP AND BEHAVIOR IS EXPECTED. Race Officials may ask anyone NOT following this rule to leave.

The Pinewood Derby is a parent-child project. Please feel free to give guidance and minimal assistance to your Scout as he/she builds his/her Pinewood Derby car. This is a chance for your child to be part of a team (he/she and you), to enjoy the spirit of friendly competition with his/her peers and for your Cub Scout to enjoy the satisfaction of building his/her own car from the kit provided.

A special note to all parents and scouts: Together, please read the article attached on sportsmanship.

ARTICLE 5: AWARDS AND FUTURE COMPETITION

SECTION 1: Awards and Recognition.

A. The most important values in Pinewood Derby competition are parent/child 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.

B. Every participating Scout will receive a Pinewood Derby patch and participation certificate.

C. Trophies will be awarded to the first, second and third-place finishers in each Class.

D. Additional awards will be made for various "appearance" categories in the Car Show Competition. These categories will be voted on by a panel of guest judges with exception of the "Coolest Car." Cars racing will not be available to compete in the Car Show portion. The additional awards will include the following:

- (1) Coolest Car - The coolest car as voted upon by the Scouts themselves.
- (2) Historic Car/Truck - Cars should resemble a historic or classic car or truck.
- (3) Military - Cars must represent the US Armed forces
- (4) Scout Theme - Cars should represent some aspect of Cub Scouting
- (5) Sports/Games - Cars should relate to some aspect of a sport or game
- (6) Movie/TV - Character Cars should represent a character from TV/movie
- (7) Space - Cars should relate to space travel or alien life

SECTION 2: District Competition.

(1) THE RACE

The top finishers (1st, 2nd and 3rd Place) will be based on final average speed/time results from the District Preliminary Heats.

(2) CAR SHOW

During the District Pinewood Derby, other Scouts may participate in the District Car Show and compete for recognition in the categories identified above in ARTICLE 5, SECTION 1. The top car in each district will be awarded a trophy and certificate. The 2nd and 3rd place winners will be awarded a ribbon and certificate. Any Scout wishing to participate must pay a \$3 entry fee.

ARTICLE 6: DIVISIONS
(See also, Amendment 1 & 3)

There will be a Division, all cars MUST meet all rules as outlined by this document to ensure no damage to the track. First, second and third place finishers for each of the Scout Divisions will be awarded a trophy.

SECTION 1: DIVISION I (SCOUT).

The Scout Division is reserved for all registered Scouts in a Pack in the Cogioba District and will be broken down by their type of Den.

- (1) Class A – Webelos
- (2) Class B – Bears
- (3) Class C – Wolves
- (4) Class D – Tigers
- (5) Class E – Lions

ARTICLE 7: AMENDMENTS

Amendments to these rules may be made at any time by the District Pinewood Derby Committee and the District Activities Chair. These changes must be voted on NO LATER THAN the Roundtable in December prior to the District Pinewood Derby to allow participants ample time to prepare and follow the above rules.

Amendment 1

Insert ARTICLE 6, SECTION 1

Alternates - Each pack may send but is not required to send one (1) alternate in each category i.e. each rank group in speed and in each of the other non-speed categories. If for some reason a car cannot compete, then the alternate from that pack in that age group or category will be substituted. There will be no substitutions after morning registration closes. If a Cub does not actually appear for registration, then the alternate, if present, will be allowed to compete in his place. If the alternate is not present, no racer will be placed in that slot. The registrars will not enter or move an alternate car into the competition unless the adult representative for that pack brings the issue to the registrar's attention.

Amendment 2

ARTICLE 1, SECTION 2, Item C

The car entered must be the same car that competed in the Pack level race. No additional alterations, part swaps, or backup cars will be allowed. Minor repairs are authorized (ex. Gluing a chipped piece back on the body).

Amendment 3

Insert ARTICLE 6, SECTION 3: DIVISION II

Sponsorship/Adult Racing (New to 2020)

- A. Any and all Adults may register one car in the Speed category ONLY. The car must meet the same rules and regulations as the Scouts.

- B. Cost is a donation to race for adults. If a business would like to sponsor a car, they can donate to sponsor the car and they can make their own car in the likeness of their business. It would be great for a representative from the business to come and race their car. If unable to attend, they may send the car and a District Adult Scouter can race in their place. (The proceeds will go to recoup the event and any leftover will go to Friends of Scouting.)

- C. The race will be ran after all other races are completed. The details of the race time will be put out to the district and businesses who sponsored cars so they can come see the Scouts race or when it is their race time.