

PATRIOT DISTRICT PINWOOD DERBY

2018 OFFICIAL RULES

Saturday, March 10, 2018

Living Savior Lutheran Church

5500 Ox Rd, Fairfax Station VA 22039

District Pinewood Derby Chairman & Race Director

Pete Griffiths

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1.0 GENERAL

1.1 **Construction Guidelines.** The Cub Scout should have fun racing a car he has built from materials in the Official Pinewood Derby Kit. Adults should work with the Scout and make the car as a project together, allowing the Scout to lead with his own creative ability. Adults should always supervise the use of any sharp or powered tools (drills, saws, sanders, etc.), but let the Scout get as much fun and experience out of building the car as possible.

1.2 Construction of ALL entries MUST have begun AFTER the start of the current academic year. Cars must be newly built from scratch by the Scout entering the competition using the Official BSA Pinewood Derby Kit (no pre-cut cars allowed).

1.3 **District Pinewood Derby Participants.** Pinewood Derby competition involves two categories: Speed and Show. Pack First Place winners for either Speed or Show, or their alternates, are eligible to compete in the Patriot District Pinewood Derby. An alternate may be selected by respective Pack leadership in advance if the Den First Place winner cannot personally attend the District Pinewood Derby. One Scout for “Speed” and one for “Show” from each Den rank will compete. This means there could be up to 10 Scouts from each Pack representing the 5 winners for Speed and another set of 5 different Scouts as winners for Show. A Scout may only compete in one category, Speed or Show, which must be the same category in which he was a winner in his Pack.

1.4 Cub Scouts must register and compete the same car that won at the Pack Pinewood Derby this year; substitute cars may not be used.

1.5 **Inspection.** Each car must pass inspection before it is registered and allowed to compete. Separate registration and inspection tables are provided at the building entrance.

1.6 **Competition Categories.** There will be two competitive events, “Speed” and “Show,” for each Den: Tigers, Wolves, Bears, Webelos and Arrow of Light. See Section 3 for Speed Category Car Requirements and Section 5 for Show Competition Specifics.

2.0 CONDUCT OF COMPETITION

2.1 **Sportsmanship.** GOOD SPORTSMANSHIP IS EXPECTED BY ALL PRESENT. Cars will be disqualified if any participant displays unsportsmanlike conduct during the Pinewood Derby.

2.2 Registration.

2.2.1 All participants MUST be pre-registered prior to race day. Each Pack will submit pre-registration for their entire Pack via email to the Patriot District Pinewood Derby Race Director utilizing the Registration form on Page 8.

2.2.2 On race day, all participants are required to check-in to complete registration prior to the start time of the Scout’s respective Den competition. **Please ensure that enough time is provided so that any alterations necessary at registration can be completed in time for the start of Den competition.**

2.2.3 Entrants must be in the registration line at the time that registration closes in order to be accepted for inspection and registration.

2.2.4 Pinewood Derby Race Officials will weigh, measure and inspect the cars. If the car meets the weight/measure criteria, a number sticker will be affixed under the car and taken to the "Impound" area awaiting race time. Once registered, only uniformed race officials are permitted to handle cars. If there is a problem with weight, measurement, or other issue, the Scout will be allowed to make modifications at the "Pit Area" as needed. Modifications must be completed by the time registration closes.

2.2.5 **Extenuating Circumstances.** Cub Scouts must be present for the entire Den competition to compete for recognition. Should the Scout not be present at the awards ceremony, the next in-place racer will be awarded that trophy. Every effort will be made to accommodate a Scout in the case of illness, emergency, or other extenuating circumstances. However, the Pinewood Derby is a District event and participation by each Scout is important to ensure all Scouts can compete and be recognized for their achievements. In the case of illness or other emergency involving the Scout on the day of the Pinewood Derby, parents must notify their respective Pack leadership who should immediately contact the Patriot District Race Director, prior to registration time of the respective Den event.

2.2.6 The Race Director will have final decision authority on all aspects of the Pinewood Derby competition.

3.0 SPEED CATEGORY CAR REQUIREMENTS

3.1 Car Dimension Requirements.

- Width The car cannot be more than 2³/₄" wide.
- Length The car cannot be more than 7" long.
- Weight The car cannot exceed 5.0 ounces.
- Height The car must fit underneath the timing device (12").

3.2 **Gravity Power.** The race car must only be powered by the force of gravity. Cars may not be constructed in such a way that the track's starting mechanism imparts momentum to the car. This provision disqualifies cars with sticky substances on the front of the car or protrusions that may catch on the starting pin.

3.3 **Weight.** The weight of the car will be determined using the "official" scale at the registration desk. At the time of final weigh-in, all car parts and materials must be firmly attached to the car. If the car is over or under the weight limit, weight can be removed or added by the Scout at the Pit Area until registration closing time for his rank. If any modifications are made to the car, it must be re-weighed to complete registration. Cars must weigh less than or equal to five (5.0) ounces (total weight) as determined on the official scale during registration.

3.4 **Weights and Attachments.** Weights may be added to the car and will be considered part of the car for purposes of all measurements. All weights and attachments 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 and attachments shall be passive (i.e. non-moveable, non-magnetic, non-sticky, etc.).

3.5 **Height.** Cars must pass cleanly through the timing device at the end of the track. While there is no technical maximum or minimum height for the car, the clearance required for the timing device is ~12 inches.

3.6 Wheelbase.

3.6.1 The precut slots in the pinewood block provided will be used for the placement of the axles. The slots may only be filled and recut if the precut slots are not straight/parallel.

3.6.2 The wheelbase may not be extended. Axles slots must be $4 \frac{3}{8}$ " from each other (the original wheelbase distance from out-of-the-box stock Pinewood car blank).

3.7 Wheels and Axles.

3.7.1 Only Official BSA Pinewood Derby Kit wheels and axles will be used. Colored official BSA wheels available at the Scout Store are also acceptable.

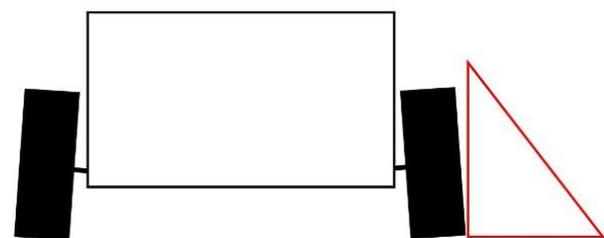
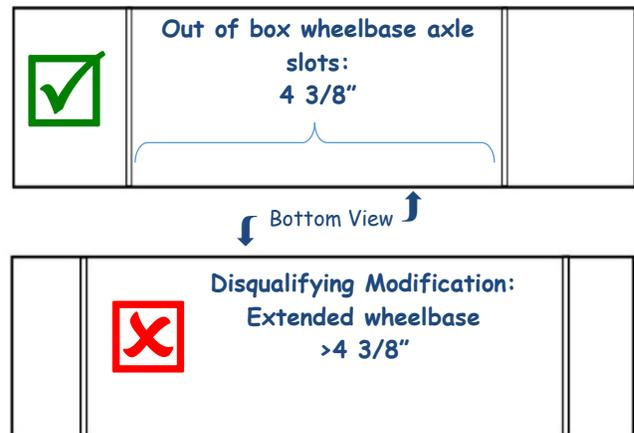
3.7.2 Wheel treatment (hub and tread smoothing and polishing) may not result in substantial removal of mass or in reducing the wheel width from the original kit wheels. Wheel shape may not be altered from the original condition (i.e. rounded, beveled, cupped, etc.). Wheels may be lightly sanded to remove the molding seam on the tread and hub. The wheel tread (the flat surface of the wheel) may not be rounded or otherwise shaped (e.g. convex or concave sanding/shaping). Wheels may not be narrowed. All identifying markings noting official original Pinewood Derby wheels must be fully visible.

3.7.3 Allowable polishing to wheels only includes: on the tread to smooth out the mold dimple and to remove any stray flashing; on the wheel hub to reduce contact and friction between the wheel and the body; on the wheel's inside rim to remove flashing and to reduce friction with the track; and inside the wheel's bore to remove flashing and reduce friction with the axles.

3.7.4 Cars may not have: hubcaps, washers, inserts, sleeves, or bearings.

3.7.5 All four wheels must be in continuous contact with the track (i.e. not riding on three wheels). Cars with one wheel deliberately raised which results in a three-wheeled car will be disqualified.

3.7.6 Axles may not be bent so as to lift or cant the wheels. Axles may be bent for alignment laterally (i.e. left/right directional control) but not to lift a wheel or cant the wheel up or down to "lift" an edge. All four wheels of the car must be in continuous contact with the race track and ride "flat." The image at right depicts an disqualifying cant to the wheels (i.e. not flat on the track).



3.8 Track Clearance.

3.8.1 The car must clear the lane guide on the racetrack. Vertical clearance must be at least $\frac{3}{8}$ " as stated in the Rules and Specifications guide contained in each Pinewood Derby Kit. If the car does not clear the lane guide it will not be able to finish a run on the track, making it non-competitive.

3.8.2 Cars must be 1¾” wide at the point where the axle enters the body to ensure that the wheels will straddle the lane guide on the racetrack (note: this is the original width of the car body wood block.)

3.9 Additional Disqualifying Modifications. Cars may not have:

- Any type of spring or suspension;
- Starting devices to push or enhance its travel down the track;
- Glass or extremely fragile parts;
- Paint that is wet, smudges, or is sticky;
- Bearings and/or bushings;
- Wheel hubcaps, washers, and/or inserts;
- Sharp objects, sandpaper or abrasives on the bottom of car;
- Axles and/or wheels attached to any device that mechanically alters rotation and spin; and/or
- Car front modifications that would render an unfair advantage to a racer.

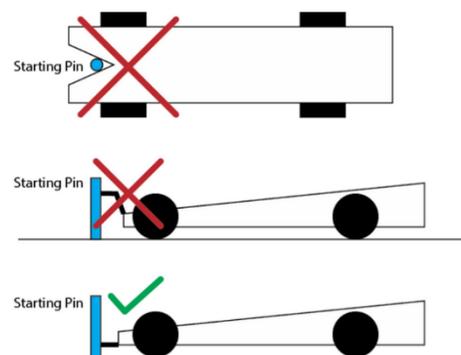
3.10 **Front of Car Shaping.** To eliminate possible starting problems, it is recommended that the car retain a blunt surface at the center of the front “bumper” (at least 1-inch-wide minimum and centered ½ inch either side of centerline of the car) to contact the track starting peg. Cars that are shaped to a sharp point may slip off the peg, which results in an unreliable and possibly unfair starting condition. In addition, the front of the car shall not include a concave shape that allows any part of the vehicle to extend forward of the starting peg contact point.

3.11 For any cars that do not sit properly on the starting peg, race officials will place them in the backward position in an attempt to overcome the problem. If neither position works acceptably, the car will have to be modified by its owner to correct the problem or its race times will be disallowed.

3.12 The front surface of the car resting on the starting peg must be the same portion of the car that crosses the finish line to trigger the laser-timer. The car cannot have a raised portion of the car that rests on the peg resulting in a potential unfair advantage when the gate drops starting the car down the track in advance of other cars. Examples of this kind of disqualifying modification are shown on the right.

3.13 **Detailing.** Painting or stickers, such as steering wheels, drivers, decals, painting, etc. are all acceptable.

3.14 **Lubrication.** The only lubricants permitted to be used on the car axles and wheels are dry powdered graphite or dry Teflon-based lubricant. Do not use liquid lubricants such as oils or silicone sprays. These can cause the wheels on the car to deteriorate, collect dust, and perhaps cause damage to or alter the track. NO hubcaps or coverings of any kind will be placed on the wheels to hold additional lubricant.



3.15 **Pit Area.** Although there will be a Pit Area for final adjustments to cars, parts (e.g., weights, wheels, graphite, etc.) are not provided by Patriot District. Racers are encouraged to bring additional tools and materials to make any final adjustments.

4.0 SPEED CATEGORY RACE CONDUCT

4.1 The Speed category race is conducted on three lanes of the track with each car racing once on each lane. Winners for each race are announced with times displayed. Final results for each Den are calculated based on the average time over the course of three runs.

4.2 **Ties.** If there is a tie on any particular heat, the race will continue to complete all heats. Should there be a tie at the end of the Den competition the tied cars will compete in a tie-breaker race-off. Each car will race each lane once (to eliminate any lane variances) and the lowest average score will win that place.

4.3 **Failure of the timing device computer.** Should there be a failure of the timing equipment to start, or if there is another malfunction, the heat will be rerun at the discretion of the Race Director.

4.4 **Car Interference.** If a car leaves its lane and interferes with another car, the heat will be rerun. If a car is damaged, a race official will make reasonable efforts to repair the car(s) and then the heat will be rerun. If the problem occurs again, the car at fault will be disqualified and the heat will be rerun, without the interfering car.

4.5 **Car Leaves Lane or Track.** If a car leaves its lane or the track in a manner that does not interfere with other cars, the car in question will be given the maximum time of 5 seconds for that heat and the next race heat will be called in sequence. If the car at fault interferes with another car, the heat will be rerun. If the problem occurs again, the car at fault will be disqualified from the competition.

4.6 **Track Fault.** If a car leaves its lane due to track anomaly or other fault of the race equipment, the Race Director will inspect the track and determine if the race should be rerun or if racing should continue.

4.7 **Car Repair.** If a car is damaged after registration, a race official will make reasonable efforts to repair the car with the assistance of the Cub Scout and his adult partner or a Pit Crewmember. All car repairs will be conducted in the "Pit Area" and will be limited to 5 (five) minutes or until the car is scheduled to race in its next heat, whichever is greater. No other modifications or adjustments to the car are allowed. If damage is caused by a race official, the Race Director will provide as much time as possible to repair the car with the understanding that there is a limit as to how long racing can be reasonably suspended.

4.8 **Car Does Not Finish.** Should a car stop on the track causing it to be unable to trigger the finish in the assigned lane, the car will be given the maximum time of 5 seconds for that heat.

4.9 **The Race Area.** Only race officials may enter the "Race Area" cordoned off by flagged racing ropes. To ensure the race is conducted fairly for all, this rule will be strictly enforced. Parents are requested to help ensure that Scouts and siblings respect this boundary.

5.0 SHOW CATEGORY COMPETITION

5.1 Each car for Show must also be registered to compete as delineated in the Race Day Schedule in Section 6 below.

5.2 Cars competing in the Show category are exempt from some of the rules cited in the Speed Category Specifics (Section 3) above. Show category entries must use the Official BSA Pinewood Derby Kit, as the basis for their entry. There are no other height, weight, width or other restrictive requirements for preparation of Show category entries, other than that the car should be the Scout's own work as appropriate for his age and rank; the Scout should be as creative as he wishes.

5.3 **Judging.** Judges for the Show category (typically a minimum of five) will be appointed by the Patriot District Pinewood Derby Committee. Judging will determine "Best in Show" first, second, and third place winners.

6.0 RACE DAY SCHEDULE

6.1 Registration opens once racing for the previous rank begins. Registration closes 10 minutes prior to race time to allow racers to be entered into the racing computer and sequencing to be calculated. Late arrivals will be considered at the discretion of the Race Director.

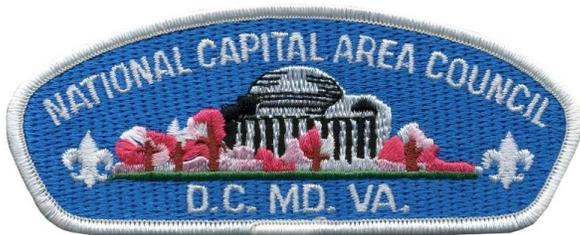
6.2 The computer displays behind the track will show progress of registration. Parents, and Scouts should check to ensure that they are marked as "Registered" to avoid any inadvertent omissions.

6.3 Trophy ceremonies will take place immediately following each rank competition once the final tally and results are calculated by the Race Director.

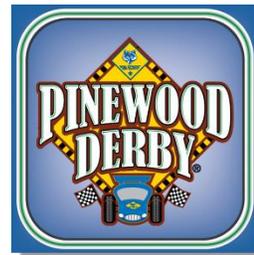
6.4 Changes to the race day schedule due to inclement weather or other factors will be communicated by the District Pinewood Derby Committee to Pack leadership (who are responsible for contacting parents) as soon as practical.

Patriot District Pinewood Derby Schedule:

Rank/Den	Registration	Speed/Show Competition
** Setup **	8:00am to 9:30am	n/a
Tigers	9:00am to 9:50am	10:00am to 10:30am
Wolves	10:00am to 10:50am	11:00am to 11:30am
Bears	11:00am to 11:50am	12:00pm to 12:30pm
Webelos	12:00pm to 12:50pm	1:00pm to 1:30pm
Arrow of Light	1:00pm to 1:50pm	2:00pm to 2:30pm
** Clean-up / Wrap **	2:30pm to Finished	n/a



2018



Patriot District Pinewood Derby -- Registration Form

Pack Number:	
Pack Point of Contact:	
Email:	
Cell Phone:	

Speed Category Entries: Please write legibly!!

Rank/Den	Cub Scout First Name	Cub Scout Last Name
Tiger		
Wolf		
Bear		
Webelos		
Arrow of Light		

Show Category Entries: Please write legibly!!

Rank/Den	Cub Scout First Name	Cub Scout Last Name
Tiger		
Wolf		
Bear		
Webelos		
Arrow of Light		

Notes:

Registration Fees are \$10.00 per Cub Scout. Pre-payment is required.

Please send payments to:
 Patriot District Pinewood Derby
 c/o Pete Griffiths
 5931 Oakland Park Drive
 Burke, VA 22015

Race Director Contact Information:
 Cell: (571) 424-0022
 PinewoodDerby.Patriot@gmail.com
 ** Please use text messaging on race day **

All registration fees for all competitors from a given Pack should be PAID by a SINGLE CHECK PAYABLE TO "BSA-NCAC". Please note the Pack number in the memo line.

Entries must be submitted by email to PinewoodDerby.Patriot@gmail.com **no later than Fri, 23 Feb 2018.**