



## 2024 Pioneer District Pinewood Derby

Welcome Race Fans! This document contains (hopefully) all the information you need to participate in the 2024 Pioneer District Pinewood Derby Race. Some items may indicate TBD (to be determined). They will be updated when the information becomes available, so please check back periodically to get the latest info. I don't expect The Rules to change, but they may be updated to add clarification.

If there are any questions not answered by this document, feel free to reach out to the Pinewood Derby Chair (Jeff West - that's me!) at [pioneerpwd@gmail.com](mailto:pioneerpwd@gmail.com) or post your question on the Google Group: <https://groups.google.com/g/pioneerpwd>.

### Stay Informed

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**New this year!** Information and updates will be sent out via the Google Group (<https://groups.google.com/g/pioneerpwd>). Be sure to join the group to avoid missing out on the latest Pioneer District Pinewood Derby information. The group is like a continuous round table. Feel free to post questions relating to Pinewood Derby or help answer other people's questions.

# Key Dates & Times

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## Registration (online)

Last day to register: Wednesday, January 31, 2024

Site link: <https://scoutingevent.com/055-pioneerpwd>

## Weigh-in and Inspection

Thursday, February 1, 2024

**Location:** St. Timothy's Lutheran Church

5100 Camden Ave, San Jose, CA 95124

<https://goo.gl/maps/kTqdjsgf6QBP3rGf7>

All Scouts: 6:30 PM to 8:30 PM

## Race Day

Saturday, February 3, 2024

**Location:** St. Timothy's Lutheran Church

5100 Camden Ave, San Jose, CA 95124

<https://goo.gl/maps/kTqdjsgf6QBP3rGf7>

**Session 1 - Lions/Tiger Scouts:** 9:00 AM Check-in, 9:30 AM Race

**Session 2 - Wolves/Bears/Webelos/AOLs:** 1:00 PM Check-in, 1:30 PM Race

## Location

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St. Timothy's Lutheran Church

5100 Camden Ave, San Jose, CA 95124

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## How to Participate

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### Eligibility

All cars must comply with the [Rules](#) provided below to be eligible.

There will be 2 sessions: one for Lions and Tigers, and one for the higher ranks.

The first and second place from each Lions and Tigers (4 cars total) are eligible to participate in the first session.

The first and second place plus one Pack Choice from the remaining ranks (3 cars total) are eligible to participate in the second session.

If the first or second place cannot attend the District Race for any reason, they may designate another Scout to race the car for them or the Pack may send the third place car.

The Pack Choice is decided by the Pack. It can be the next fastest car, the best design, the crowd favorite, the most deserving Scout or ????. What criteria you use is up to you.

## Car Impound

Cars eligible for the District Race must be impounded immediately following the Pack Race to ensure no modifications are made to the cars before the District Race. Cars are impounded by the Pack Pinewood Derby Chair or an adult leader that the Chair designates.

Any car not impounded immediately after the Pack race is not eligible for the District Race. Packs may want to impound an alternate (e.g. the third place car) just in case one of the participants cannot attend the District Race for some reason.

## Register

Racers must be registered online at [<link TBD>](#). The registration fee is \$12 online and \$15 in person at weigh-in.

**The last day to register is Monday, January 29, 2024.**

## Weigh-In and Inspection

The adult leader who has impounded the cars brings the cars to the Weigh-In and Inspection. Cars must be registered, pass inspection, and have the registration fee paid to be accepted. NO EXCEPTIONS.

The Scouts and one of their parents should come to the Weigh-In and Inspection in case any last-minute adjustments to the car are needed to bring it into compliance with the Rules (this happens a lot, especially with the requirement of all 4 wheels touching). We will have a rework station available with some tools and knowledgeable staff to help with these adjustments.

After the car passes inspection and the registration fee is paid, it is impounded by District Race staff until Race Day. No lubrication is permitted at this time. There will be an opportunity to do that on Race Day during Check-In.

## Race Day

### Check-In

In the 30 minutes before the Race, Scouts check in, get their pit pass, and have an opportunity to perform one last lubrication on their car. We will have a table set up for lubricating cars, but lubricant will not be provided. **BRING YOUR OWN LUBRICANT.**

**Do not over-lubricate!** Any car that is dripping excess lubricant will be disqualified. (It creates a big mess and affects the condition of the track, potentially skewing the results of other cars.)

### Racing

Cars race on a 6-lane track. Every car runs in each lane once. The slowest time is thrown out and the remaining times are averaged to determine the speed awards.

Scouts load their own cars onto the track. If a Scout or their designee is not present to race their car, the District Race staff will, at their discretion, either disqualify the car or designate another Scout to race the car.

## Spectators

Spectators are welcome! Invite family and friends as well as fellow Scouts from your Pack to come cheer on their racers. (P.S. It's a great recruiting event!)

## Awards

Speed awards are given to the 1st, 2nd, and 3rd place cars.

Numerous design awards are also given, including

- Craftsmanship
- Most Original
- Keepin' it Real
- Slickest
- Walt Stevenson Award (Judge's Favorite)

Unfortunately, Lions are not eligible for the design awards since it is expected that their parent did most of the work on the car.

# The Rules

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## Intent

The purpose of this event is for the scout to build and race a wooden car. The scout should do as much of the work as is appropriate for their age. It is expected that a Tiger Cub will have quite a bit of help, but a Webelos 2/AoL should be doing almost all of the work themselves. Buying premade parts is not the goal of this event! Each Scout is expected to build a new car each year.

## The Kit

The car shall be built from the Cub Scout "Official Pinewood Derby Car Kit"

(<https://www.scoutshop.org/official-pinewood-derby-car-kit-17006.html>). The Kit contains a one-piece wood block for the car body with plated nails for wheel axles and wide tread plastic wheels. Only official BSA wheels and axles may be used as replacements

(<https://www.scoutshop.org/catalogsearch/result/?q=pinewood+derby+wheel+%26+axles>).

Unofficial kits, bodies, wheels, or axles will not be accepted. The "PineCar", "Revell", or any other pre-cut bodies are prohibited from the District Race. The one exception is that Lions can use the pre-cut wedge kit available at the Scout Shop

(<https://www.scoutshop.org/pinewood-derby-pre-cut-wedge-kit-656989.html>).

Purchased pre-shaped/-polished axles are not allowed.

## The Car Body

You must start with the wood block provided in the kit and, as a minimum, the axle slots and some amount of continuous wood between the slots must remain from the original block. The axles must be inserted into the pre-cut grooves that are already cut in the car body. However, the grooves may be pre-drilled to make it easier to insert the axles. The wheel-base (distance between the axles) must not be changed. You may add weights and other decorations if you wish. Decorative parts may be from any source.

## Wheels

All cars must have four official BSA wheels. Different color wheels may be purchased from the Scout Shop, if desired, but they must still be official BSA wheels. The shape and form of the wheels must not be modified or reshaped. Wheels may be cleaned up to remove molding burrs and/or polished, but only a minimal amount of material may be removed. Wheels cannot be shaved down.

The embossed “tread” marks on the outer rim and the rest of the embossed lettering and decorative detail on both inside and outside of the wheel must be present and visible. You may not remove material from the inside of the wheel. Wheel covers (stickers or other material that covers any part of the wheel) are prohibited because it prevents inspection.

All four wheels must be in contact with a flat surface when the car is placed on it (i.e. all four wheels **must** turn when the car is rolled on a flat surface).

## Axles

The official kit provides nails for the axles, and you must use the official BSA axles. The axles may be smoothed and polished if desired, but purchased pre-shaped/-polished axles are not allowed. The axles may be glued or clamped to hold them in place in the slots.

The axles must be installed in the pre-cut slots, but the slots may be drilled out to allow easier insertion of the axles.

Wheel bearings, washers, bushings, and axle sleeves are prohibited.

## Physical Dimensions

Maximum overall dimensions are: 3” wide by 7” long by 3” high. Some kits come with blocks longer than 7” and must be trimmed. Note that these rules allow a 3” width vs. the 2 ¾” width specified in the kits.

The width between the wheels must be greater than 1 ¾”, inside measurement in order to fit on the track.

No part of the car can extend forward of the starting post.

## Track Clearance

Cars must have a minimum  $\frac{1}{4}$ " of track clearance, i.e., the distance from the track to the lowest part of the body between the wheels.

(In prior years,  $\frac{3}{8}$ " was required, but we are loosening that requirement to allow for flat weights to be attached to the bottom of the car. The district's aluminum track has enough clearance to accommodate.)

## Weight

The car weight shall not exceed 5.000 ounces (141.75 grams).

No loose material of any kind is permitted in or on the car. The car may be hollowed out and built up to the maximum weight by the addition of solid materials such as wood or metal provided it is securely attached or built into the body.

Weights **must not** be taped on.

No liquid weights are permitted inside or attached to the outside of the car body.

No weights may be added after the car has raced in the Pack race.

Lead weights should be avoided due to the toxicity of lead. The premade metal weights, or steel, brass or tungsten should be used instead. If lead is used it must be under the surface, sealed from touch.

Note: many low-cost scales and most post office scales are not very accurate, and your car may be overweight if you rely on them. For the district race, a certified 5 oz weight is used as the reference, and all cars must not weigh more than it does.

## Springs and Magnets

The car shall not run on any type of springs or use magnets. The car must be freewheeling with no starting devices.

## Lubrication

The wheels and axles may be lubricated with any lubricant desired. However, a car that is dripping any oil or excessive amounts of graphite on the track will be disqualified.

## Helpful Hints for Builders

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- Carefully trim all flash from the sides, hubs, and contact surfaces of the wheels. Remember that you cannot change the profile (shape) of the wheel.

- Remove the sharp edges on the axel nails by first filing, then placing in the chuck of a drill and using sand paper to make smooth. After that you can use pumice or polishing compound to polish the axles. Pay special attention to the heads of the nails that will contact the outside hub of the wheel.
- Pre-drilling the axle slots can be helpful in guaranteeing axle alignment and easy insertion. There are several products available that include a drill guide and drill bit (e.g. <https://www.scoutshop.org/pinewood-derby-pro-body-tool-610794.html>)
- When mounting the wheels leave around a 1/16th inch of “play” (space between the wheel hub and car body) on the axle. This prevents binding and makes it easier to lubricate the wheels. Two thicknesses of the cardboard from the box that the kit came in works well to gauge spacing.
- Make sure that the car rolls straight when placed on a level surface and that all four wheels touch the ground; adjust the axle nails as needed.
- After the axles are adjusted to your liking, fix the axles in position using a small amount of glue. Be sure to keep the glue away from the wheels! The BSA axle clamps may also be used.
- Make sure weighting can be adjusted easily. Most often this means having a way to remove a small bit of weight if the car is slightly overweight.

## Caution

There are many videos and books available on Pinewood Derby to help make the cars faster. Keep in mind that many of these are considered illegal and could disqualify your car. Read the rules carefully before attempting any of the suggested modifications.