

SUNCOAST DISTRICT PINWOOD DEBRY OFFICIAL RULES 2025

What is the purpose of the Suncoast District Pinewood Derby?

This is a chance for your scout to represent their unit and to enjoy the spirit of friendly competition with their peers at a larger competition. This project and event are also an opportunity for your Cub Scout to enjoy the satisfaction of building their own car from the resources provided.

A special note to all parents and scouts: While everyone is trying to win, it's always a good idea to remember the Cub Scout Motto "Do Your Best", and some of the basic ideas behind good sportsmanship as they relate to the Pinewood Derby.

The Three Primary Principles of this Project:

- Scouts learn the design and craft skills necessary to build a car.
- Scouts learn the physics of car-building techniques needed to compete in the Derby.
- Scouts learn the appropriate personal conduct while participating, whether winning or losing.

The first thing to remember about sportsmanship is that everyone's skills are 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 you have good car-building skills. Remember, you and your friends are individuals first and racers second.

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 good at doing something unless you follow the rules.

The third thing to remember about good sportsmanship is that there are winners and non-winners. 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.

Entry:

- This event is open to registered cubscouts
- The scout's unit must be in the Suncoast district.

- To enter into the design contest the vehicle's aesthetic must match one of the listed design categories. We are planning on being flexible with how a vehicle fits into a category.

GENERAL RULES

- Each Scout should build their car with adult supervision. Scouts should not use power tools but can assist with design and using hand tools.
- Axles, wheels and body must be made from the official Cub Scout Grand Prix Pinewood Derby Kit, #17006. Preformed bodies are permissible but not recommended
- Only official BSA approved accessories may be used on the car, except for decorations.
- Scouts will need to choose if they are participating in the racing event, design contest or both.
- There are five (5) age categories: Lions, Tigers, Cubs Wolf, Bear, Webelos, and AOL.
 - Depending on how many participants sign up for the event, we may need to combine ranks. This will be decided closer to the event.
- Scouts should be in field uniform and must be present to compete/win.

DESIGN COMPETITION:

Design cars must meet all the same criteria as the speed cars and be able to race. Keep in mind the history of the Pinewood Derby, the Scouts worked with one block of wood, four nails, and four wheels. Use of imagination, craftsmanship, and minimal bling will score your car higher. Make use of colors for your designs, and make sure your design meets the requirements for your category.

JUDGING CRITERIA:

- The event staff will be the judges for the design contest. They will collectively vote amongst themselves to determine which PWD cars have won their categories.
- Each category will have first place and runner-up.

Cars will be judged on:

- Originality - How much creative thought went into the design?
- Craftsmanship - How much work went into making the car?
- Category - How well does it fit the design category?
- Scout participation - Does the craftsmanship represent the Scout's work,

DESIGN CATEGORIES:

1. Patriotic/Military - Cars should reflect an aspect of Patriotism or the US Armed Forces.

2. TV/Movie Character - Cars should represent a character of a TV/Movie (for example, Superhero, Cartoon Character, etc.)
3. Scouting - Cars should represent some aspect of Cub Scouting
4. Professional Race Cars- Cars should represent actual racecars from different forms of racing

CAR SPECIFICATION RULES PWD Car Dimension Specifications:

1. Maximum Width – 2 3/4 inches
2. Maximum Length – 7 inches
3. Minimum Width Between Wheels – 1 3/4 inches
4. Minimum Clearance Between Car Body and Track – 3/8 inches
5. Maximum Distance Between Wheel Axels – 4 3/8 inches
6. The car must be able to travel freely under the Finish Line Gate which is approximately 4 1/2" high.
7. Any concerns with clearance will be tested on the actual track.
8. PWD Design Restrictions – Front End of the PWD car: The front end of the PWD car will rest against a starting pin. Therefore, please do not design a car with a very pointy front end or any design that allows it to extend beyond the starting pin. Additionally, all portions of the PWD entry must be behind the starting pin to be approved for racing.
9. PWD Wheel Restrictions – All four wheels must contact the racing surface. The wheels are not to be cambers, meaning the entire contact patch for the wheels must contact the racing surface.
10. PWD Design Restrictions - Moving Parts: Any additional items, weights, decorations, pieces, or elements added to your PWD car must be permanently attached and not movable during the races. The only elements of your PWD car which are permitted to move (beyond the entire car) are the wheels.
11. Impound Day Inspections: Scouts will be submitting their PWD cars for a visual inspection during the registration process. The derby cars will be checked for any liquids, loose parts, magnets, inappropriate construction, wheel weights, and any other violations. Appropriate pit areas will be provided for any last-minute modifications needed. The use of wheel bearings, washers and bushings are prohibited.
12. Race day Modifications: Pinewood derby event staff could require that your car be modified and/or staged backwards if is found to be too difficult to accurately stage by the starter, or if there is a concern that the nose design could result in finish line errors. Once a determination is made, the PWD car will be raced. If you are given the opportunity to adjust the front of your car, and you choose not to do so, be advised that there are no appeals of heat results. Pinewood derby event staff will only rerun heats if there is interference between two cars or cars are found to have been staged in the incorrect lanes for that heat.

PWD Weight Specifications:

1. Method of measure: Scouts will have their PWD car weighed on the official event scale used for the event, in ounces. Only race officials shall come in contact with the scale.
2. Official racing weight certification: Due to the resolution of the official scale, official weight of the car may be 5.0 ounces maximum. If a car is determined to be over 5.0 ounces, the entrant will have the opportunity to adjust the weight until it is 5.0 ounces or less. Cars that are less than 4.9 ounces will have the option of adding more weight up to 5 ounces but not exceeding 5 ounces total weight.
3. Weight placement and types: Before painting the block, you will want to add enough weight to bring the block, wheels, axles, and any accessories to about 4.9 ounces.
4. Do not go over this weight; it is easier to add weight than to take it away, especially if you plan ahead.

Suggestions:

1. The best car designs typically have the center of gravity (balance point) such that most of the weight is over the rear wheels.
2. A center of mass 1 to 1.25 inches in front of the rear axle is readily achieved and gives good performance.
3. A rear bias places more of the downward force on the rear wheels and less on the front wheels.

PWD Car Material Specifications

1. PWD blocks: The PWD car shall be constructed from a pinewood block, as defined by the contents of the official BSA pinewood derby® car kit item: 17006. This material shall make up the primary core of your PWD car, as defined as the element of your design which is attached to the axles as a single piece of pinewood. Additional decorative materials can be attached to the primary core, so long as the overall dimensions conform to the race rules, and all portions of the PWD car are behind the leading edge of the starting pin.
2. Placement of axles: Known inconsistencies exist with the alignment and location of pre-cut axle slots. Forcing derby car builders to use these pre-cut slots prevents a fair baseline for derby cars overall. As a result, derby contestants may choose to not use the pre-cut axle slots. If you relocate your axles, the PWD car must still conform to the minimum under body clearance of 3/8" in addition to no portions of the car extend beyond the starting pin. You may re-cut your axle slots, or you may drill new axle holes. You must also maintain the 4 3/8" distance between the front and rear axle locations (the wheelbase). Shortening of the wheelbase will be allowed, though it is not encouraged.
3. Wheels: All 4 wheels must contact the track during racing and inspection. No extra guide pins, rollers or wheels designed to ride against or upon the guide strip will be allowed. Race officials will be inspecting all cars and all cars will be subject to

approval with regards to this construction element. Also, no additional wheels may contact the track surface. This includes semi-truck style cars with 6 wheels.

4. PWD axle specifications: Axles used on your Pinewood Derby car must be official BSA axles. This translates into a prohibition on axles created to appear similar to official axles but are manufactured from a different raw material and shaped to conform to the dimensions of the official BSA axles.
5. No chrome, nickel plated, graphite coated axles permitted.
6. Axles cannot be grooved or slotted

7. PWD axle lubrication specifications: Only dry lubricants may be used such as graphite and white Teflon are allowed. Be advised that your PWD entry will be inspected on impound day to ensure that lubricants do not have the potential to foul the track or the performance of other cars.
8. PWD wheel specifications: Official BSA wheels are available at a variety of online or retail locations.
9. Wheel diameter cannot be reduced. The ridge (rippled) edge must remain intact on the entire wheel as well as the raised letters.
10. Wheel weight cannot be reduced below 2.7 grams each. Note – this is the standard weight of BSA approved wheels available in the kit.
11. Contact patch (the outside tread) CANNOT be modified or altered to a profile that is concave, convex, grooved, H-Shaped, angled or otherwise out of parallel with the wheel bore.
12. Wheel contact – all four wheels must make complete contact with the surface while the car is at rest on a level.