



## **2024 Timucua Pinewood Derby Rules**

### **General Derby Rules**

### **A Scout is Trustworthy**

1. Each Car should be built by the Scout with adult supervision. Adults should not build cars while Scouts watch.
2. Each car **should be newly built for the current Cub Scout year from new materials** from the "Official Cub Scout Pinewood Derby Kit." **Do not recycle last year's fast car, best wheels, etc. Do not use any other brand kits.**
3. Only one car per scout will be allowed to register. **No scout will enter both the speed event AND the design event at district.**
4. Scouts should be in Class A uniform and are encouraged to be present to participate in the District Derby. In the event your scout can not make it to the Derby, please contact Jim Hanks ([jdthanks@gmail.com](mailto:jdthanks@gmail.com)) and arrangements can be made.
5. **The Derby officials reserve the right to determine the cars eligibility or ineligibility to race if an unfair practice is discovered that is not covered in these rules.** The officials' objective is to hold a race that is fair to all Scouts. Scouts whose cars are in violation of the rules will be given the chance (time permitting) to make their cars legal. **Derby Note:** Once your car has been checked in and given approval, it is presumed legal for the derby. If something is observed not legal on the car at any time during the race, the owner will be discretely notified and the car is subject to disqualification. Once your vehicle is deemed legal you will not be allowed to touch the vehicle again until all races have concluded, with the exception of damage done by impact from another car causing it to leave the track or accidental damage not incurred on its own. In this case you will be allowed to make repairs to your vehicle under the supervision of a derby official. If a car is unable to be repaired the scout will be credited with their best time for the remainder of their heats. In the event a derby car cannot be made legal the car will be run for fun as DQ without award eligibility, provided the running of the vehicle does not pose a risk of damaging the derby track or interference of other racers.

6. Scouting encourages good sportsmanship. Cars will be disqualified if the Scout or parents display unsportsmanlike conduct on the race site. Remember, the object is for all Scouts to have a great time and to do their best. ***A Scout is Courteous.***
7. Scouts will compete against other Scouts from their rank groups from the 2023-2024 school year. (If a Scout has already bridged, he will compete as the same rank he competed as at his Pack derby.)
  - Lions/Tigers
  - Wolves/Bears
  - Webelos/AOL.

All Timucua Cub Scouts are eligible for the District Derby.
8. Design competitors will compete against cars of the same design category, regardless of age or rank.
  - Movie theme
  - Scout theme
  - Nature theme
  - Patriotic theme
  - Video Game theme
  - Food theme
9. Elementary-aged friends and siblings of Scouts are welcome to compete in either speed or design. They are eligible to win friends and siblings awards, but are not eligible to be District Champions. (Note that friends and siblings must purchase and assemble an official BSA car kit in advance of the competition.)

## **Speed Race Rules**

### **Race groups include:**

1. Lions / Tigers
2. Wolves / Bears
3. Webelos / AOL

Groups may be split into individual ranks if there is a high number of registrations.

1. **WIDTH:** Maximum width including wheels and axles must not exceed 2  $\frac{3}{4}$ ". Maximum width of the body at the axles should be 1  $\frac{3}{4}$ ". (See clearance below.)
2. **LENGTH:** Maximum overall length is 7". No portion of the car will be allowed to extend forward of the starting pin/gate. The furthest most point on the front of the car **MUST** make contact with the starting pin.

3. **CLEARANCE:** Minimum clearance under the body is 3/8 inch. This is measured by placing the car on a flat surface with the wheels mounted and measuring from the lowest point of the wood block to surface. This will prevent the car from bottoming out on the track. The minimum clearance between the inside of the wheels is 1 3/4". While the wheels are mounted, measure the front wheels from the inside of the wheel to its opposite front wheel. Repeat for the rear wheels. This will allow the cars' wheels to straddle the track's center riser guide.
4. **WHEEL BASE:** (Distance between the front and rear axles) must not exceed the distance between the precut axle slots on the standard pinewood block, i.e. 4 3/8". Shortening or extending the wheel base will not be permitted. **Do not extend or shorten wheel base.**
5. **WEIGHT:** Weight can not exceed 5.00 oz. as determined by the scale at the race. The car may be hollowed out and built up to the maximum weight by additional wood, metal or any other SOLID material provided they are securely attached to the body of the car. No loose materials of any kind is permitted in or on the car. At no time can a moving liquid or solid weight be used. No magnets of any type will be allowed on any car. **Please note that scales vary by location and can be impacted by factors such as humidity and calibration. If you qualify for and attend the District Derby your car may weigh in different from the Pack Derby.**
6. **MATERIAL:** The car body, wheels and axles must be made from the Official BSA Pinewood Derby Kit. No store bought preformed bodies. The car may not ride on any type of springs or suspension system that is actually carved from the pinewood block. The race car may not be constructed or treated in such a way that the tracks starting mechanism imparts momentum to the car. (This provision disqualifies cars with sticky substances on the front of the car and protrusions which may catch on the starting pin.) Details such as decals, pin stripes, cockpit accessories and interior detailing are permissible as long as the car does not exceed the maximum weight. Plastic and metal detail parts are allowed as long as they are securely attached to the body and do not exceed the maximum length, width.
7. **WHEELS:** Wheels must be from the Official BSA Pinewood Derby Kit. You may use colored wheels as long as they are marked as official BSA wheels. No extra pins or rollers may be designed to ride on or against the center guide strip will be allowed. Wheel Rail Riding is permissible but only by designing the car to steer one way or the other by adjustment of the axels. The wheels may be lightly sanded only to remove bumps, burrs, and ridges. They may not be milled, shaved or reduced in thickness, diameter or width. Wheels may not be beveled, tapered, ground down, grooved, hollowed out, carved, cut or in any other fashion modified from the original shape. Ridges and raised letters must still be visible. Wheels may not be painted. Wheel covers, bearings, washers and bushings are strictly prohibited. At least three wheel must touch the track thus allowing one raised wheel. Four wheels must be mounted on the car in the typical axel positions.
8. **AXLES:** The axles (rounded head nails) must be from the Official BSA Pinewood Derby car kit. Axles may be polished using files, sandpaper, etc. to remove burrs, scratches, and ridges. You

may not machine (turn or mill) grooves into the axles. You are permitted to bend axles to permit fine tuning adjustments. One piece axles that extend the entire width of the car or any other substitute axles are not permitted.

9. **LUBRICATION**: The wheels should be lubricated with graphite or powdered silicone. **Oils and other liquid lubricants are prohibited.** Lubricant must be applied prior to inspection and registration of the car. Please do not use an excessive amount.
10. **INSPECTION**: The car must meet weight, clearance, and size requirements as stated above. The car must be free-wheeling, with no starting devices. Each car must pass inspection, the owner will be informed of the reason for failure, and will be given time within the official weigh-in time to make the adjustment .

**ALL RACERS-** If a car leaves the track, the track will be inspected for flaws and the car will be re-run alone in the same lane and have its updated time entered. If the car leaves the track again on its re-run, it will receive a max time (9.999s) for that heat. In the rare event of a tie for average top speed after six passes, tie will be broken by the top single pass speed. If they are still tied, then each car's second fastest single pass speed will be used, etc., until the tie is broken.

**NOTE: When in doubt ask the derby chair. Please contact Jim Hanks [jdthanks@gmail.com](mailto:jdthanks@gmail.com) with any questions.**

## **Design Car Rules**

There are **six (6) Design Car Categories** (see below). These cars will **NOT** compete in the speed race.

Remember, we should be rewarding the scouts modeling skills, not the parents' skills!

### **Design Car Categories:**

- \*\*BEST MOVIE THEME** - Pick your favorite flick and get inspired
- \*\*BEST SCOUT THEME** - Show us your best Scout spirit
- \*\*BEST NATURE THEME** - Anything from animals, plants, insects, or even weather
- \*\*MOST PATRIOTIC** - Show your Patriotism, could include Military specific designs
- \*\*BEST VIDEO GAME** – Best video game themed racer
- \*\*BEST FOOD** – Show you favorite food choice.

**Design cars must meet all the same criteria as the speed cars.**

Add-ons and displays are great for showing off your car in your home, and at the District Pinewood Derby. **Displays are welcomed, but they will not be part of the design judging. Only the cars themselves will be judged.**

## Judging Criteria:

1. **Originality:** How much creative thought went into the design?
2. **Craftmanship:** How much work actually went into making the car?
3. **Category:** Does the car fit the design category, yes or no?
4. **Scout Participation:** Does the craftsmanship represent the scout's work or the parents? We understand and encourage the Scout and the parents work together, however, the Scout needs to be the driving force.

## Family Powered Outlaw Class Rules

Family Powered Outlaw Class (aka, Father-Son Class) is an optional fun division intended for parents and families to create cars that have propulsion. Only one Powered Outlaw Class entry per family. Many of the dimensions are the same as the rules for the traditional derby; this is to prevent cars from interfering with one another, damaging the track, etc. All criteria that differ from the traditional derby are highlighted below. There is no height restriction per se, but remember that the car must fit through the timer gate (approximately 6 ½" above track).

1. **WIDTH:** Maximum width including wheels and axles must not exceed 2 ¾". There is no specific maximum body width, but the total width including wheels must not exceed 2 ¾".
2. **LENGTH:** Maximum overall length is 10". This length includes any switches, sensors, hammers, strikers, or other devices that extend beyond the solid body/frame of the car. Because it is impossible to account for every possible configuration, it is the competitor's responsibility to make sure that only the wheels of the car touch the track at all times (i.e., nothing scrapes the track). No portion of the car will be allowed to extend forward of the starting pin/gate. The furthest most point on the front of the car MUST make contact with the starting pin.
3. **CLEARANCE:** Minimum clearance under the body is 3/8 inch. The minimum clearance between the inside of the wheels is 1 ¾". This will allow the cars' wheels to straddle the track's center riser guide.
4. **WHEEL BASE:** The wheel base can be any length as long as it does not exceed 7" and the maximum overall length of the car does not exceed 10".
5. **WEIGHT:** Weight can not exceed 20.00 oz. (1 lb 4 oz.). No loose materials may break free of the car at any point, but the mass may shift on the car as long as none of the maximum dimensions are violated. There must not be anything excessively fragile that threatens to damage the track.

6. **MATERIAL:** There is no limitation on the source of the car body, wheels, and axles, but the car must not damage the track in any way whatsoever. Officials reserve the right to determine the cars eligibility.
7. **LUBRICATION:** The wheels should be lubricated with graphite or powdered silicone. **Oils and other liquid lubricants are prohibited.** Lubricant must be applied prior to inspection and registration of the car. Please do not use an excessive amount.
8. **PROPULSION:** The car MAY include propulsion or starting devices, such as electronic or manual switches, fans, compressed gas, etc. The car may NOT contain combustible materials such as rocket motors or firecrackers. All propulsion mechanisms should be either constant-on or self-starting when the starting pin drops; competitors may NOT stand at the start line to manually activate the car. Competitors will be allowed up to two minutes to reset cars (e.g., replace CO2 cartridges, change batteries, reset switches, etc.) after each heat.
9. **RACING:** The cars will be raced using the same procedure as the traditional derby.