



PACK 133 2019 PINWOOD DERBY RULES

Are you ready for a fun day of racing?

Before explaining the rules, it is important to remember the purpose of the Pinewood Derby race. It is for each scout to have fun, to learn new skills while building the car, to encourage sportsmanship, and to enjoy a team experience. This is an opportunity for parents to enjoy time with their son as they help him design, build, and paint the car. Cub Scouts should not be using any power tools without supervision and proper instruction to build their Pinewood Derby car. In addition, parents should assist when appropriate.

Race day is **Saturday, February 2nd**, with registration the evening before on **Friday, February 1st**. Both events are at **Mendham Township Elementary School**, Location [here](#).

If you have questions, or are unfamiliar with the Derby and looking for some insight or tips, please feel free to contact:

- Robert Eberhart, 973-216-0607, reberhart@mendhampack133.org
- Luke Walsh, 973-525-3127, lukewalsh07@gmail.com

Prizes

The primary purpose is not to crown a single race champion; rather, it is an opportunity for you to work with your son, teach basic woodworking skills, and encourage him to use his imagination.

Each year many terrific and wonderfully creative cars are built and raced in our Pack. The three fastest cars in each rank receive trophies, as well as the five fastest cars in the Championship Race across all ranks. In addition, to recognize and foster the creative aspect of the Pinewood Derby, Pack 133 awards trophies for the following artistic categories:

Most Patriotic
Most Colorful
Most Original
Most Funny
Most Scary
Most Futuristic

Best Paint Job
Best Workmanship
Best Pack Spirit
Best Design Not a Car
Best Overall

All Cub Scouts are eligible for the above creative awards as well as the racing trophies. Creative awards are typically decided by the Boy Scout volunteers that help on race day. Cub Scouts may consider designing their car specifically for one or more

of the categories. All Pinewood Derby participants will also receive a Pinewood Derby patch in recognition of their participation.

Championship Race & Trophy Presentation

The winners in that rank for the artistic categories and the three fastest cars for each rank will be announced after that rank has raced. After all ranks have raced, the three fastest cars from each rank are eligible to compete in the Championship Race, where the five fastest cars for the Pack receive trophies.

The Pack will be taking pictures for the paper and the website, and all artistic winners should return for the Championship Race to have their photos taken.



Pack 133 2018 Pinewood Derby winners with the Mendham Twp Mayor

Basics:

Our racetrack is a six-lane track that uses side barriers (like a Hotwheels track) rather than the slots of older tracks. This eliminates the drag that certain car designs had when they had an insufficient wheelbase or clearance.

The method we will use to determine the speed of each car will be elapsed time. We are able to do this with a very accurate computerized timer (precision to 0.0001 seconds!). While there will be essentially no advantage or disadvantage in any lane, we generally run each car four times and in a different lane each time as determined by the computer.

Similar to last year, we will have the weigh-in and registration for the cars on Friday night and the race will be held on Saturday morning and early afternoon. Race times for each rank will be determined and you will be notified well in advance.

Be creative and come up with a name for your car (something like "The Blue Streak"). That way, we can introduce your car when it is ready to race. When you sign in at the weigh-in, you will need to give the name you have chosen.

For those parents or siblings that would like to build and race a car for themselves, they are welcome to do so and we will have a simple open competition race after all of the scouts' races and ceremonies. In past years, some people took 30 and 40 year old pinewood derby cars out of the attic and gave them the chance to race again.

Additional Pinewood Derby kits are available for \$5.00 per kit through Pack 133 (while supplies last), or at the Patriots Path Council Scout Shop in Cedar Knolls

Rules:



Please pay careful attention to the rules provided below. Violations of the rules will make the car ineligible for prizes.

Participation:

Open to all Pack Cub Scouts and Lion Cubs. You do not need to be present on race day for your car to race, though it is highly recommended! Each Scout may enter only one car, and that car must have been built during the current school year in which the Derby is being held.

Inspection: Cars will be inspected during registration for compliance to the specifications set forth below.

Car Numbers/"License Plate": If you want, you may number your car, using either the stickers included with the kit, or otherwise. During weigh-in, your car will be given an official "License Plate" number on a small sticker that will be used for all tracking and race purposes.

Impound:

Cars will be impounded when registered Friday night. After being impounded, repairs will be limited to replacement of axles/wheels that are broken/lost during the race. Scouts and parents will not be allowed access to the cars in between races unless there is noticeable damage to be repaired. We are trying to keep a level playing field for all participants.

Specifications:

BODY: The Official BSA Pinewood Derby Kit must be used for the body. Bodies of other materials will be grounds for disqualification. The body may be shaped, hollowed out, or built up from the original block, as long as it meets all other specifications. Any additions to the original body, e.g., steering wheels, drivers, decals, paint, weights, etc., must be firmly attached.

WIDTH: We are following the BSA width rules to assure that cars will qualify for District or Council races. **The car width at the wheels may not be modified;** it must be the same as the original kit at 1-3/4". The overall width must not exceed 2 3/4".

LENGTH: Overall length may not exceed 7" (seven inches). Since the starting gate rests on the front center of the car, you may not carve or notch out that area in a way that makes the front of the car extend beyond the starting gate.

GROUND CLEARANCE: Pack 133 does not require a specific amount of ground clearance for the car, though note the track is curved so we recommend following the

BSA clearance rules of 3/8" to be sure the front or back ends of the car don't bottom out. Note if you intend to race your car in District or Council races, bottom clearance between car and track must be at least 3/8".

WHEELBASE: The distance between front and rear axles may not be changed from the kit body distance of 4-1/4 inches.

WHEELS: Wheels and axles are provided in the official kit. No washers, bushings, bearings or springs are allowed. No hub caps are permitted. Wheels may be lightly sanded to remove the flashing only. Beveling, tapering, thin sanding, wafering or lathe turning of wheels is prohibited. NO reductions in width or diameter, or changes in shape are allowed. Alternate wheels (such as colored ones) can be used ONLY if they are the same size/specifications as in the official kit AND come from a BSA store.

AXLES: Axles must be official BSA Pinewood Derby parts. **Axles must be placed within the originals slots provided on the wood block.** Modification to the slots or other placement of the axles is prohibited. Slots should be placed facing toward the track (i.e., at the bottom of the car). **Axle guards and speed axles are prohibited.**

WEIGHT: The weight of the race-ready car must not exceed five (5.0) ounces as measured on the official scales. The reading on the official scale on registration night will be considered final. The car may be hollowed out and built up to the maximum weight by addition of wood, metal, or plastic only, provided the material is securely built in the body or firmly affixed to it. No liquid or loose materials of any kind are permitted in or on the car. You may bring additional weights on registration night to affix to your car if it is light and we will re-weight it. Hot glue guns are typically available on registration night for weight modifications.

LUBRICATION: The Pack allows **dry lubricants only** for the Pinewood Derby. There will not be any lubricant allowed in the building during registration or the race. Lubricant must be applied at home in minimal amounts to the axle and wheel hub. The lubricant should not be easily visible and should not come off when the wheels are spun. If there is excess lubricant found during inspection, the car must be taken outside and cleaned. No lubricant can be applied on race day.

OTHER: Cars must be freewheeling with no stored energy, movable weights or propulsion. There is no designed front or back to the supplied body; either end may be the front.

Please remember, violations of the rules above will make the car ineligible for prizes.

GROUND RULES:

Each car will be run multiple times (probably 4) in different heats, based on its prior race results (i.e. the fastest cars race with the fastest, and the slowest race with the slowest, all of which will make for exciting races). There will be several competitions divided by Scout rank.

If a car becomes damaged, the replacement or fixing of axles/wheels and additions can be performed prior to the car's next race time. Given the large number of cars that race and a tight schedule, we typically cannot re-run races for damaged cars. Hot glue guns are usually available on-site for repairs.

If a car jumps a track, the race will be run again without penalty. If the same car jumps the track a second time, that car will automatically place last in that race and be given the slowest time for that race.

ONLY race officials may enter the track area. This rule will be strictly enforced.

Decisions of the Race Committee are final.

****** Scouting encourages good sportsmanship ******

Cars will be disqualified if the Scout or his parents display unsportsmanlike conduct.

Three things the Pinewood Derby requires each participant to learn are: 1) the craft skills necessary to build a car, 2) the rules that must be followed, and 3) that most important is how we act and behave while participating in the Pinewood Derby or any other group activity. This is called good sportsmanship.

The first thing to remember about sportsmanship is that everyone's skills are a little different. You may be good at something like singing or drawing, but not as good as 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 or not you have good car-building skills. Remember, you and your friends are individuals first and racers second. This idea is often called having respect for others.

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 really good at doing something unless you follow the rules. This is often called being honest.

The third thing to remember about good sportsmanship is that there are winners and losers in every competition. You accept this when you choose to compete. There may be times when you win and feel happy and other 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 should 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. You must also be able to appreciate and feel happy for someone else when they run a good race or build a neat car.

Good Luck!

Pack 133
2019 Race Committee

PINEWOOD DERBY TIPS AND TECHNIQUES



A car with a sleek, aerodynamic shape generally races faster than a car with a “boxy” shape.

Take plenty of time to sand the racer body. Make the body as smooth as possible.

Add weight to the body. Cars are allowed to weigh a maximum of 5.0 ounces (five ounces). We’ve all seen many “fast-looking” cars line up to race only to see them slow down considerably near the end of the track. This is usually the sign of a “light” car.

Weights, templates, decals and paint can all be purchased at the Council Trading Post or local hobby shops.

Seal the body. Use some sort of wood sealer or “Dull-cote” spray to seal the wood grain of the racer. This will result in a glossier finish.

Spray paint normally results in a much better finish than brushed on paint. Many (8 to 10) coats of light spray paint result in a hard, bright, and shiny finish.

Don’t put the wheels on before you paint the car! Finish the body of the car completely before attaching the axles and wheels.

As noted in the Guidelines, ensure the axles are perpendicular to the body of the car. Axles installed at an angle will guarantee the car will run slow.

Once the axles and wheels are installed and properly aligned, a small drop of glue near the point of each axle (toward the center of the car body) will help to keep the alignment from shifting. Don’t get any glue near the wheel end of the axle!

No matter how much fun it is to push these cars around on the floor, wait until after the race to do so. Scooting the racers around, dropping them on the floor, etc., can damage the wheels and can knock the car out of alignment. Treat the car with care, at least until after the race is over! Use the new lunchbox provided with the kit as your transport to the race.

PURCHASING PINEWOOD DERBY SUPPLIES

Only Official BSA kits, wheels and axles may be used in competition. Use of alternatives will disqualify the cars for prizes. The Scout Shop at the Patriots Path Council office has official BSA Pinewood Derby kits, wheels and axles for sale. Other hobby shops are good for purchasing tools, paint and accessories.

To purchase **Official BSA Pinewood Derby** Car Kits, wheels and Axles

The Scout Shop at Patriots Path Council

<https://ppcbsa.org/about-us/shop/>

1 Saddle Road, Cedar Knolls, NJ 07927

(973)-765-9322 Ext. 233

They are open on Saturday and have late hours on Tuesday and Thursday

ScoutStuff.org

<http://www.scoutstuff.org/bsa/crafts/pinewood-derby.html>

Be sure to allow yourself enough time for delivery

Hobby shops are good for purchasing tools, paint, decals and accessories.

Kenvil Hobbies

www.kenvilhobbies.com

590 US-46 #1, Kenvil, NJ 07847

(973) 584-1188

F&M Hobbies

www.fandmhobbies.com

240 US-206, Flanders, NJ 07836

973-361-0042

Ask for Mitchell or Jim (the owner)

Zeppelin Hobbies

www.zephobby.com

1530 Route 23 (Northbound)

Wayne, NJ 07470

973-872-0400

PINE DERBY CAR DESIGN SHEET

You can use the boxes below to help design your Pinewood Derby car. Sketch out your design from the TOP view and the SIDE view (Note: They are not exact to scale). Once you are satisfied with your design, have your adult partner cut out the design for you to sand, smooth and finish off. Once your wheels are added, you'll be ready for the big race! Good luck!

LOOKING DOWN FROM THE TOP



LOOKING FROM THE SIDE



THINGS YOU NEED

- Sandpaper - various grades
- Paint Sealer
- Paint - Pick some good colors!
- Decals or Stickers
- Glue