

## 2019 Mercer Area District Pinewood Derby Rules and Regulations

1. Guidelines and Principles of the Pinewood Derby
  - a. The car must be made of materials from, and follow the rules within, the official Boy Scout Kit (Grand Prix Car Kit #17006). *Further clarification of the rules are in italics. Rules in BOLD are necessary additions to the rules in the original kit.*
  - b. **The car must not have been used in any previous Scouting Year's race(s).**
  - c. **Additional kits and/or body blocks, wheels, and/or axles are limited to official replacements of the exact type included with the kit. Pre-cut blocks may be disqualified.**
  - d. **Wheels and axles must adhere to the additional rules provided in Section 3.**
  - e. A Pinewood Derby is a Cub Scout / Parent project.
  - f. Pinewood Cars should be built by the Scout in cooperation with adult guidance / assistance.
  
2. Each car must pass inspection by the official Inspection Committee before it may compete. If, at registration, a car does not pass inspection, the Scout will be informed of the reason for failure and will be given time within the official registration and inspection period to make the adjustment. *(Scouts and/or Akelas may not use tools or create debris/dust of any kind inside the venue hosting the Derby.)* After final approval, cars will not be re-inspected unless the car is damaged in handling or in a race. *The inspectors have the authority to disqualify those cars that do not meet these specifications.*

The inspection points are as follows:

  - a. The width of the car shall not exceed 2.75 inches.
  - b. The length of the car shall not exceed 7 inches.
  - c. **The height of the car shall not exceed 5.5 inches (due to clearance under the timer).**
  - d. The weight of the car shall not exceed 5 ounces. *The lesser of the readings of the official race scale(s) shall be final.*
  - e. All cars must have 3/8" minimum clearance under the body.
  - f. All cars must have 1 3/4" minimum between the inside of the wheels.
  - g. **The track utilizes a "Pin-Style" starting gate so the front-center of the car must be wide enough to evenly rest on the starting pin (minimum 3/4" wide at the center of the car). The "Scoring Beam" is also centered so portions of the car that protrude in front of the pin will not affect the scoring of the race or give the car any advantage.**
  - h. Wheel bearings, washers, and bushings are prohibited.
  - i. The car shall not ride on any kind or type of springs.
  - j. Only official BSA wheels and axles are permitted. Colored BSA wheels are permitted. *See Section 3 for additional requirements pertaining to wheels and axles.*
  - k. **Only dry lubricant is permitted. Lubricant must be applied prior to weigh in. No lubrication will be permitted after inspection.**
  - l. Details such as, *but not limited to*, steering wheel and driver are permissible as long as these details do not exceed the maximum length, width, **height**, and weight specifications.
  - m. The car must be freewheeling, with no starting devices.
  - n. **All cars must prove able to finish the race course. Cars that are unable to finish the race course will be disqualified, and will be ineligible for any awards.**
  
3. Rules pertaining to building techniques and wheel and axle modifications not covered in the Official Rules above:
  - a. *There is no stipulation as to the required length of the wheelbase or placement of the axles of the Pinewood Car. However, be sure to note other rules such as car length, width, and clearances when cutting or drilling for axle nails.*
  - b. *Only official BSA wheels can be used. Note, wheels with the letters "BSA" and "China" or*

*any other indication other than a standard BSA wheel from a BSA authorized retailer are not permitted.*

- c. The outer wheel surface (tread area only) may be LIGHTLY sanded, shaved, or polished to remove minor surface imperfections and mold casting burrs. Outer wheel surface must not be reshaped or have the contour changed in any way in an attempt to minimize tread contact or alter aerodynamics. Tread surface must be flat and parallel to the wheel bore. Examples of disqualifying wheel modifications are shown in Appendix 1.*
- d. Wheels with ANY flex to the tread or sidewall when squeezed or twisted in inspection will not pass.*
- e. Wheels may not be reversed (hub facing away from the car body).*
- f. Coning the wheel hubs and truing the inside tread edge is allowed, as long as overall wheel width is not reduced below 0.36 inches (9.14 mm).*
- g. There are after-market modified wheels available that have been LIGHTENED. This is usually done by turning the wheels on a lathe and removing material from the inside of the wheel. These wheels are NOT allowed and can be EASILY RECOGNIZED at inspection.*
- h. Non BSA wheels are not permitted. Cars with third-party manufactured or modified wheels will not be permitted to race. Wheels determined by the Inspectors to be out of compliance must be replaced with official BSA wheels in order for the car to compete.*
- i. Determinations of compliance with the rules and regulations are made solely by the Inspectors before, during, or after the race occurs.*

#### 4. Check-In, Racing, and Scoring Procedures

- a. **Check-in, weigh-in, and inspection will take place between 9:00am and 10:30am on the morning of the race.** Cars that are not in line for the check-in process by 10:30am will not be eligible for awards (although they may be placed in the remaining races once they have cleared inspection, at the discretion of Race Judges.)
- b. Once each car passes inspection by the official Inspection Committee, only Race Judges and officials will be allowed to handle the cars inside the racing area. All Scouts and spectators shall remain outside the racing area.
- c. Once the races commence, all cars will be on display inside the barrier and/or on car trays.
- d. The race will consist of 8 heats for each car - once in each lane. **Cars must remain for all heats.**
- e. The computer will determine the heat schedule.
- f. The electronic timer on the track will select the order of finish.
- g. A “clean” race is one in which all cars start evenly and each car stays on the track for the length of the track and does not impede the operation of another car.
- h. If a car leaves the track, runs out of its lane, interferes with another car, loses an axle, fails to cross the finish line or has any other problem as determined by the Race Judge, affected cars will be rerun on the same lane prior to the completion of the scoring at a time designated by the Race Judge.
- i. If the same car causes trouble on the second run, the car will not be run a third time. If on any run, another car is interfered with, that car will be able to run again.
- j. If a Scout notifies the race official that he feels that his car has suffered from a mechanical problem, the participant may be granted up to five (5) minutes to repair the car at the discretion of the race official. **No additional lubricant may be added during the repair process.** Any non-conforming modifications or additional lubricating may result in the immediate disqualification of the car.
- k. Speed awards will be given to the first, second, third, fourth, and fifth place winners overall. Of those Scouts that do not win one of these five awards, then first, second, and third place winners for each Scout rank will also be awarded. Additional awards may be added based upon

the quantity of participants.

- l. A Scout's maximum award eligibility will include only one speed award and/or one design award (if there are design awards). The race official or committee will determine the highest achieved award and any other award will pass to the next qualified Scout for that award.
- m. Time permitting, winning Scouts may be asked to briefly explain what techniques they used to build a winning Pinewood Car. All participants should assure that the Pinewood Derby is a learning opportunity for the Scouts.

5. Additional Race Day and Venue Rules

- a. **As this event is a public representation of the Boy Scouts of America, our Council, our District, our Charters, and our Packs, all participating Scouts and Adult Scouters should be in FULL "CLASS A" UNIFORM. Race Judges shall determine compliance with this stipulation.**
- b. Please remember that the annual presentation of the Pinewood Derby at the host venue is a COMPLIMENTARY PRIVILEGE at the discretion of our host. Akelas (Parents, Adults, etc.) need to maintain appropriate control of their Scout(s) while participating.
- c. All participants and spectators shall practice "Leave No Trace" and pick up after themselves utilizing proper waste and recycling receptacles.
- d. Rules may be clarified, changed, added to, or deleted if deemed necessary by the race official.

**In the interest of fairness to all participants, any parent, adult, or scout who ignores or disobeys the Pinewood Derby rules set forth above or disobeys appropriate Scouting behavior may be disqualified. Please remember that the purpose of the Pinewood Derby is to have each Scout enjoy the process of designing and making his car with the help and assistance of his parent/guardian.**

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**Appendix 1 – Examples of Disqualifying Wheel Modifications**

**CLARIFICATION OF DISQUALIFYING / ALTERED WHEELS**

No alteration, narrowing, lathe cutting, or re-shaping of wheels (inside or outside) is allowed!!!!

<p>STANDARD WHEEL</p>	<b>FAIL</b>	<b>FAIL</b>	<b>FAIL</b>	<b>FAIL</b>	
	ROUNDED WHEEL	"V" WHEEL	CUPPED WHEEL	REDUCED DIAMETER	
<b>FAIL</b>	<b>FAIL</b>	<b>FAIL</b>	<b>FAIL</b>	<b>FAIL</b>	<b>FAIL</b>
"H" WHEEL	RIBBED WHEEL	SPEED WHEEL	SLANTED OUT	SLANTED IN	KNIFE EDGE

**NO LIGHTENING OF THE WHEEL IS ALLOWED**

LIGHT SANDING OF WHEEL TREAD TO REMOVE IRREGULARITIES IS PERMISSIBLE. WHEEL TREAD MUST BE FLAT!

MINIMUM WHEEL DIAMETER ALLOWABLE IS 1.170 INCHES.

MINIMUM WHEEL WEIGHT OF EACH WHEEL IS 2.45 GRAMS.