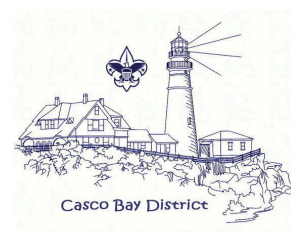




BOY SCOUTS OF AMERICA®
PINE TREE COUNCIL

Pine Tree Council Pinewood Derby General Rules for District and Council Races



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1 General Rules

- 1.1 The race is open to all Lion, Tiger, Wolf, Bear, Webelos, and Arrow of Lights Scouts. Scouts who have just graduated to Scouts BSA within five months of the District or Council Derby date registered in a Pack of Pine Tree Council, B.S.A. are also eligible.
- 1.2 Definitions:
 - 1.2.1 The Scout shall be referred to as “Drivers” in the rules.
 - 1.2.2 The Parents or designated guardians of the scouts will be referred to as the “Pit Crew” in these rules.
 - 1.2.3 The designated parents or registered leaders in charge or organizing and running the District Pinewood Derby will be referred to as “Officials” in these rules.
 - 1.2.4 The designated parents or registered leaders in charge of officiating the race for the purpose of determining Driver placement or Best of Show contest will be referred to as “Judge” in these rules.
 - 1.2.5 The word “Shall” means “Must (has to be) and cannot deviate from the rule in which the word shall is used”.
 - 1.2.6 The word “Car” means Pinewood Derby Car created by a scout.
 - 1.2.7 The word “Heat” shall mean one run of the cars down the track.
 - 1.2.8 The words “Staging Area” shall mean where cars are stored in between heats.
 - 1.2.9 The words “On Deck” shall mean the driver shall race in the next heat following the current heat running. This mean a heat may be running, the drivers “on deck” shall retrieve their cars from the staging area and wait until the current heat has completed.
 - 1.2.10 The word “Starter” shall refer to the staff member in charge of releasing the Gate of the track.
- 1.3 All cars competing in a Pine Tree Council District or Council Pinewood Derby shall be the car used in the local Pinewood Derby of the Driver’s registered Unit unmodified from original race. (i.e., added or deleted parts, reshaping of car, or weights. Graphite is acceptable on race day.)

- 1.4 All cars competing in a Pine Tree Council District or Council Derby shall be made in the same year, or no more than 6 months prior to the year of the District Derby. This allows the Pack to hold local races within the beginning of the school year up to the month of the district Derby if they so choose. Any cars made prior to the above mentioned will not be permitted under any circumstances.
- 1.5 District Pinewood Derby participants shall consist of a scout whom placed 1st, 2nd, 3rd, 4th, or 5th overall plus the Best-in-Show winner in the local Pack Derby. In the event one of these scouts cannot attend the District Pinewood Derby, the 6th place winner may attend in place of the absent driver using their own car and not the car of the absent driver.
- 1.6 Best-in-Show participants shall be the 1st place winner of the Best-in-Show overall in the local Pack Unit Derby.
- 1.7 If a racer places 1st through 5th and is a Best-in-Show winner, the 6th overall place may attend the District Derby.
- 1.8 Council Pinewood Derby Participants shall consist of a Scout whom placed 1st or 2nd overall in each den at the District level derby plus the Best-in-Show winner at each District Derby.
- 1.9 For district or council races, there shall be NO proxy drivers, If for any reason the Scout cannot attend the race neither can the car.
- 1.10 All Pinewood Derby races shall race cars which have been built from the Official BSA approved Pinewood Derby Kit, pictured in Figure 1. The gift-style box is acceptable as the parts are identical. ****3D Printed cars are NOT allowed.******



Figure 1:

Official Pinewood Derby Car Kit

- 1.12 ANY attempt to register kit cars shall be immediately disqualified from racing as the Scout did not make the car from the official block and as such has violated rule 1.10. The idea of the Pinewood Derby build is for youth and parent/guardian to bond while building a car, attend the race, and have fun.
- 1.13 The Pinewood Derby cars shall be made from official BSA approved parts. This means all parts, (wood block, wheels, and axles) shall be BSA approved parts. This means the parts must come from an Official Boy Scouts of America Pinewood Derby Kit. Figure 1. Please note that not all colored wheels, decorative weights, and other Official BSA Pinewood Derby items sold at the Scout Shop or other stores are permitted in the race. Please make sure your wheels are "Boy Scouts of America - Made in the USA" branded on the inside.

- 1.14 The purchase of machined wheels and/or polished axles from other suppliers shall be specifically prohibited.
- 1.15 Decorative items such as steering wheels, drivers, spoilers, decals, and interior details are permissible if the finished car meets the *Car Dimensions and Specifics* rules below.
- 1.16 Drivers shall not use decorations which promote the use of drugs, alcoholic beverages, or tobacco products on their cars. Such decorations will be subject to disqualification unless removed.
- 1.17 Any Driver and/or Pit Crew member have the right to appeal to the race officials for an interpretation of these rules. The race officials, by majority vote, shall be the final interpreters of these rules. However, an interpretation of the rules at the Pack or District level does not necessarily ensure a similar interpretation at any other level. All rulings by the race officials at each level of competition will be considered final.

2 Rules of Conduct

- 2.1 General Rules of Conduct shall be adhered to by all racers and pit crew members.
- 2.2 Each driver shall always handle only their own car unless there is damage and needs assistance, at which time an official will call for the "Pit Crew"
- 2.3 A driver who handles or touches another driver's car may be subject to immediate disqualification.
- 2.4 Each driver shall conduct themselves in a manner becoming of a Scout.
- 2.5 In the event a driver does not conduct themselves well during the District or Council PWD, the officials may disqualify them due to behavior issues (ie. a racer has a tantrum due to losing a heat and strikes another person of any sort; a driver is not happy with the outcome of a heat and attempts to damage any equipment belonging to the Pack, District, Council, individual volunteers, and/or hosting location of the race). These kind of behavior issues will not be tolerated under any circumstances.
- 2.6 Drivers, officials, pit crews, and judges shall not "boo," or make disrespectful comments, or slander any other Scout before, during, or after a race. Any display of poor sportsmanship will result in disqualification of a driver, and/or removal of the premises.
- 2.7 Although we cannot control spectators, we expect all spectators to refrain from booing and or engaging in negative comments during the race. Excessive negativity in any manner from any spectator may be asked to leave the premises by majority vote of the officials. Drivers and Pit Crew shall refrain from profanity of any sort. Any outburst of the type shall be subject to disqualification.
- 2.8 All drivers shall be in a field uniform shirt (Class A) or activity shirt (Class B) when participating in the District or Council Pinewood Derby or Best-in-Show contest.

- 2.9 All drivers shall wear any designations, race numbers or other important identification deemed by the officials. (Name Tag)
- 2.10 All drivers shall relinquish any designations worn, to the registration booth prior to leaving the Pinewood Derby, if requested by the Derby host.
- 2.11 Drivers and Pit Crew are free to visit the restrooms, water fountains, and concession stands during the race. Drivers and pit crews shall be responsible for making sure Drivers know when they are On Deck in order to help maintain a good managed Pinewood Derby race. In the event a Driver has an emergency (such as an emergency restroom visit) and needs to leave the "On Deck" or the race track area the driver will have a maximum 5 minutes to return. The heat may be skipped in order to keep the race going and be returned to when driver returns.
- 2.12 Staging Area Rules of Conduct shall be strictly adhered to.
- 2.12.1 Drivers shall store all cars which have been registered, lubed, inspected and weighed, in the Race Staging area.
 - 2.12.2 Once cars have been placed in the staging area, the car cannot be touched until the driver is called upon to run a heat.
 - 2.12.3 Once a heat is over and the judges have given permission to retrieve the cars, the driver shall return their car back to the staging area.
- 2.13 Race Track Rules of Conduct shall be strictly adhered to.
- 2.13.1 Only drivers racing in or staging for a heat, race officials or members of the track team will be permitted in the track area. Other people may be allowed in the track area when specifically approved by the race officials.
 - 2.13.2 Each race shall be announced, and drivers will be called to the track area.
 - 2.13.3 Each driver shall be called On Deck prior to a heat.
 - 2.13.4 Each driver shall have 3 minutes from the first call of the "on deck" status to bring their car to the gate. Failure to report to the gate within that 3-minute call, the driver and car shall be disqualified from that heat only but will be able to race in future heats.
 - 2.13.5 Drivers shall report to the starting line when the starter tells them to and shall place their cars on the appropriate lane gate.
 - 2.13.6 The starter shall ensure all cars are on the track lanes properly. The cars may be re-adjusted for proper placement at the direction of the starter.
 - 2.13.7 If a car leaves the track, runs out of its lane and interferes with another car, the race will be rerun.

2.13.8 If a car suffers mechanical failure such as losing an axle, wheel or decoration, etc., Rule 4.5 will take effect and the race will be rerun.

2.13.9 If the same car gets into trouble on the second run, the car automatically loses that heat. Rule 4.5 will take effect again. If the car is able, will then return to staging.

2.13.10 If the same car gets into trouble on a different heat the officials shall decide by majority vote if the car can continue to race after it has these types of problems again. If they should vote to allow the car to continue rule 4.5 will take effect. If they should vote to not allow the car to continue this will mean disqualification of the car.

2.13.11 In the event a driver and or their pit crew cannot complete repairs in compliance with rule 4.5 then the car will be disqualified.

2.13.12 If a car suffers a mechanical problem in between heats, Rule 4.5 will take effect. If the repairs cannot be performed in the allotted time the car shall be disqualified.

2.14 District and Council Time and Gate Rules

2.14.1 The results of a race (i.e. First, Second, Third, and Fourth place) shall normally be determined by an official electronic finish line.

2.14.2 This finish line will always be supervised by at least one judge and/or one official.

2.14.3 In the event of a failure or the absence of an electronic finish line, the race officials will prescribe the method for determining the results of the race.

2.14.4 The Judges shall do everything in their power to make sure accurate records of each race are kept to help prevent failure or loss of electronic or analog data.

3 Car Dimensions and Specifics

3.1 Dimensions

- 3.1.1 The minimum width between wheels shall be 1 and 3/4 inches. (Figure 2: Dimension A)
- 3.1.2 The pre-cut axle locations in the official Pinewood Derby car block shall be used. The pre-cut axle locations provide a nominal wheelbase of 4 and 3/8 inches and shall be strictly followed. (Figure 2: Dimension B).
- 3.1.3 The maximum length of the car shall not exceed 7 inches (Figure 2: Dimension E).

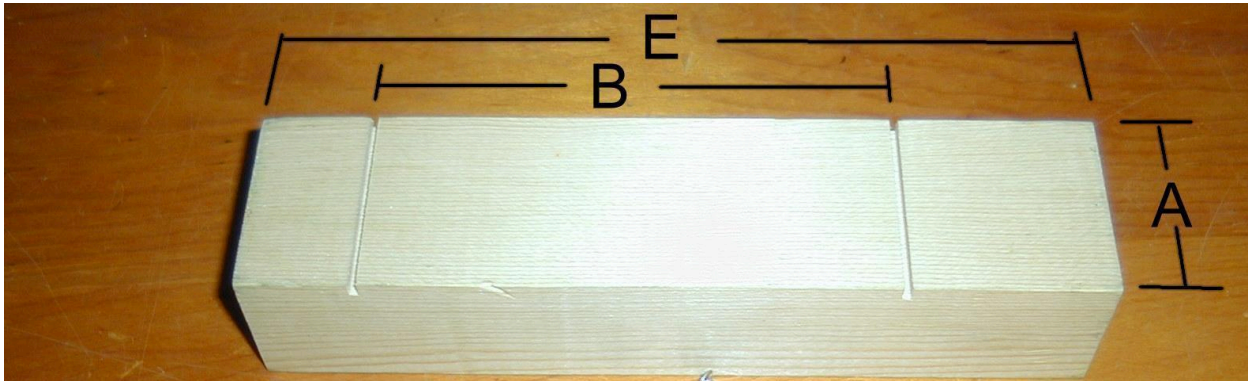


Figure 2: Block Dimensions

- 3.1.4 The maximum overall width of the car including wheels and axles shall not exceed 2 and 3/4 inches. (Figure 3: Dimension C)



Figure 3: Maximum Width of Car

- 3.1.5 The minimum clearance between the bottom of the car and the bottom of the wheels shall be $\frac{3}{8}$ inches. (Figure 4: Dimension D)

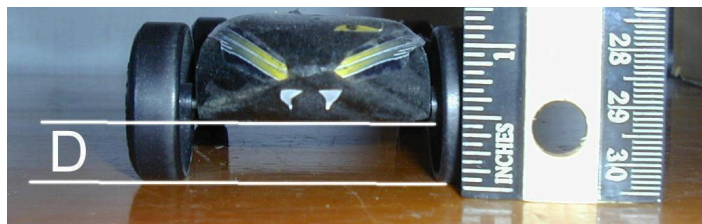


Figure 4: Minimum Car Clearance

- 3.1.6 The maximum height of the car shall not exceed 3 and $\frac{1}{4}$ inches from the bottom of the wheels. (Figure 5: Dimension F)

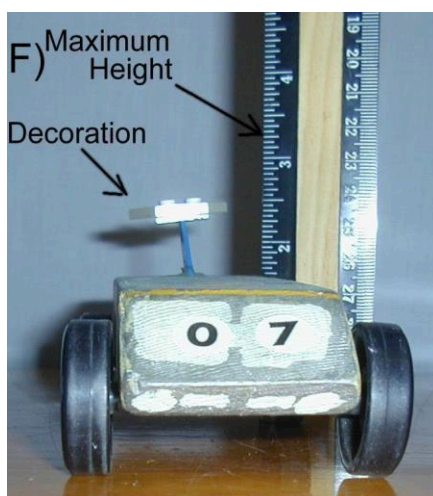


Figure 5: Maximum Car Height

- 3.1.7 Any Decorative items mentioned in 1.15 and such shall be measured as part of the overall height of the car, (Figure 5: Dimension F), width Dimension (Figure 3: Dimension C) and length Dimension (Figure 2: Dimension E).

3.2 Weight:

- 3.2.1 Weight shall mean over all weight. This is the body of the car, wheels, axles and any decorative items added to the car.
- 3.2.2 The weight of the car shall not exceed 5 ounces (141.75 grams) measured on a scale accurate to $\frac{1}{10}^{\text{th}}$ of an ounce. Overweight cars must be reduced to running weight (or below) before they can be entered. The official race scales shall be considered final.
- 3.2.3 The car may be hollowed out and built up to the maximum weight (Rule 3.2.2) by the addition of wood or metal only, provided it is securely built into the body of the car or affixed securely to the car.
- 3.2.4 No loose materials of any kind such as lead shot are permitted in or on the car.

- 3.2.5 Using tape of any kind to secure weight is not recommended. If tape (such as masking, scotch, etc.) is used to hold weights, it must be tightly attached to the car. The officials may have final say if a car using tape to hold weight meets the qualification to race under this rule. Cars deemed unsafe at inspection and registration will be asked to be fixed before final weigh in.
- 3.2.6 It is recommended that weights on the bottom of the car be inset so they are flush with the bottom of the wood block of the official Pinewood Derby car wood block. Please refer to Section 3.1 Dimensions and Figure 4: Dimension D.

3.3 Wheels and Axles

- 3.3.1 Only Official Cub Scout Pinewood Derby Wheels, with the “Official B.S.A. Made in the USA” stamp on the inside of the wheel, shall be used. This includes decorative wheels and alternate colored wheels. (Figure 6)



Figure 6: BSA Logo, Made in the USA on Wheels

- 3.3.2 Only official BSA wheels from an authorized BSA retailer 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 is not permitted.
- 3.3.3 All lettering and numbering, both inside and outside, must remain complete and unaltered from factory die-casting, and be completely visible with no obstruction of any kind. No wheel covers of any type or any name, inside or outside, may be used.
- 3.3.4 The fluting and other BSA markings on the outside wheel area must remain visible and unaltered.

- 3.3.5 Outer wheel surface (tread area only) may be LIGHTLY sanded, shaved, or polished to remove minor surface imperfections, mold casting burrs, and correct off center wheel bores; but total wheel diameter may not be reduced below 1.170 inches (29.72mm). 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. Wheels with ANY flex to the tread or sidewall when squeezed or twisted in inspection will not pass. Lathing outer wheel tread is allowed within the confines of the above specs.
- 3.3.6 Tread surface must be flat and parallel to the wheel bore and have a thickness of 0.036 inches consistently across the tread. Beveling or tapering of the wheels is strictly prohibited. (Figure 7 and Figure 8)
- 3.3.7 Wheels may not be reversed (hub facing away from the car body) and must be mounted in standard position.
- 3.3.8 Coning the 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). Removal of outer hub step down is not allowed.
- 3.3.9 NO MATERIAL may be removed from the inside wheel tread, sidewall, hub surfaces.
- 3.3.10 Minimum outside diameter of wheel must be equal to or greater than 1.170 inch (29.72mm), and must maintain the ridges on the outer edge.
- 3.3.11 Inspectors reserve the right to measure the wheel with calipers to verify dimensional compliance with official wheel size restrictions. If graphite is not present or oil is suspected, graphite will be applied to all wheels.
- 3.3.12 The weight of the wheel shall not be increased or decreased. No material such as glue, fingernail polish, or tape, may be added to the inside of the wheel increasing its weight.
- 3.3.13 Wheel bore treatment is allowed including polishing and/or tapping. Wheel bores may not be filled and re-drilled to alter bore diameter or to achieve better fit with the axle (no material may be added to the wheels).
- 3.3.14 All 4 wheels must be in contact with the track at all times. The wheel tread does not have to be flat on the track. Relocating one or more wheels higher than the other to allow the car to ride on two or three wheels only through pivoting as it coasts is strictly prohibited.
- 3.3.15 Blade wheels even if found by a BSA source or stamped official BSA shall be strictly prohibited. (Figure 9: Letter B and D)
- 3.3.16 Only Official Cub Scout Pinewood Derby axles shall be used. (Figure 9: Letter A.)
- 3.3.17 Axles may be canted for alignment purposes.

- 3.3.18 Axles may not be bent.
- 3.3.19 Solid axles are strictly prohibited. (Figure 9: Letter H)
- 3.3.20 Wheel bearings, washers, or bushings are strictly prohibited (Figure 9: Letter E)
- 3.3.21 The car shall not ride on any type of spring or shock.
- 3.3.22 If axles are suspect, the racer will be asked to pull them for inspection and that racer will be responsible to re-install them.
- 3.3.23 BSA axles may be polished, deburred and dry lubricated but must be left otherwise untouched – period. No lubricating oil or liquid lubricant of any kind may be used.
- 3.3.24 Inspectors will visually inspect and use magnets to ensure BSA factory axles are present.

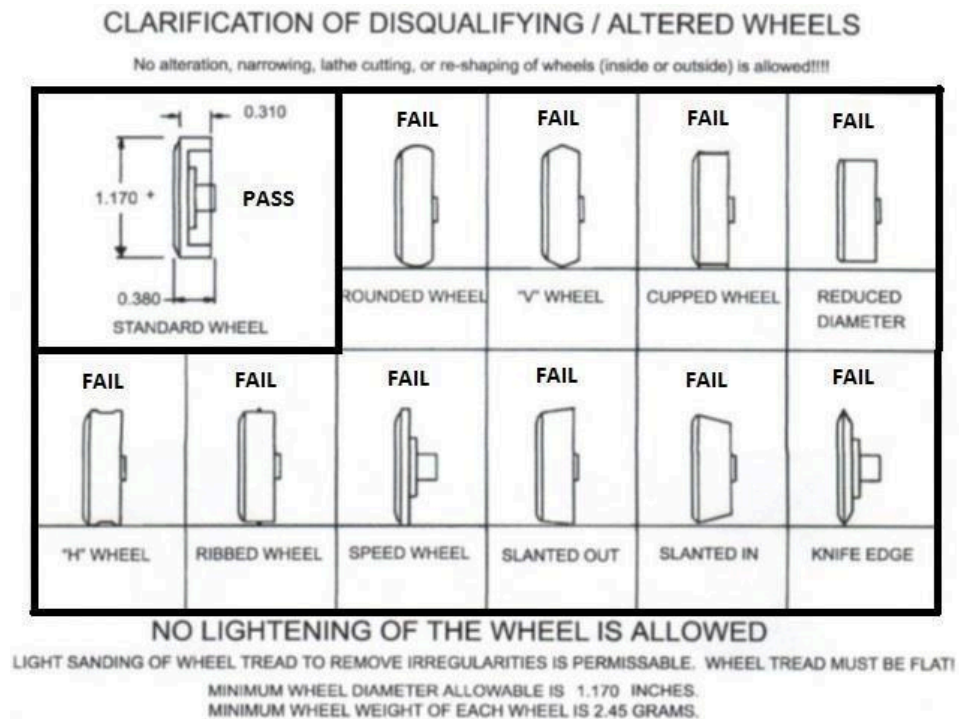


Figure 7: Disqualifying / Altered Wheels

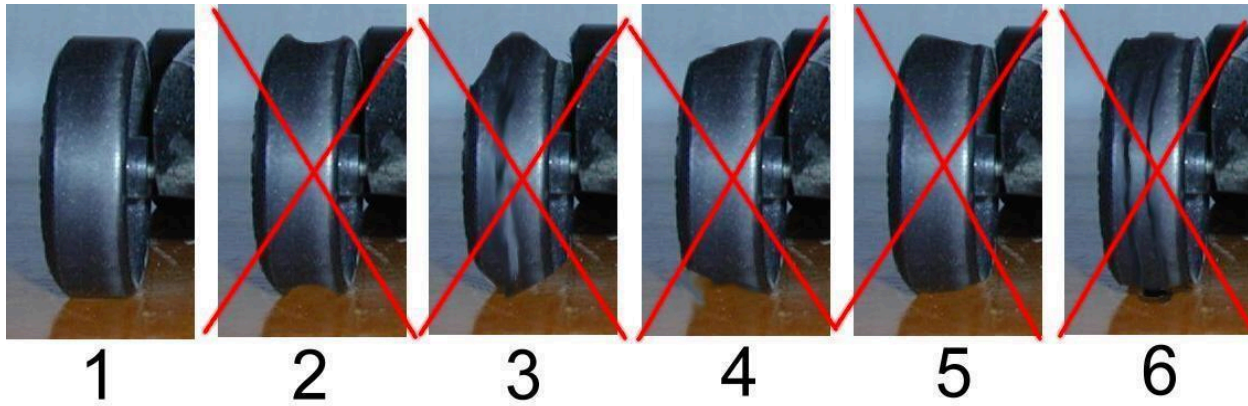


Figure 8: Wheel Bearing and Tapering

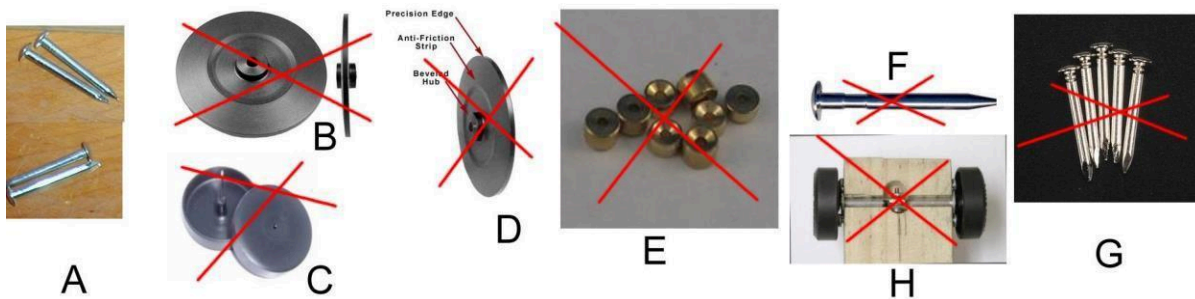


Figure 9: Axels and Wheels

3.4 Lubrication

- 3.4.1 Graphite shall be the only lubricant a driver may use on their car.
- 3.4.2 Cars may be lubricated before registration, inspection and weigh in. No other lubrication will be permitted after registration, inspection and weigh-in or in between heats.

3.5 Miscellaneous

- 3.5.1 Cars must be freewheeling with no starting device or other propulsion.
- 3.5.2 Gravity shall be the cars only means of propulsion
- 3.5.3 No part of the car shall protrude past the starting gate or post. Figure 10. Forked cars shall be strictly prohibited if it cannot comply with this rule.



Figure 10: Fork Cars

4 Inspection

- 4.1 Each car shall pass inspection by the Pack, District or Council inspection officials at each event before it may compete.
- 4.2 Each inspection team has the right to disqualify any car that does not meet the rules and specifications.
- 4.3 Drivers will be informed of any violation and will be given an opportunity to fix the specified violations.
- 4.4 Cars can be re-inspected at any time. If the car does not meet the rules and specifications, it shall be brought into compliance before its next race or it will be disqualified.
- 4.5 A Maximum of five minutes will be allowed for a driver (or their pit crew) to bring their car into compliance if a problem is found during a race.
- 4.6 Once cars have been registered, inspected and weighed, they shall remain in the custody of the Pack, District or Council race officials until the end of the competition.
- 4.7 Pinewood Derby Cars with wet paint or glue shall not be accepted for inspection.

5 Weigh in.

- 5.1 The readings of the Official Race Scale at each event will be considered final.
- 5.2 The Pack, District and Council inspection teams shall weigh in all cars after the driver and car have been registered and inspected.
- 5.3 Scale measurements may differ between the Pack, District and Council Pinewood Derby's. Drivers and Pit Crews must be prepared to adjust weight to meet the readings of the Official Race Scale at each level of the competition.



Happy Racing Everyone!!!!

6 Pinewood Derby Staff Roles and Responsibilities.

6.1 District Executive.

- 6.1.1 The District Executive's role in the District Pinewood Derby is to make sure the rules are maintained and adhered to by all participants, drivers, pit crews, judges and officials. The District Executive will maintain the power to have the final casting vote in the event of a tie vote during any dispute that may arise in a District race.

6.2 Cubmaster.

- 6.2.1 The Cubmasters role in the Local Pinewood Derby is to make sure the rules are maintained and adhered to by all participants, drivers, pit crews, judges and officials. The Cubmaster will maintain the power to have the final casting vote in the event of a tie vote during any dispute that may arise in a local race.

6.3 Officials.

- 6.3.1 Registration: The registration officials shall maintain an accurate record of all participants of the Pinewood Derby. They shall make sure to record racers, name, address, phone number and any other important information that is needed for the final awarding of prizes or moving to the next level of competition as deemed by the Pinewood Derby committee local or district. The Registration officials shall also assign official racing numbers or designations to the scout participating as a driver.
- 6.3.2 Inspection: The inspection officials shall measure all cars utilizing the District Rules in Section 3. Each driver's car shall be inspected to make sure that all Dimension and Misc. rules are adhered to. The Inspection officials shall have the final say if a car passes or does not pass the general dimension rules.
- 6.3.3 Weigh-in: The Weigh-ins officials shall weigh all cars utilizing District Rules 3.2 Weight and Section 5. Each driver's car shall be weighed, and official weight recorded on the bottom of the car with pencil. The weigh-in official shall have the final say if a car passes or does not pass the general weigh-in and weight rules.
- 6.3.4 Staging: The staging officials shall maintain an orderly in and out process for drivers to retrieve cars and leave cars. It is important that the staging official maintains order in the staging area to prevent damage to drivers' cars via pushing, shoving, or congestion of drivers coming in and out of the staging area.

- 6.3.5 Gate: Gate officials shall be diligent in working with the judges, and track officials to make sure the gate is not opened pre-maturely and that order is maintained when drivers are bringing cars to be placed on the gate. The Gate official shall be responsible for making sure cars are on the track properly to prevent the car from hopping the track. This does happen at times, but the Gate official should check each car on the gate prior to running of a heat.
- 6.3.6 Track: Track officials shall be responsible for making sure drivers are getting to and from the gate to the spectating location for each race in an orderly fashion. This will help to improve the flow of each race. Track officials shall make sure that drivers are not in danger of disrupting or damaging the Track, Audio Visual equipment, judging equipment, and track equipment used at a race.

6.4 Local/District/Council

- 6.4.1 Pit Crew: It is the option of the local, district or council staff of each committee to elect a local or district pit crew to help supply an area for driver's pit crews to make modifications to cars. Local/District/Council Pit Crews shall NOT make any modifications to any drivers' car under any circumstances. Suggestions may be made, and maintaining of the equipment such as drills, saws, metal potting material may be done by the Local/District pit crews. The Local/District/Council pit crew is merely a supervisory and think tank role.
- 6.4.2 Judges: Judges shall maintain the official Local/District/Council Pinewood Derby race results. A minimum of three judges should be used for each Local/District/Council race. Almost all Pinewood Derby tracks have electronic finish lines which will indicate 1st, 2nd, 3rd, 4th place. In the unlikely event that a race is held on a track without an electronic finish line, the judges shall have final say on what the placement of each heat is.