

# UNION CANAL DISTRICT PINEWOOD DERBY RULES



Union Canal district  
*PINEWOOD DERBY RULES*

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**PLEASE READ ALL RULES CAREFULLY PRIOR TO BUILDING YOUR CAR.**  
**ANY RULES VIOLATION MAY RESULT IN DISQUALIFICATION.**

**SPORTSMANSHIP IS UTMOST IMPORTANT. REMEMBER – THIS IS THE CUB**  
**SCOUTS, NOT NASCAR.**

**1. General:**

- A. All cars entered shall be constructed from the official Cub Scout **Grand Prix Pinewood Derby Kit** sold at the Scout store or Boscovs (Camp Hill).
- B. All cars must be constructed for this year's race only. Cars used in a previous year are prohibited.
- C. Only one car may be entered per scout.

**2. Length, Width and Clearance:**

- A. Maximum overall width (including wheels and axles) shall not exceed 2-3/4 inches.
- B. Minimum width between wheels shall be 1-3/4 inches so that car shall clear the center guide strip.
- C. Minimum clearance between bottom of car and track shall be 3/8 inches so that car shall clear the center guide strip.
- D. Maximum length shall not exceed 7 inches. No part of the car shall extend over the top of or in front of the starting peg on the racetrack.
- E. Maximum height shall not exceed 4 inches.
- F. Front of cars may be rounded. However, the rounded part shall be a minimum of 1/2 inch wide. The rounded part shall be square and centered. No "V" fronts or "V" notched front ends shall be allowed. The front of the car shall be flat on the bottom and not rounded up. That is to provide a good point of contact for the pins on the tracks. (See Details for Front Notching - Page 7)

**3. Weight and Appearance:**

- A. Weight shall not exceed five (5) ounces. The readings of the Official Race Scale shall be considered final. The wooden car may be hollowed out and built up to the maximum weight by the addition of wood or metal or plastic; provided it is securely affixed to it. No loose materials of any kind are permitted in or on the car. Using scotch tape to secure coins or washers to a car does not qualify as "securely affixed"; items secured in such a manner are prone to fall off the cars.
- B. Mercury shall not be used for adding weight. It is a potential health hazard.

- C. Details such as steering wheel, driver, spoiler, decal, painting and interior details are permissible as long as these details do not exceed the maximum length, width and weight specifications
- D. Hubcaps are not permitted. If a car has hubcaps the racer must remove the hubcaps before inspection.

#### **4. Wheels and Axles:**

- A. Only the official Cub Scout *Grand Prix Pinewood Derby Kit* wheels and axles that come in the kit can be used. Older version wheels are not permitted. Axles may be polished. Wheels may be lightly sanded to remove the mold projection of the tread. This light sanding of the outer edge of the wheel is the only wheel modification allowed. Original tread width (tire to track contact) is required. Beveling, tapering, thin sanding, wafering or lathe-turning of the wheels is prohibited.
- B. Any types of wheel bearings, Teflon, washers, inserts, sleeves or bushings are prohibited.
- C. The car shall not ride on any type of springs.
- D. The car shall be free-wheeling with no starting device or other propulsion.
- E. Insert axles only into the grooves provided on the wood block of the car. Long wheelbase cars are not allowed. Applying wood putty in the grooves and using a drill press to make holes to insert the axles is prohibited.
- F. Drill presses with mandrels or hand-held variable speed drills with mandrels in vices may be used to lightly sand wheels and polish axles.
- G. You may polish the axles to get the machining marks off the shaft of the axles. You may true-up or straighten the axles.
- H. The car shall have four (4) wheels and axles; however, only three (3) wheels are required to make contact with the track. You may raise one wheel off the track surface.
- I. For examples of legal and illegal wheels, see Details for Wheels and Axles Pages 7.

## **5. Lubrication:**

- A. Only dry powder lubricants may be used. Any part of the car may be lubricated. Regular oils and silicone sprays are prohibited and may soften the plastic wheels.
- B. Cars may be lubricated before inspection. No further lubrication shall be permitted.
- C. Cars may be lubricated before the Grand Champion Race between classifications (Tiger, Wolf, Bear, Webelos) winners.

## **6. Inspection and Disputes:**

- A. Each car must pass inspection by the Inspection Team before it may compete. The Inspection Team has the right to disqualify those cars which do not meet these rules. Car owners (racers) shall be informed of the violations and given an opportunity to modify the car to meet these rules. Any modifications must be made prior to the closing of classification registration. The Inspection Team usually consists of the following people: the weight inspector, the width, length and wheelbase inspector, the wheel and axle inspector and the Timekeeper. There may be more members of the team at the registration and inspection tables.
- B. Any racer has the right of appeal to the Race Committee for the interpretation of these rules. The Race Committee, by majority vote, shall be the final judge of these rules. In case of a tie vote, the decision of the Racemaster shall be final. Any racer has a right of appeal to the Race Committee if he or she disagrees with a Track official's ruling during a race or with the outcome of a race. The Race Committee, by majority vote, shall determine the validity of the appeal. In case of a tie vote, the decision of the Racemaster shall be final. The Race Committee consists of the Inspection Team.
- C. Ungentlemanly or unsportsmanlike conduct by any participant or member of the audience shall be grounds for expulsion from the competition and/or the race area.
- D. Each Scout shall be informed when he has lost two races. The car handler announcing the race can do this. No individual shall interfere by talking to the officials while a race is running. There are three Track officials at each track: a starter and two judges at the end of the track.

## 7. Ground Rules:

- A. All racers shall be registered Cub Scouts. Each racer must race their own car. No substitute racer is allowed.
- B. The car raced shall be built for this year's Derby only. In other words, Cars raced at previous year's Pinewood Derbies are prohibited from racing again.
- C. The race will be double elimination conducted according to classification. The winners of each classification will compete for the "Grand Champion" trophy.
- D. If the car leaves its lane and interferes with another car, the heat shall be run again. Track officials shall be the only members to check the car for problems with the Cub Scout. If the same car leaves its lane a second time, it shall automatically lose the race.
- E. If a car jumps off the track, the race shall be run again. Track officials shall be the only members to check the car for problems with the Cub Scout. If the same car jumps off the track a second time, it shall automatically lose the race.
- F. If a car suffers a mechanical problem, such as the loss of an axle, a broken wheel, etc., and a repair can be accomplished in a reasonable time (5 minutes), the race shall be run again. If not, the car shall automatically lose the race. Cub Scouts may be assisted in making repairs by their Adult leader. Track officials shall oversee all repairs.
- G. Electronic finish lines shall be used if available to declare race winners. Electronic finish line results are final. If electronic finish line is not available for use, two judges at the finish line will determine the winner.
- H. Only Track officials, Cub Scout racers shall be permitted into the registration, pit and track area. **This rule shall be strictly enforced.** Track officials shall place all cars in the impound area and shall give the car to each Cub Scout when he is called to the starting line.
- I. Only one (1) car per Cub Scout may be entered and can only be raced in one classification. (Example: The same car cannot race in Tigers and Bears, or Wolves and Webelos, etc.) No substitute racecars shall be permitted.
- J. Trophies will be awarded to First, Second and Third place finishers of each classification. First place winners of each classification shall race each other to determine the overall fastest car in the District. The winner of this event will receive the "Grand Champion" trophy.
- K. There shall be a 30 second time limit for each Cub Scout to get his car to the track to race. If a Cub Scout exceeds the time limit, the Track official shall remind him of this rule. If he continues to exceed this limit, the Track official will tell the Cub Scout he is disqualified after the second 30 seconds.

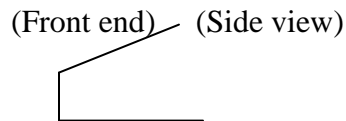
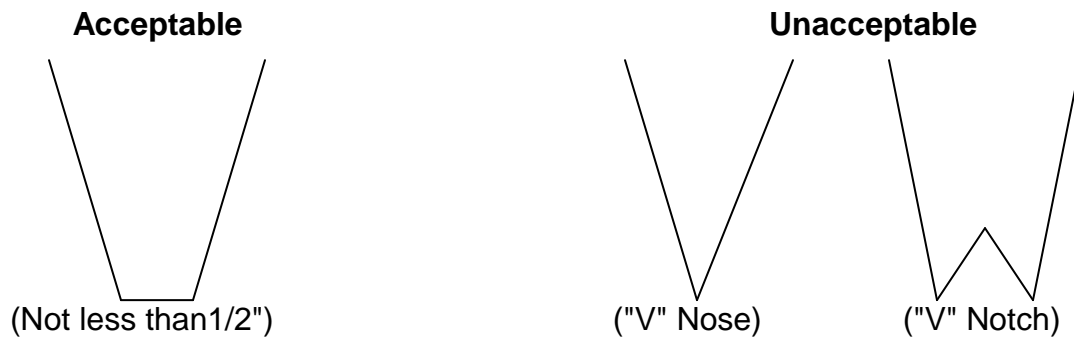
## 8. Brackets and Byes

After each racer is registered, registration is closed, inspection is complete and cars are impounded, each rank classification – Tiger, Wolf, Bear, Webelos then get divided into brackets. These random brackets match racers

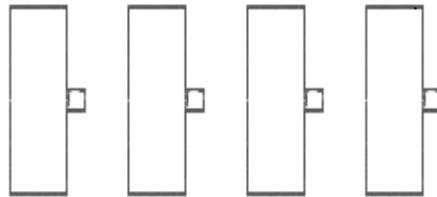
## 9. Heats, Winners, Ties and Consolation Bracket

The heat system requires each racer to win two race in a heat to move on. A heat is a race down the track in each of three lanes by three competing racers at the same time.

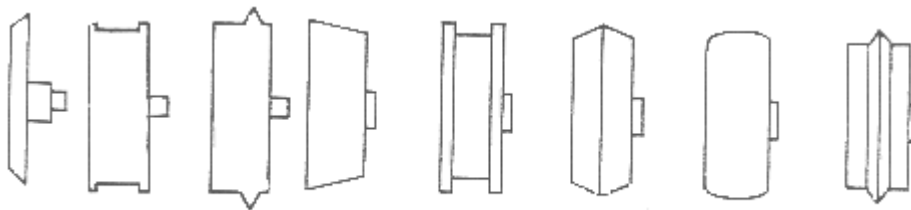
### Details for Front Notching Looking down at the car



### Details for Wheels and Axles



**Legal Wheels**



**Illegal Wheels (NOT INCLUSIVE)**

## **Summary of Rules**

1. The Cub racer must use the block of wood and the wheels and axles in the official Grand Prix Pinewood Derby Kit.
2. No part of a car may extend over the top of or in front of the starting peg on the racetrack – this ensures a fair start and fair finish for all racers.
3. The Inspection Team will discourage racers from making last second weight additions by using scotch tape or masking tape to fasten washers or coins or weights to the car – these loosely affixed items too often fly off the car during a race.
4. Upon entry, all Cubs will be encouraged to make one last-minute inspection of their car and, if necessary, perform any last-minute lubrication. Once a car is inspected and impounded, it may not be removed from the impound area.
5. Racers may lightly sand the outer edge of the wheel to remove the mold projection of the tread. No tapering or beveling is permitted. The wheels shall not be lathe turned. No modification that changes the original wheel's contact with the track is permitted. Only the wheels in the Grand Prix Pinewood Derby Kit may be used. There are two recurring problems found upon inspection at previous derbies – overweight cars and cars with altered wheels.
6. Racers may raise one of the wheels on the car so that only three wheels touch the track – the height of the offset is at the racer's discretion.
7. Racers are reminded that there are closing deadlines for registration. These deadlines will be enforced. Lengthy car modifications to pass inspection may cause the racer to miss the registration deadline and fail to compete.
8. Although disqualification and disputes are rare, there must be a method in place to resolve problems that arise. The Race Committee is defined in these rules, and the authority of the Racemaster is stated. The racer may appeal a track official's ruling, but such appeal must be made during a race or shortly after the end of the race. The Racemaster is the person with all final decision-making power.
9. To avoid any misunderstandings about wins and losses, the Starter at the track will tell a racer when he has lost two races and can no longer competes.
10. Cars that were raced in previous years Derbies are prohibited from racing again.
11. Each Cub must race his car. Cubs may not race a car that another Cub has built. The same car cannot be raced in two classifications.
12. Once a car is registered and inspected, only the track officials and the Cub will handle the car during races. If some problem occurs, the Cub may work on repairs.
13. Although not a part of any rule, Keystone Council heartily endorses the custom of all Cubs participating in the race wearing their traditional Cub Scout uniform.

**CAR INSPECTION CERTIFICATION**

**RACER** \_\_\_\_\_

**Height** \_\_\_\_\_  
(Track Official Signature or initials)

**Wheel Clearance** \_\_\_\_\_  
(Track Official Signature or initials)

**Length** \_\_\_\_\_  
(Track Official Signature or initials)

**Wheel Inspection** \_\_\_\_\_  
(Track Official Signature or initials)

**Wheel Spacing** \_\_\_\_\_  
(Track Official Signature or initials)

**Front Notch** \_\_\_\_\_  
(Track Official Signature or initials)

**Impounded** \_\_\_\_\_  
(Track Official Signature or initials)

**Race Master** \_\_\_\_\_  
(Visual Inspection and Final Approval)

**Weight of Car** \_\_\_\_\_ **ounces**  
(Track Official Signature or initials)