



2018 LBAC Pinewood Derby Rules

(Cub and Sibling Class Rules)

Please make sure you read the rules carefully, print, sign and turn in the Acknowledgment Form at check-in and registration night to complete your registration.

Attention

Pre-finished cars and bodies from places like E-bay, DD4H, Maximum Velocity and Derby Dudes are prohibited because the scout did not shape it, and will result in disqualification.

Car Body Specifications (the wooden/material structure that holds the weight, axles and other add ons)

Total Car Dimensions

1. Wheel Base: Any, as long as wheels do not exceed the 7-inch total length requirement
2. Total Car Height: Not to exceed 3 inches
3. Total Car Length: Not to exceed 7 inches
4. Total Car BODY Width: Not to exceed 1-3/4 inches
5. Total Car Weight: Not to exceed 5.0 ounces (+.04 rounded down) or 143 grams even measured on 1/10th digital scale
6. The front of the car body must make contact and rest against the starting pin of the track within one inch above the track surface. No part of the car shall protrude in front of the starting pin.
7. Additional materials maybe added as long as the car meets the rules.
8. Wood must be used to construct your own body and/or frame.
9. Track Center Rail Height: 1/4 inch (7mm) *
10. Track Center Rail Width: 1- 5/8 inches (4.2 cm) *

* Wheels must clear the outside to outside center rail width measurement.

Axles

1. Minimum axle diameter: 0.086 inches, Maximum diameter: 0.093 inches
2. Four axles and wheels must be installed to the side of the car body directly across from one another.
3. No more than a 10 degree angle in the axle allowed.
4. No washers, bushings or wheel bearings are allowed.
5. Do not glue your axles to the car, so the wheels can be pulled off for inspection after the race. If the axles are glued to the car, we will ask you to pull your own axles off the car to inspect your wheels and axles for compliance, or the car may be subject to disqualification.

Wheels:

1. BSA only - **2009** to present (new style wheel) **Pre 2009/Old style wheels or the old wheel molds will not pass inspection and will be disqualified. You can change any old style wheels to compliant wheels prior to car check-in and registration.)**
2. Minimum weight: 2.356 grams, Maximum weight: 2.7 grams
3. Three wheels must make contact with the track at all times and spin freely.
4. You can purchase wheels from online vendors such as Derby Worx, Derby Evolution, Maximum Velocity and Derby Dudes. They are listed as **New Style Basx 2.4g wheels**. Most vendors will look at your rules to make sure you are purchasing wheels in compliance for your rule set. Colored wheels are allowed as long as they meet the specifications for the rule set. You can also purchase stock wheels from the BSA store.

Wheel specifications:

- a. May be CnCed, lathed, polished and/or sanded to true the edge of tread, surface and circumference
- b. The tread / contact surface must remain flat and parallel to the bore as close as possible.
- c. No angling, reshaping, canting, round crowning, tapering, "H"-ing, "V"-ing, or dishing the outside of the wheels and/or tread surface
- d. Markings except tread bumps must remain visible on the inside and outside of the wheel. Coning the inner and outer hub is allowed as well as truing the inner edge of the wheel.
- e. Wheel covers may be used.
- f. Minimum Tread Width: 7.5 mm
- g. Wheels must weigh at least 2.356 grams. Wheels must be able to be removed after the race to confirm the weight of each wheel individually.
- h. Wheels may be trued as long as they meet the 2.356 gram minimum weight, but they shall not be cut down intentionally below the weight limit and brought back up to weight with foreign material.
- i. Any raised wheels must also meet these rules.
- j. Bore preparation is allowed.
- k. Inner and outer hubs may be coned.
- l. Filling and drilling the wheel hubs is prohibited. Tapping the bores is not allowed. Bores cannot be less than .0960 in diameter and will be checked with a pin gauge along with wheels after the race for compliance.

Lube

- a. Oil or dry-type lubrication is allowed.
- b. No excessive lube is allowed that sheds to track surface.

The following modifications are not allowed:

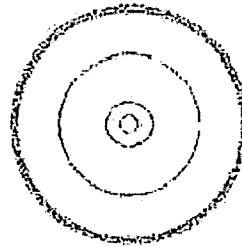
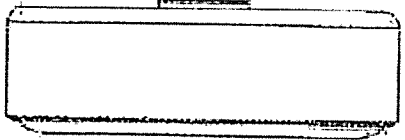
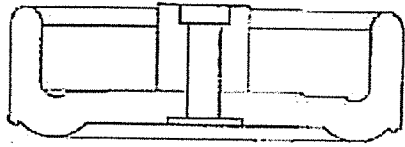
- a. Starting or finish line devices
- b. Electronic or lighting devices
- c. Glass or extremely fragile parts
- d. Paint that is wet, smudges or extremely sticky
- e. Bearings and/or bushings
- f. Sharp objects, sandpaper or abrasives on the bottom of car (We do not want any damage to the track.)
- g. Axles and/or wheels attached to any device that mechanically alters rotation or spin
- h. Any part of the car extending in front of the starting peg
- i. Propellants
- j. Motors of any kind

The top 16 racers (Cub Scout or Sibling classes) will have their wheels/axles sized, weighed and checked for compliance at the end of the race. If all four wheels/axles do not comply with these rules and specifications, the car and racer will be disqualified from any awards or rankings.

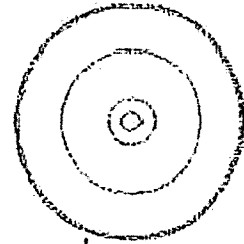
If you have any questions or concerns about the rules or if you are going to purchase wheels and need help, Please Email me @ Mpjmann@verizon.net

Respectfully,
Matt Mann

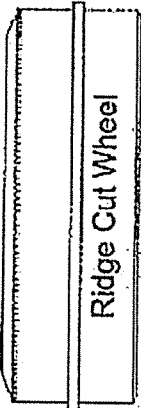
Legal Wheel



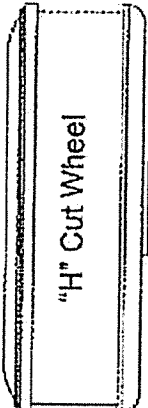
Legal Stock



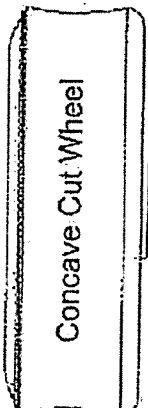
Legal Sanded
(up to outer edge of flange)



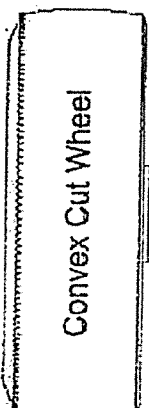
Ridge Cut Wheel



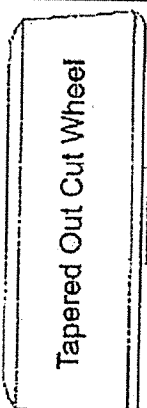
"H" Cut Wheel



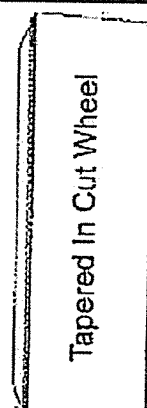
Concave Cut Wheel



Convex Cut Wheel



Tapered Out Cut Wheel



Tapered In Cut Wheel



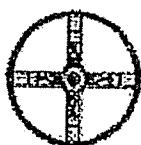
Rough Surfaced Wheel



Drilled Holes
in Sidewall



Drilled Holes
in Tread



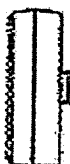
Cut Out
Sidewall



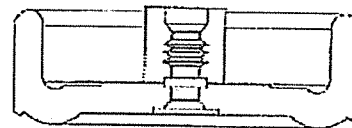
Speed
Wheel



+ Coning
and Cut
Down Hub



V-Point
Wheel



ILLEGAL AXLE
CHANNELING

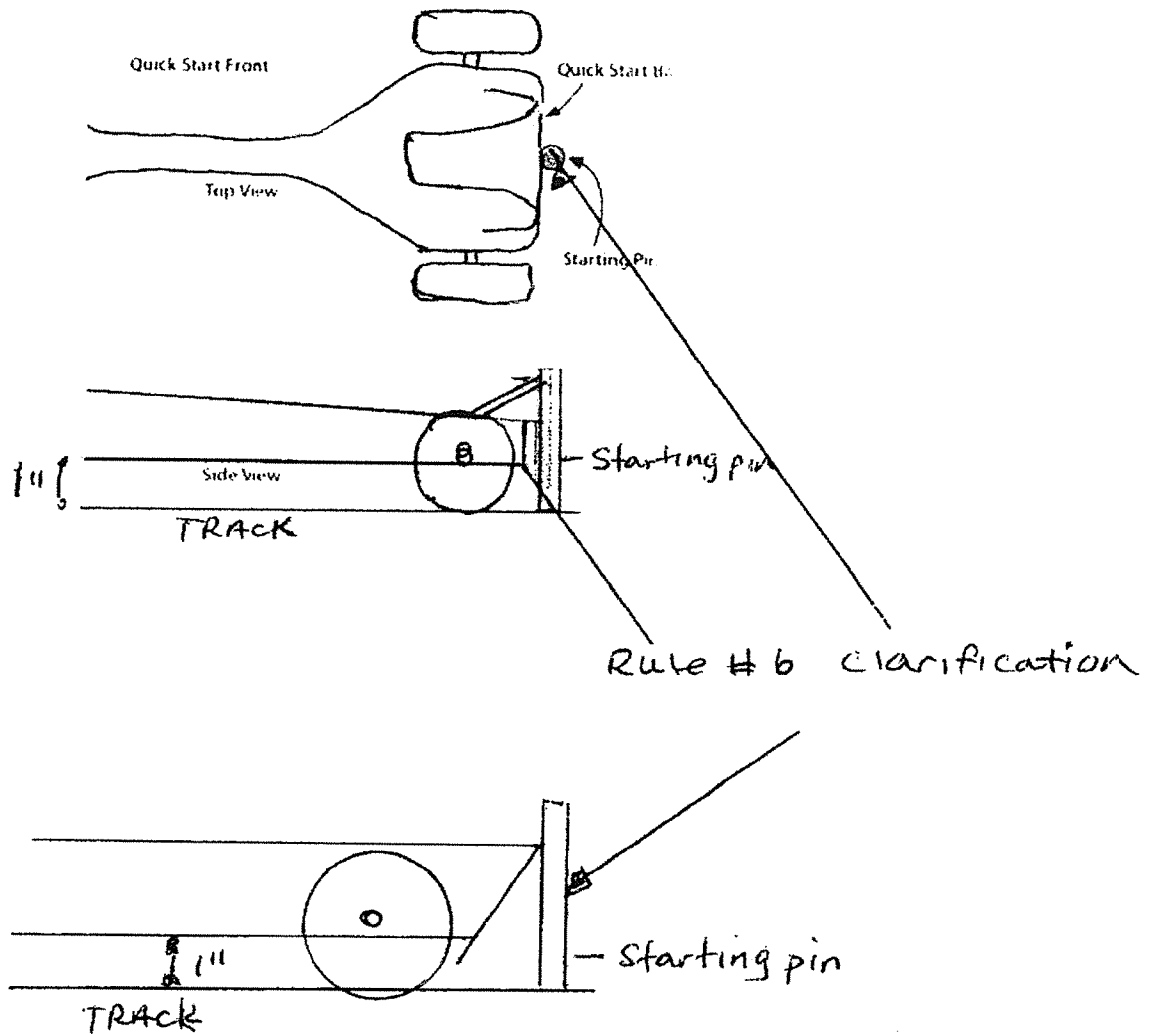
Do not over think this process. Lightly sand the wheel to remove the injection spot and retain the beading pattern around the outer edge of the wheel. This race is for the Boys! (KISMIF) Keep It Simple Make It Fun.

Illegal Wheel

QSF Defined:

Usually a notch or channel cut on the front, forward facing edge of a racing car intended to release the car earlier when the Starting Pin drops at the start of a race; more often than not, incorporating a Quick Start Bar positioned above the channel which rests against the Starting Pin at the start of the race. This will not be reconsidered as a "Decoration."

Prohibited Construction:



1999 Wheel Mold

Wheel Weight:
3.6g

Mold Spruce Mark:
(1 mark) Outer Tread Surface

Hub Face:
Flat

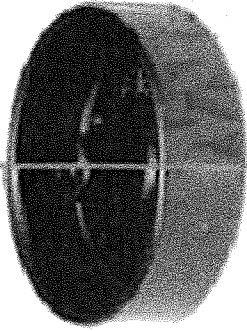
Bore Diameter:
.093" - .098"

Rotational Inertia:
5.16g/cm²

Wheel Diameter:
1.187" - 1.192"

Outer Hub Face:
Single Step Recess

1999 2009



Wheel Weight:
2.6g

Mold Spruce Mark:
(3 marks) Inner Rim Face

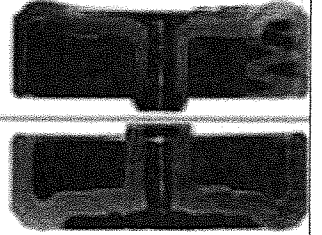
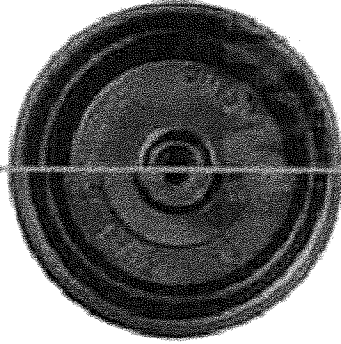
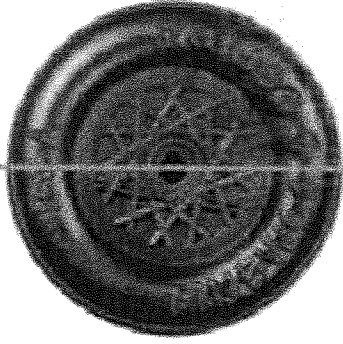
Hub Face:
Coned

Bore Diameter:
.094" - .098"

Rotational Inertia:
3.66g/cm²

Wheel Diameter:
1.184" - 1.187"

Outer Hub Face:
Double Step Recess





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(Cub and Sibling Class Rules)

Acknowledgement of Rules

Each participating Scout is expected to read and abide by all the Pinewood Derby Rules and sign the Acknowledgement of Rules Form at check-in and inspection to complete your registration.

On my honor as a Scout, I have read and followed both the letter and spirit of the rules for this competition. To the best of my ability, I have worked with my Akela to be the primary builder of this car. I understand that if my car is found to be in violation of the rules and/or spirit of this event, I may be disqualified from competing.

I promise to show "Scout Spirit" and good sportsmanship throughout the event. The Scout Law and Scout Oath will be my guide. I will respect the rules and respect each other at all times. I (and my parents or guardians) understand that acting in an un-sportsmanlike manner or failing to respect the final decision of the race officials will result in being disqualified and asked to leave

I will remember this is a Cub Scout and family event. I will "Do My Best" to enjoy it and have fun; and to help others have fun, too.

Scout Name (Printed)

Pack

Signature of Scout

Date

Signature of Akela
(Parent or Guardian of Cub or Sibling)

Date