

# Seneca Waterways Council Pinewood Derby Rules for 2021

These are the Official Rules for the Seneca Waterways Council, District, and preferably Pack Pinewood Derby Races for 2021. By standardizing the Rules, the intent is to create a fair environment for all participants while eliminating Rule differences between Districts and Packs which could lead to participants racing with an unfair advantage at District and Council Races. Please note the importance of knowing these revised Rules as changes have been made to minimize the inspection issues that were encountered in 2015. All Scouts will be held to these Rules and not knowing them is not an excuse for not following them. All participants will be held to these Rules in the spirit of consistency for all Scouts. Make sure to follow the 'Guide to Safe Scouting' when helping your Scouts build their cars.

## General Rules

- Race cars must be constructed during the 2020-2021 Scouting Year from the parts within the Official BSA Kit Part # 17000 and Kit # Part 17006 other than the specific parts that may be substituted as described below. Extremely fast cars can be built from the Official BSA Kit. We discourage people from believing the myth that fast cars are the product of expensive aftermarket parts, kits, or complete cars. Preparation and setup are the most important aspects of all speed gains. The Scout should be the primary car builder with only minimal adult supervision/assistance as required for advice, cutting, shaping, etc. as needed based upon the Scout's age and ability. **Purchased cars will be disqualified.**

<https://www.scoutshop.org/official-pinewood-derby-car-kit-17006.html>



- There will be an **Inspection** prior to all Council, District, and preferably Pack Races. **The car needs to be lubricated prior to Inspection.** There is a specially designated area for this usually within the Rework Area. Once the car has passed Inspection, the car will be impounded and may not be touched by Scout or Adult. If a car fails Inspection and time allows, you will be provided the opportunity to choose between adjusting the car to fit within the Rules or racing it "as is" without the ability to win speed related awards (Trophies) or advance to District/Council Championships.

## Dimensions and Configuration

- **Wheel Base:** **Any** - utilizing the existing axle slots is not required
- **Length:** **7 1/8** inches or less and the wheels, weights, decals, etc... must not extend beyond the **7 1/8** inches
- **Height:** **5** inches or less
- **Width:** **2 3/4** inches or less from outside wheel edges (axle heads). **1 3/4** inches or more between inside wheel edges. (must fit on inspection gauge indicated below)
- **Bottom Clearance:** **3/8** inches or greater
  - **Weight:** Less than or equal to **5.00** oz. (141.70 grams) on a 1/100<sup>th</sup> accuracy scale (Please plan for easy adjustment on race day as not all scales are the same and only the official inspection scale will be used on race day.) To aid in a safe stop at the end of the track, we recommend that you insert weight inside the body or place it on the top of the car. Avoid placing thick (over 1/8") weight on the bottom of the car as that may destabilize the car on the stop section.
- No portion of the car shall extend past the starting peg
- Quick Start Front Ends **are permitted** provided they do not extend more than **1** inch above the track surface. Below is an example of an acceptable Quick Start Front End:

Quick Start Front End



- “U” and “V” Shaped front ends with a cheater bar **are not permitted**. Below is an example of a “U” shaped front end with a cheater bar:

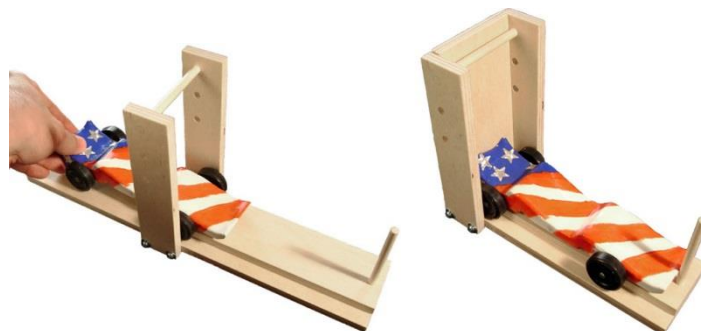


- The front of the car is to be at least  $\frac{1}{2}$  inch wide. Pointy nose cars such as Carrots, Arrows, Pencils, Rockets, etc... **are not permitted** as the cars are difficult to stage and can create timing issues. Below are two examples of these types of cars:



The Length, Height, Widths, and Bottom Clearance will be verified using the Maximum Velocity Inspection Gauge. The car must pass this Gauge to be able to race. It can be purchased directly from Maximum Velocity following the Link below.

<https://www.maximum-velocity.com/product/car-inspection-gauge/>



**Warning:** The Blocks are usually over 7 inches in length by around an 7 1/8 inch. Please make sure that you verify the length removing material if necessary. Paint, Decals, Weights, and Wheel location can all affect the overall length of the Car so please account for this in the design of the Car.

**Warning:** If weights are placed on the bottom of the car they need to be recessed into the car body otherwise there is the potential to fail the Bottom Clearance requirement of greater than 3/8 inches.

The Block is allowed to be substituted provided it meets the dimensions above. Any wood is permissible. BSA, Revell, Pinecar, Maximum Velocity, etc... **precut, unfinished blocks** are allowed.

<https://www.scoutshop.org/pinewood-derby-pre-cut-wedge-614417.html>

<http://pinecar.woodlandscenics.com/show/category/CarBodies>

<https://www.maximum-velocity.com/product-category/pinewood-derby-kits-and-blocks/>

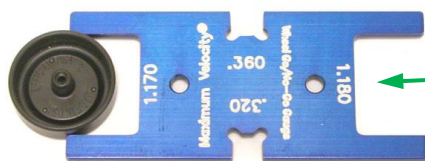
## Wheels

- Any BSA Wheels which includes Official Licensed Revell BSA Wheels **are permitted**. PineCar, Maximum Velocity, Awana, Royal Ranger, etc... Wheels **are not permitted**. Mold Matched Wheels **are permitted**.
  - <https://www.scoutshop.org/pinewood-derby-black-wheels-and-axles-17553.html>



The Official BSA Wheels are on the Left. The Revell BSA Wheels and Axles are on the Right. They look very similar in appearance, but there are subtle differences between them with the Official BSA Wheels being the better quality ones.

- Wheel Outside Diameter (OD) maybe turned, sanded, and/or polished provided the Wheel Diameter is greater than **1.180"**. This will be verified using the Maximum Velocity Wheel Gauge shown below. It can be purchased directly from Maximum Velocity following the Link below.
  - <https://www.maximum-velocity.com/product-category/pinewood-derby-wheels-and-axles/>

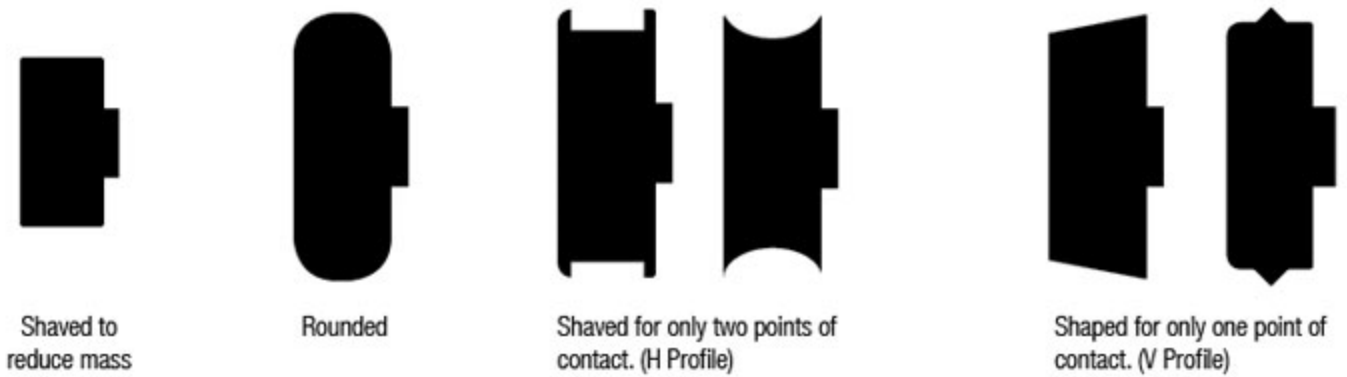


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www.maximum-velocity.com

This side of the Gage will be used

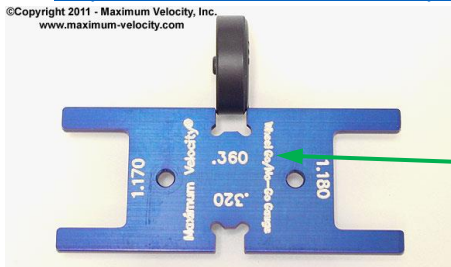
**Warning:** It is **almost** impossible to turn and/or sand the Wheel OD without it going undersize which will fail the Wheel Gauge. Please refrain from attempting to do this. Wheels are not to be intentionally lightened beyond the minor adjustments that are allowed to the overall outside diameter and width that are to be measured using the Maximum Velocity Wheel Gauge. Removing material from the inside tread surface or the inside sidewall surface is not allowed.

- The wheels may not be modified in the following fashion which includes, but not limited to: reshaping, rounding, tapering, beveling, "H" tread, "V" tread, "C" tread, dishing, weight reducing, etc... Below are some examples:



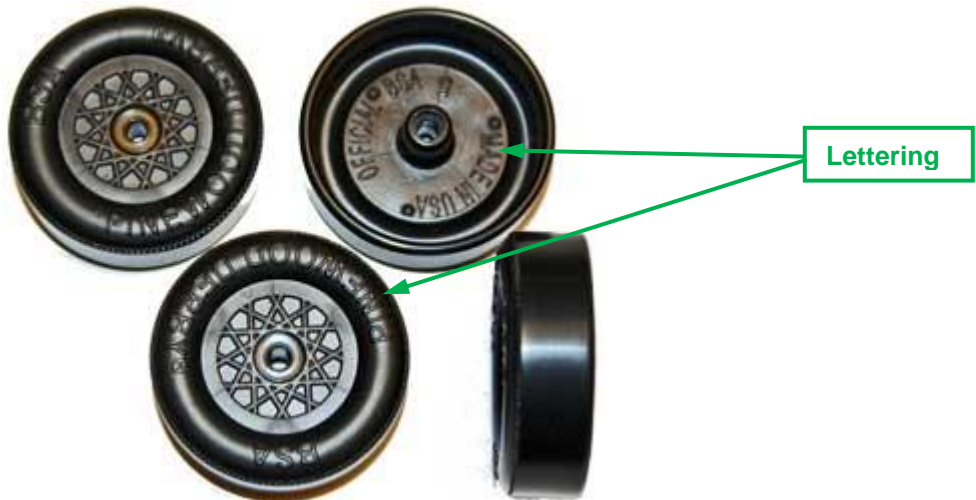
- The tread width may not be less than .360". This will be verified using the Maximum Velocity Wheel Gauge shown below. It can be purchased directly from Maximum Velocity following the Link below.

- <https://www.maximum-velocity.com/product-category/pinewood-derby-wheels-and-axles/>

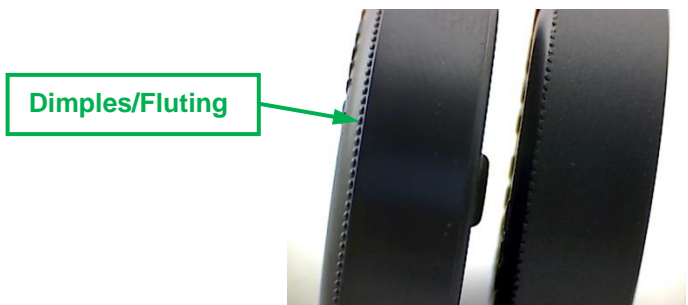


This side of the Gauge will be used

- All lettering inside & out must be visible and intact.

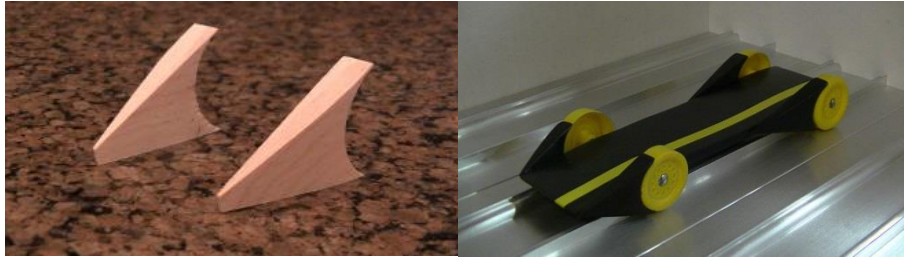


- Dimples/Fluting must be present.



- There must be 4 wheels and axles on the car that meet all Rules. The wheels are to be mounted directly across from each other. A minimum of 3 wheels must touch the track at all times. The raised wheel is to be installed the same as the other 3 wheels.

- Wheels must not be mounted in the reverse orientation
- No wheel covers, air shields, or wheel weights permitted as this inhibits the ability to inspect the Wheel IDs
- No rotation or spin altering devices
- No wheel bearings, washers, hub caps, bushings, shims, or axle guards
- Fenders are permissible to make Police Cars, Stock Cars, Busses, Fire Trucks, etc... and must meet the overall dimensions above. Aerodynamic Fenders **are not permitted**. Below is an example of Aerodynamic Fenders:



**Warning:** Wheel or Wheels may be asked to be pulled by the Inspector if it is believed the ID has been modified for further inspection. Wheels that fail the Gauge and/or any of the inspection criteria will need to be replaced to Race. Wheels may or may not be available for replacement at the District and Council Races so please plan accordingly if you are trying to push the interpretation of the Rules.

### Axles

- Any Removable, Bare Metal, "Nail Type" Axle with a Nail Head. A Nail Point is not required.
- No full width solid axles
- No springs or suspension allowed (the axles in the block are the only suspension)
- No electro-graphite coated axles

### Lubrication

- Acceptable "Dry" Lubricants allowed are Powdered Graphite, and Moly.

**Warning:** Any visibly excessive lubricant graphite, etc. will need to be removed before a car will be allowed to race in order to help keep the inspection tools and track clean for all racers.

### Additional Prohibited Items/Modifications

- No glass or fragile parts that may break
- No sharp objects especially on the bottom of the car
- No wet paint or glue – the car should be completely dry at Inspection
- No Propellants
- No Mercury, liquid, or other moving material