

## Official Pinewood Derby Rules

### OVERALL

All cars must pass inspection to qualify for the races. All cars must be built for the current Pinewood Derby Racing Season. **NO REPEATS** or **REPAINTS**. In order to race at the Council Championship, the youth must be a registered Cub Scout or Webelos Scout in a Unit of Nashua Valley Council. Cars must be built by the racer, adult supervision is encouraged. Cars may not be sent to third party facilities for tuning or other performance enhancements. The Cub Scout should be present and in uniform if possible. The race will be a timed event with the best cumulative time determining the winners.

### CAR BODY

The main body structure must be made of wood. Cars that were purchased completed may not be used. Alternately, a pre-shaped block of wood, licensed by the BSA may be used with the stock BSA Wheels and Axles.

### CAR SPECIFICATIONS

- **Width** - Not to exceed 2 3/4 inches; including wheels and axles
- **Length** - Not to exceed 7 inches
- **Weight** - Not to exceed 5.0 ounces on a scale accurate to 1/10 ounce.
- **Height** - Must be able to clear Championship gate
- **Clearances**
  - **Center Rail Width** - Must clear center guide rails, typically no less than 1 3/4 inches
  - **Bottom** - No less than 3/8 inches from the track surface between the center rails
  - **Other** - Fender flairs with less clearance are acceptable as long as the center rail width clearance is maintained. Weights are preferred to be inset in the body or on top of the car to aid in a safe stop at the end of the track. No part of the car or attachment to any car, which is metal, pointed, sharp and/or jagged, may be capable of contacting any part of the track.
- **Wheelbase**

The wheel base (distance between front and rear axles) **MAY NOT** be changed. The standard wheelbase of 4 3/8" must be kept. Either grooves provided or equal distance of 4 3/8" between axles.
- **Front End**
  - **Height** - The front end of the car will rest against a short starting pin. Therefore the front bottom of the car which rests on the pin cannot be higher than 1 inch above the track
  - **Width** - The front end must be at least 1/2 inch wide in the middle
  - **No "V-shaped" front end allowed.**

### **NO PART OF THE CAR BODY, WHEELS OR ATTACHMENTS MAY PROTRUDE IN FRONT OF THE STARTING PEG.**

The car design may be enhanced by the addition of other stable materials such as plastic or metal. Any additions must be securely attached and meet the Car Specifications.

The following items are **PROHIBITED**:

- Springs
- Starting devices or propellants
- Electronic or lighting devices that interfere with the race electronics
- Liquids, wet paint, oil, sticky substance or powders of any kind (other than the dry axle lubrication)
- Glass or excessively fragile parts
- Bearings, bushings, washers, sleeves, hubcaps or inserts attached to or in contact with the axle, body or wheels
- Loose objects or objects that could become loose on the car
- Magnets

## **WHEELS**

Use only Official BSA Grand Prix Wheels with the BSA molding mark

All lettering/numbering, both inside and outside, must remain visible. The fluting and other BSA markings on the outside wheel area must remain visible. Outer wheel surface may be lightly sanded, shaved or polished to remove surface imperfections, mold casting burrs and off center wheel bores. Outer wheel surface must not be reshaped in any way in an attempt to lighten the wheel, minimize tread contact or alter aerodynamics. Tread surface must be flat and parallel to the wheel bore. Coning the hubs and truing the inside tread edge is allowed. Tread width may not be less than 7.5 mm. You may add material such as glue, fingernail polish or tape to the inside of the wheel, but no material may be removed from the inside surface.

Wheel bore treatment is allowed including polishing and/or tapping. Wheel bores may not be filled and re-drilled to alter the bore diameter or to achieve better fit with the axle.

The following wheel modifications are **PROHIBITED**:

- Rounding of tread surface/wheel edges
- Grooving, H-cutting or V-cutting
- Narrowing the tread surface, other than truing the inside tread edge
- Drilling sidewalls
- Hollowing, sanding or otherwise removing or modifying from inside the wheel
- Filling of any wheel surface with any type of material

There must be four wheels on the car, however, it is not required that all four wheels make contact with the track surface.

Each wheel must be mounted on an axle, on the outside of the car, in the vertical position. Each wheel must be attached directly to the wood body of the car by an approved BSA axle and spin freely. No part of the wheel may overlap the center guide rail by more than 1/8 inch. The two rear wheels and the two front wheels must be positioned directly across the body from each other. Staggered wheelbases are **NOT ALLOWED**.

**PLEASE NOTE:** There are aftermarket modified wheels that are **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 are **EASILY RECOGNIZED** at inspection. Cars with these wheels will not be permitted to race.

## **AXLES**

BSA Nail Type axles are required with an overall diameter of no less than .084 inches for each wheel. Some polishing and/or modification is allowed as long as the overall diameter is not reduced below the .084 requirement.

Grooving of the axles is **PROHIBITED**.

Axles must not be connected to any device that mechanically alters rotation or spin. Axles must be mounted in the wood sections of the car using the precut axle grooves or grooves that keep the wheel base the original distance of 4 3/8" apart. The axle grooves can be altered for alignment purposes only.

Only dry powdered lubricants, such as graphite, may be used. Regular oils and silicon sprays may soften the plastic wheels. Cars must be lubricated by the participant **BEFORE** final registration. Racers are not allowed to lubricate their cars during the race.

## **INSPECTION**

Each car must pass inspection by the Official Inspection Committee before it may compete. A number will be assigned to each car and placed on the car. This is the official number; all other numbers are decorative only. The Inspectors will disqualify any car not meeting these rules. The car owner will have the opportunity to correct the reasons for violations. A maximum of 15 minutes will be allowed to correct the violations. Any adult or Scout may appeal the findings of the Inspectors to the Race Committee Chairperson, whose decision is final. After acceptance of the car, only Race Officials will handle the cars. The Rules and Code of Conduct must be signed by the Scout and the parent/adult partner **BEFORE** any car is considered for inspection and registration.

## **WEIGHTS**

The drilling/removal of Lead (Pb) will **NOT** be allowed at the race venues or at check-in time due to the toxicity of the material. **PLEASE** avoid using Lead (Pb) in the cars. If used, all Lead (Pb) must be **COMPLETELY** sealed and safe from all possible contact with the youth.

## **THE RACE**

Only Race Officials will be permitted in the track area; this will be strictly enforced. The car whose nose is first over the finish line is the winner; cars will be racing against the clock. Each car will run once in each lane. If a car loses a wheel or breaks on the track due to design, the car will be disqualified and loses the race. **EXCEPTION:** Race Officials may authorize repairs if there is a collision of another car or object. If a car leaves the track, runs out of its lane, interferes with another car, etc., the heat will be rerun. If the same car has troubles on the second run, the car is automatically disqualified and loses the race.

Any questions or disputes of the running or results of the race shall be referred to the Race Committee Chairperson, whose decisions are final.

## **BEHAVIOR**

**GOOD SPORTSMANSHIP AND BEHAVIOR IS EXPECTED.** Race Officials have the authority to ask anyone not following this rule to leave. This includes Scouts, Parents, Guardians, Siblings and other spectators at the race.

