



## 2011 Pinewood Derby

### Car Rules

#### **Purpose**

The purpose of these rules is ensure a fair and, inturn, fun race for all participants.

#### **Participation**

1. The Scout's participation, including the design, construction and decorating of the car, should be substantial in relation to any assistance received during any and all phases of the Pinewood Derby.
2. Parent/Guardian supervision, instruction and guidance are encouraged during any and all phases of the construction of the Scout's pinewood derby car.

#### **Vehicle Kit, Parts, Design and Construction**

1. The unfinished pine block, all wheels and all axles must come from a current and official B.S.A. Cub Scout Grand Prix Pinewood Derby Kit or from an official B.S.A. Pinewood Derby Parts kit or B.S.A. Pinewood Derby accessories kit.
2. A similar car kit from any other organization is not an official B.S.A. Pinewood Derby Kit; therefore, any and all parts from such a kit are prohibited.
3. The use of pre-cut kits, similar to those currently found in craft stores and on the internet, removes an important element of the Scout's participation in building the Scout's car and therefore, any and all parts from such a kit are prohibited.
4. The Scout's car must be newly built for the current Cub Scouting year. Construction of any entry must have begun within 12 months of the current Arrohattoc District Pinewood Derby race.
5. The completed car may have no moving parts except for four (4) wheels.
6. All parts of and additions to the car or must be securely fastened to the car before registering for the event.

7. Any parts that are not securely fastened need to be secured to the car or removed from the car before impounding on race day and may not be replaced until the car has completed racing.
8. All weight added to the car must be solid and static in final form. Specifically, the use of any weight that is in liquid or gel form at the time of registration is expressly prohibited.
9. Any and all materials applied to the car in liquid or gel form at any stage of construction or decoration must be completely dry and in solid form before registering the car. Examples of materials include but not limited to glue, paint, polishing wax, clear coat, etc.
10. Any material that presents an unnecessary risk to any person attending the Arrohattoc Pinewood Derby is expressly prohibited. For example, paints, adhesives, wood putty, etc. that have completely dried are acceptable. Mercury in any form is expressly prohibited.
11. The two pre-cut grooves that are located on one side of the unfinished pine block are not required for attaching the wheels and axles. New grooves or holes may be created for changing the placement of the wheel/axle assembly to the extent that the overall length of the completed car, including wheels, does not exceed 7" (see Vehicle Dimensions - Length) and that the axles may be made visible at the request of any Pinewood Derby Race official (see Axles)
12. No part of the car may be designed to gain an unfair advantage at the starting point or interfere with a fair start. Example: Any part of the car extending beyond the track sidewalls or the track starting point before the start of the race is prohibited. [::<
13. The Pinewood Derby car is powered by gravity only. **The car must be free-wheeling, with no starting devices.** The motion of the car may not be mechanically aided (motor, springs, rubber bands, magnets, etc. are prohibited).

#### **Vehicle Dimensions**

1. Weight - The total weight of the car may not exceed **5 ounces**.
2. Length - The maximum, overall length of the car, including wheels and any additions, may not exceed **7.0 inches**.
3. Width - The maximum overall width (including wheels and axles) may not exceed **2-3/4 inches**.
4. Height - The maximum height may not exceed 2-3/4 inches to ensure clearance of the finish line of any track that may be used for the event.
5. Wheel base width - The minimum wheel base width as measured between the inside of the front wheels or rear wheels shall be a minimum of **1-3/4 inches** so the car will clear the guide strip in the center of the track.
6. Vehicle Clearance - The minimum clearance between the bottom of the body of the car and the track must be at least **3/8 inches** so the car will clear the guide strip in the center of the track.
7. **Details, such as the steering wheel and driver, are permissible as long as these details do not exceed the maximum length, width and weight specifications.**
8. Decorative details are permissible as long as these details do not cause the car to fail to meet the minimum wheel base width or vehicle clearance.

## **Wheels**

1. **Only official Cub Scout Grand Prix Pinewood Derby wheels and axels are permitted.** The wheels of the car must be from a current and official B.S.A. Cub Scout Grand Prix Pinewood Derby Kit, an official B.S.A. Pinewood Derby Parts kit, or B.S.A. Pinewood Derby accessories kit.
2. Each of the four wheels must have the "B.S.A. Pinewood Derby" logo on its side wall and inside the wheel itself. The logos may not be removed.
3. The official wheel width is 0.34".
4. **Wheel bearings, washers and bushings are prohibited** as any part of the wheel/axle assembly.
5. Wheels are not permitted to ride upon the sidewall or center guide strip of the track.
6. Wheels may not be altered in any way other than specified in these rules.
7. Mold projection defects on wheel treads may be removed by lightly sanding the mold projection site only. Typically there is a single mold projection defect on the tread that measures approximately 1/8 inch or less in diameter.
8. The decorative dots on the wheel treads may not be removed.
9. The wheel treads may not be sanded, beveled, shaved, heat molded, rounded or hollowed or "ridged" across the width or circumference of the wheel as these may deform the size and shape of the wheel.
10. Weight, in any form, with the exception of approved lubricants noted in this document, is not allowed to be added to any part of the wheel/axle assembly.
11. Substances applied to the wheels other than an approved lubricant (see Lubrication) is prohibited. Example: applying any paint or clear coat substance to any part of the wheel is prohibited.
12. If any wheel modification is detected beyond what is permitted in this document, then the car will be returned to the Scout during official weigh-in time for correction before entering the race.

## **Axles**

1. **Only official Cub Scout Grand Prix Pinewood Derby wheels and axels are permitted.** The axles of the car must be from the official B.S.A. Pinewood Derby Kit or an official B.S.A. Pinewood Derby wheel replacement kit. Any car that uses axles other than those specified will be returned to the Scout during official weigh-in time for correction.
2. A set of official B.S.A. axles consists of four (4) pieces shaped like nails.
3. The use of a single part axle (i.e. two wheels attached to a single rod) such as those found in wooden car kits from craft stores or from other organizations, is prohibited.
4. Axles must be firmly attached to the car.
5. Upon request of any official of the Arrohattoc Pinewood Derby, the axles of any car must be made visible to insure that the axles being used are taken from an official B.S.A. Pinewood Derby kit or B.S.A. Pinewood Derby replacement kit. Axles covered by wood, glue, paint, weight,

decoration, etc., or are not visible, must be removable upon request for inspection.

6. **The car shall not ride on springs.** The use of spring suspension or any other flexible suspension system of any type is prohibited.
7. The burrs created during the axle manufacturing process may be removed.
8. As a result of removing burrs from the axles, more metal may have been removed than intended or by design. This is acceptable and will not cause a disqualification.
9. Axles may be lubricated with approved dry lubricants only (see Lubrication).

#### **Lubrication**

1. **Only dry lubricant is permitted.** Such lubricants include graphite powder (ex., Hob-E-Lube), powdered Teflon "white lube" or the B.S.A. brand white lube T102/polytetra fluoroethylene.
2. Liquid, wet, and petroleum lubricants of any kind are not allowed and will be cause for immediate disqualification. These lubricants may damage and or foul the track and affect the outcome of subsequent heats.
3. No member of the District Pinewood Derby committee or staff will add any lubricants to any entrant's car.
4. As a matter of consideration to others, lubricants are not to be applied while waiting in the registration line. Doing so will result in being asked to leave the registration line and loss of place in line.
5. Once the car has been registered and impounded by the inspection team, no additional lubrication will be allowed to be applied to the car until the car is removed from the race or the race has completed.

#### **Protests & Decisions**

1. In the event of a protest, the Arrohattoc Pinewood Derby Chairperson will attempt to gather as much pertinent information with which to make as fair of a decision as possible with respect to the race and all parties involved.
2. The Arrohattoc Pinewood Derby Chairperson may determine if any car is not in compliance with any rule in this document or the spirit of the Arrohattoc District Pinewood Derby race.
3. ALL DECISIONS DECLARED BY THE ARROHATTOC PINEWOOD DERBY CHAIRPERSON ARE FINAL.