

# **Official Makahiki Pinewood Derby Rules**

## **Construction Rules**

Official Grand Prix Derby kit catalog #17006 must be used. Only the wood from the kit may be used in the construction of the car. The purchase of preassembled cars and car kits are prohibited. Items purchased from the Internet, to include wheels that have BSA on them, are not acceptable. Cars must be **NEWLY** constructed since the Makahiki 2013. The Inspection Committee will be the final judge and has the responsibility to disqualify those cars that do not meet these specifications.

1. Overall **WIDTH** shall not exceed 2  $\frac{3}{4}$  inches. The front end should be at least **one inch wide** in order to trip the finish line sensor.
2. Overall **LENGTH** shall not exceed seven inches. No part of the car may protrude in front of the starting peg.
3. Overall **HEIGHT** is not to exceed 2  $\frac{3}{4}$  inches.
4. **Center Rail Width Clearance** shall be at least 1  $\frac{3}{4}$  inches minimum along entire center length of car.
5. **Bottom Clearance** shall be at least  $\frac{3}{8}$  inches from track. Fender flairs with less clearance are acceptable as long as the center rail width clearance is the same as above.
6. **Wheelbase** shall be no more than 4  $\frac{1}{2}$  inches from center of front axle slot to center of rear axle slot. No alterations to the wheelbase may be made.
7. The car body must have no moving parts.

## **Weight and Appearance**

1. **Weight shall not exceed 5 ounces or 141.85 grams.** State of Hawaii scales and weight standards apply.
2. No loose materials of any kind, such as lead shot, may be used.
3. The car may be hollowed out and built up to the maximum weight by the addition of weights provided they are secured into the body by design with epoxy, cement or screws.

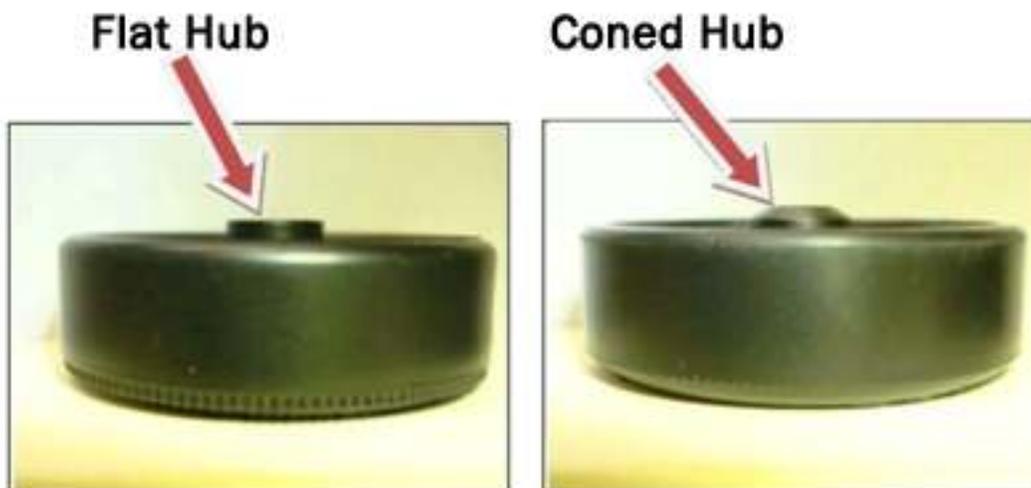
4. To prevent the possibility of objects coming off the car, weights or objects must be firmly glued, taped, or otherwise attached or affixed to the finished car. **Hot glue is not reliable and should not be used.**
5. If the inspection committee deems that the weights or objects are not firmly attached to the car, the car will be declared ineligible to race until it is satisfactorily repaired.
6. Each racer is responsible for bringing whatever supplies/tools necessary to meet these specifications.

## Details

1. Body design may be enhanced by adding other stable materials such as plastic or metal.
2. All additions must be firmly attached and conform to the size specifications.
3. Details such as steering wheels, decals, painting, and interior details are permissible as long as the inclusion of these details does not exceed the maximum size and weight specifications.

## Wheels

1. Wheels MUST be from the Official Grand Prix Derby kit 317006 or from Replacement Axle/Wheels catalog #17007, #17553, #17554, #17555, #17556, or #17557. (note: The BSA has recently updated the wheels that come in the "Official Grand Prix Derby Kits". However, not all kits come with the updated wheels. Some have them, some do not, and some have a mixture of both. Both old and new styles will be legal to race in the derby.)
2. The only wheel modification allowed will be a light sanding, shaving, or polishing of the outer wheel surface to remove surface imperfections and mold casting burrs. Also lightly coned hubs will be allowed.



3. All BSA markings on the inside of the wheel must remain visible.



4. The tread width may not be less than .275" or 6.895 mm.



5. The wheel diameter may not be less than 1.150" or 29.21 mm nor greater than 1.200" or 30.48 mm.

6. The fluting and other BSA markings on the outside wheel area must remain visible.



7. There must be at least four wheels on the car, however, it is not required that all four wheels make contact with the track surface.
8. Wheels must be attached directly to axle and spin freely.



**Good** – BSA markings visible



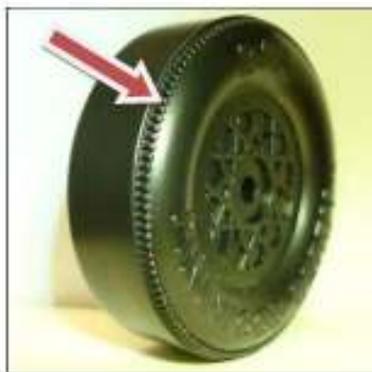
**Not good** – BSA markings not visible



**Good** – BSA markings visible



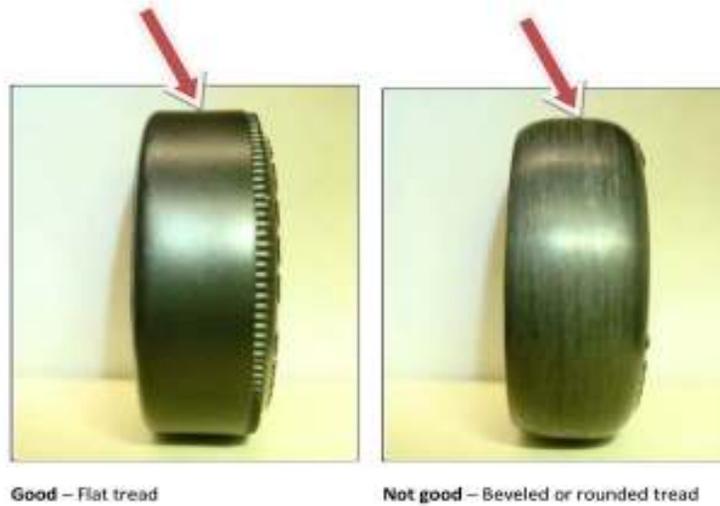
**Not good** – BSA markings not visible



**Good** – Fluting visible



**Not good** – Fluting not visible



**PROHIBITED wheel modifications include, but are not limited to the following:**

1. Rounding of wheel edges \*
2. No excess rounding or beveling of wheel hubs
3. Grooving, H-cutting or V-cutting
4. Altering the wheel profile\*
5. Narrowing of tread surface
6. Wheel bearings, washers or bushings are prohibited – no object is to be placed between the wheel hub and the body.
7. The car shall not ride on any type of springs
8. Cars must be freewheeling with no starting device or other propulsion
9. Drilling sidewalls
10. Hollowing, sanding or otherwise removing or modifying plastic material from inside the wheel\*
11. Filling the wheel surface with any type of material (excess graphite on the wheels must be removed before it will be allowed to race)
12. Wheel coverings of any kind are prohibited.

## **Axles (nails)**

1. Axles/Nails MUST be from the Official Grand Prix Derby kit 317006 or from Replacement Axle/Wheels catalog #17007.
2. Solid axles or any other axle substitutes other than the nails provided in the kits specified above are forbidden.
3. Chroming or plating of the nails is prohibited.
4. The nails must be placed in the grooves sawed in the model. For appearance these grooves may be filled in with plastic wood, etc.
5. No altering of the wheelbase is permitted.
6. Ridges or flash on the inside of the nail head and nail shaft may be polished to a mirror finish as long as overall diameter is not reduced.
7. Nail heads must show.
8. The axles must not be attached to any device that mechanically alters rotation and spin.

## **Lubrication**

1. Dry, fine powdered lube is permissible. Liquid oil, WD-40, silicone spray, etc. **MAY NOT BE USED.**
2. **Over-application of lubricant which results in excessive shedding onto the track is not allowed and must be corrected before the car will be allowed to race.**

## **Inspection**

1. Each car must pass inspection by the official inspection committee before a car can compete.
2. The Inspection Committee has the responsibility to disqualify those cars that do not meet these specifications.
3. The BSA may sell Pinewood Derby accessories that are contrary to the Makahiki Pinewood Derby rules or specification.
4. In all cases, the Makahiki rules take precedence.
5. The decision of the Inspection Committee is FINAL

## **Protests**

1. Any protest of a car's compliance with the Construction rules must be filed with Race organizers before registration closes in order to allow time for re-inspection.
2. All rules will be interpreted in consideration of the Scout Oath and Scout Law.
3. Any participant or their guardian may appeal to the Race organizers for interpretation or clarification of these rules.

4. Any decision by the Race organizers as to clarification or revised interpretation will be considered binding and final.
5. All disputes as to rules conflicts, interpretation, or the specifics of any race event shall be referred to the Arbitration Committee for final determination

## **Maintenance**

1. Once the Pinewood Derby car has been accepted by the inspection committee, no maintenance of any kind is permitted, including additional lubrication.

## **Other Rules**

1. If, during a race, a car leaves the track without interfering with its opponent, it shall be considered to have ended its heat at that point.
2. If a car leaves its lane, at his sole discretion, the track chairman may inspect the track and, if a track fault is found which probably caused the initial violation; the track chairman may order the race to be rerun after the track is repaired.
3. If, during a race, no car reaches the finish line on the track, the car which went the farthest in its lane shall be declared as the heat winner.
4. If, during a race, a car leaves its lane and, in so doing, interferes with another racer, then the car at fault shall be declared to have lost the race heat.
5. Only one car may be registered by any person in the Pinewood Derby.
6. The track chairman has the discretion to re-run any race for any reason.
7. In the case of technical or mechanical difficulties the race can be terminated and no winners will be declared.

**Disclaimer: Volunteers are not responsible for damages to vehicles incurred through normal handling during the course of the race. Special handling at the request of the cars owners will not be given.**