

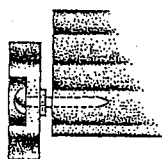
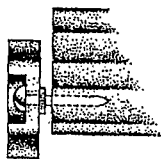
2010 Commodore Perry District
Official Pinewood Derby Car Rules

All Cars must be made this Scouting year and from the Official Cub Scout Pinewood Derby Kit!!
ONLY BSA STORE BOUGHT CARS ARE ELIGIBLE. NO TARGET STORE CARS.

1. Length: overall length shall not exceed 7 inches
2. Width: overall width shall not exceed $2\frac{3}{4}$ inches.
Minimum width between inside edge of wheels is $1\frac{3}{4}$ inches.
3. Height: Bottom Clearance between car and track is $\frac{3}{8}$ inches.
Height shall not exceed $2\frac{1}{2}$ ".
4. Weight: weight shall not exceed 5 oz. (142g.) may be hollowed out and filled up to the maximum weight
ONLY IF IT IS SECURELY BUILT INTO THE BODY OF THE CAR.
No loose or liquid materials of any kind are
5. Wheel Bearings: washers, bushings, or bearings of any kind ARE NOT ALLOWED.
6. Axles: You must use the nail axles provided in the official kit WITHOUT any modifications.
Accepted!! Axles must be inserted into the pre-made slots only.
The slots must be visible. The nails may not be inserted at an angle.
7. Wheels: The wheels MAY NOT be tapered, rounded, or grooved (see illustration). The outside portion of the wheel may be sanded to true the wheel, however, enough of the tread mark on the outer edge of the wheel must still show to prove that it is a wheel from the Official Kit. NO WHEEL COVERS OR HUBCAPS WILL BE ALLOWED!! NO GROOVED, NARROWED, OR MODIFIED WHEELS IN ANY WAY. NO PAINT ON WHEELS ANYWHERE.

The 2010
Commodore Perry Pinewood
Derby Season will end with the
District Race on
March 20, 2010
at Clay High School.

More Information will be made
available later on about who is
eligible to compete and what
time their race will be.



Acceptable Wheels



Unacceptable Wheels

8. Lubricants: only official cub scout white lube is allowed. NO BLACK GRAPHITE - this is a CP and CLAY HIGH SCHOOL RULE, ANYONE CAUGHT WITH BLACK GRAPHITE WILL BE DISQUALIFIED.
9. Springs: NO SPRINGS of any type are allowed.
10. Details: Details such as steering wheels, drivers, rollbars, fenders, etc, are OK, as long as they do not exceed the specifications listed above, and are Securely Fastened to the car.

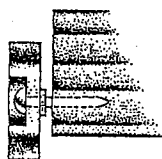
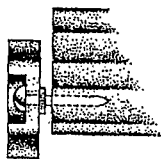
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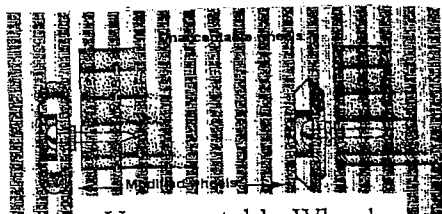
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10. Details: Details such as steering wheels, drivers, rollbars, fenders, etc, are OK, as long as they do not exceed the specifications listed above, and are Securely Fastened to the car.

11. Attachments: The car must be free wheeling. No starting Devices, i.e. Rubber bands, motors etc. will be allowed.
12. Starting Line: No car may protrude past the starting line for any reason. If any part of the car goes past the starting line before the gate is dropped, it will be disqualified.
13. Inspection: All (race & best Design) cars will be inspected and weighed. At the inspection station upon check-in. Any car that does not meet the above rules will be given the opportunity to make any necessary repairs to help it to conform to the rules, and said repairs must be completed before the finish of that check-in period.

- EACH BOY MUST BE RESPONSIBLE FOR BRINGING HIS OWN CAR TO CLAY HIGH SCHOOL ON THE DAY OF THE RACE & STAY THE ENTIRE TIME FOR THE RACE OR BEST DESIGN COMPETITION.
- IF A SCOUT DOESN'T WEAR HIS CLASS "A" UNIFORM SHIRT, OR LEAVES EARLY, HE'LL BE DISQUALIFIED.
- IF A SCOUT IS DISQUALIFIED FOR ANY REASON, NO OTHER SCOUT WILL TAKE HIS PLACE. THE SPOT WILL REMAIN EMPTY.
- REGISTRATION FORMS ARE DUE BY FRIDAY FEBRUARY 26, 2010 NO EXCEPTIONS OF ANY KIND.
- If all the boys that will be competing receive a copy of these rules before they build their cars, we shouldn't have any problems with this competition.

District Pinewood Derby
Saturday March 20, 2010

5th Grade	8:30 am Registration 9 am Race/Design
4th Grade	9:30 am Registration 10 am Race/Design
3rd Grade	10:30 Registration 11:30 Race/Design
2nd Grade	12 noon Registration 1 pm Race/Design
1st Grade	1:30 pm Registration 2:30 pm Race/Registration

Deadline Date for Registration – No Exceptions
Friday February 26, 2010

There are no changes in the Rules we will use the same rules and race/design. Times will remain the same.

Any Questions call Kathy Taylor @ 419.476.0099 or Ian Blodgett @ 419.241.7293

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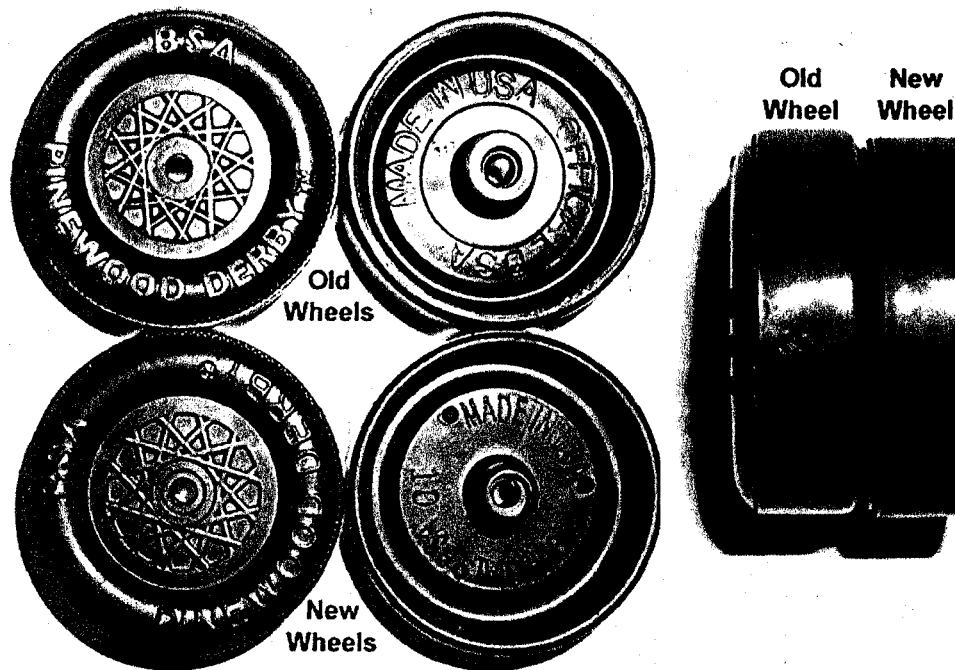
CLICK HERE

New Cub Scout Pinewood Derby Wheels

If you follow pinewood derby racing, then you will have heard rumors that BSA is changing the wheels in their Cub Scout Grand Prix Pinewood Derby kit. These rumors started many months ago with an occasional sighting of these reclusive wheels. But in recent weeks, the wheels have become widely available, at least in the replacement wheel packs.

Today, we will take a look at the new wheels, and compare them with the previous wheels. Also, for race leaders we'll discuss how these new wheels will affect your race.

Regardless of the rationale by BSA for creating new wheels (likely cost), the mold designers stayed true to the older design, and did a truly nice job on the molds. The new wheels look very much like the older wheels, but (so far) tend to be more accurate than their predecessors.



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Photo comparison of Old and New Wheel

Outside

From the outside, the only obvious differences are the slight font change on the raised lettering, the change from the trademark insignia (TM) to the registered trademark insignia (R), and the addition of a recessed ring in the outer hub. This recessed ring is likely counterproductive to performance, as it will change the contact point with a beveled axle head, resulting in more braking torque.

Inside

The changes on the inside of the wheel are more apparent. In addition to the font change for the raised lettering, the inner hub is reduced in diameter and coned, and the tread is slightly thinner. These latter changes result in a wheel with less weight (better performance).

Tread Surface

Yes, the mold mark on the tread surface is gone. This is welcome news as less work is needed to prepare a wheel, and the wheels tend to run truer out of the box.

Comparison With Old Wheels

So, how do the new wheels compare with the old wheels? The basic measurements are shown in the following table. But in summary, the new wheels are lighter, smaller in diameter, and generally more accurate.

Specification	Old	New
Outside Diameter	1.193	1.184
Tread Thickness	0.09	0.068
Hub Diameter	0.272	0.227
Bore Diameter	0.096	0.096
Overall Width	0.438	0.427
Weight (grams)	3.6	2.7

All measurements (except weight) are in inches, and are typical numbers.

Mold Comparison

Are there differences in the various molds that produce the wheels? Yes, there is variation, but not as substantial as with the old wheels. The table below gives a comparison of the sixteen mold number.

Mold #	Round	Left-Right	Bore Size
1	Okay	Good	Typical
2	Excellent	Okay	Typical
4	Okay	Good	Typical
5	Okay	Okay	Typical
6	Okay	Okay	Typical
7	Good	Good	Typical
9	Good	Okay	Typical
10	Okay	Okay	Typical
11	Okay	Good	Typical
13	Good	Okay	Typical
14	Okay	Good	Typical
16	Good	Good	Typical

Notes on measurements:

1. Measurements made in August of 2009. Ten wheels from each mold were randomly selected from 2,000 wheels. The wheels were examined and the results averaged.
2. In general, all of the wheels are good - much better than the previous wheel version. The difference between the Excellent, Good, and Okay ratings is a few thousandths of an inch.
3. The bore size on all mold numbers measured within one thousandth of an inch.

For Race Leaders

Race leaders need to be aware that these wheels will affect your race in several ways.

Rules

Many packs use rules that are very specific as to the treatment that can be applied to wheels. One common rule is a minimum diameter of 1.180. Given that the new wheels are

typically 1.184 in OD out of the box, even a tiny amount of tread sanding/polishing will reduce the diameter to less than 1.180. So this minimum diameter number should be reduced to (for example) 1.170 to accommodate the new wheels.

Some packs regulate wheel weight. Obviously, the lower weighted wheel will require a change to the minimum wheel weight.

Finally, some packs do not allow the inner hub to be coned. Since the new wheels come coned out of the box, this rule will need to be changed.

Car Performance

As of this writing, the pinewood derby kits are generally shipping with the older wheels, while replacement sets are generally shipping with the new wheels, so it is very likely that some cars will be entered in your race with the old wheels, and others with the new wheels. Due to the better accuracy and the lower wheel weight, out of the box the new wheels will generally outperform the older wheels. Therefore, if both wheel types are allowed in the same race, the cars with the newer wheels will have an advantage.

So, a decision must be made at the appropriate level (pack, district, or council) as to whether to require the old wheels, the newer wheels, or run a two-class race (or ignore the issue and let the chips fall where they may). As a side note, if you are entering a car in a race that allows the new wheels, then you certainly want to use them.

Summary

Change is inevitable, and the transition is not always smooth. The new wheels will require a carefully thought out transition during the coming season. If you are involved in running a race, make sure to consider how you will accommodate the new wheels. If you are racing a car then make sure to know the local rules regarding the new wheels, and then use them if you can.

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