

Cub Scout Pack 116 2011 Expanded Pinewood Derby Rules

GENERAL

1. The race is open to all Tiger Scouts, Cub Scouts and Webelos Scouts (1st year, 2nd year or just graduated to Boy Scouts) registered in Pack 116 in Abnaki District of Pine Tree Council. The scouts will be referred to as “drivers” in these rules. Parents or designated guardians of the scouts will be referred to as the "pit crew" in these rules. The Pack will hold a separate “Parent & Sibling Race” that has a relaxed set of rules.
2. All cars competing in the 2011 District Pinewood Derby must have been made for a 2011 Pack Pinewood Derby. Cars made for any previous year Pinewood derby are not acceptable.
3. Pinewood derby race cars will be built from an official BSA Grand Prix Pinewood Derby Kit. This kit includes the pinewood block, axles, and wheels necessary to build car. The purchase of machined wheels and polished axles from other suppliers is specifically prohibited.
4. Decorative items such as steering wheels, drivers, spoilers, decals and interior details are permissible as long as the finished car meets these Pinewood Derby rules and specifications. Drivers are encouraged not to promote the use of alcoholic beverages or tobacco products **by the use of decals advertising these products** when decorating their race cars.
5. Any driver (including a member of the pit crew) has the right to appeal to the race officials for an interpretation of these rules. The race officials, by majority vote, will be the final interpreters of these rules. However, an interpretation of the rules at the pack or district level does not necessarily ensure a similar interpretation at the council level. All rulings by the Race Officials at each level of competition will be considered final.
6. The top 4 finishers from our Pack 116 Derby are eligible to compete in the Abnaki District Pinewood Derby. If a racer cannot attend the District Derby, another racer cannot race his car at the event, and so the 5th place finisher will be chosen to represent the Pack. Adults will not be allowed to race a car in the event that the youth cannot attend the event. Each individual district will determine the number of finishers, which compete at the next level, so it may be more or less than 4 cars. Cars cannot be tuned up or overhauled to compete at the district level. To ensure that this rule is met, Pack 116’s Race Officials will retain custody of the cars that will compete at the District Pinewood Derby.

CONSTRUCTION SPECIFICATIONS

7. Dimensions
 - a. The minimum width between wheels shall be 1 3/4 inches.
 - b. The maximum overall width of the car including wheels and axles must not exceed 2 3/4 inches.
 - c. Minimum clearance between the bottom of the car and the bottom of the wheels (**between the wheels**) shall be 3/8 inch.
 - d. The maximum length of the car shall not exceed 7 inches.
 - e. **The maximum height of the car shall not exceed 3 inches from the bottom of the wheels.** *Note that this height is less than the Pine Tree Council’s 4” limitation, but 3” is required for the car to fit under Pack 116’s timing gate.*
 - f. The use of the pre-cut axles locations in the official pinewood car block is highly recommended however, if the existing slots are not used, the following dimensions must be maintained:
 - Nominal wheelbase of 4 3/8 inches**
 - Dimension of 15/16 inch from one end of the block to the axle**
 - Dimension of 1 11/16 inch from the other end of the block to the axle.**

8. Weight

- a. The car may be hollowed out and built up to the maximum weight of **5.0000 oz.** by the addition of wood or metal only, provided it is securely built into the body or firmly affixed to it. The Pack Inspection Team will weigh all cars at registration. The readings of the Official Race Scale will be considered final.
- b. No loose materials of any kind such as lead shot are permitted in or on the car.
- c. If tape (masking, scotch, etc.) is used to hold weights on the, it must be tightly attached to the car. Using tape to secure weight is not recommended.
- d. It is recommended that weights on the bottom of the car be inset so they are flush with the bottom of the wood block. If under-car weights are not flush, they may drag on the guide rail and slow the car down.

9. Wheels and Axles

- a. Only Official Cub Scout Pinewood Derby wheels, with the official B.S.A. stamp on the inside of the wheel, can be used.
- b. Only Official Cub Scout Pinewood Derby axles can be used.
- c. **Axles may be polished only. No grooves or hub modifications allowed.**
- d. Solid axles (straight through) are strictly prohibited.
- e. Wheel bearings, washers, or bushings are prohibited.
- f. The car shall not ride on any type of springs.
- g. Wheels may be sanded to remove the mold projection on the tread only. This is the only wheel modification allowed. ***Beveling or tapering of the wheels is prohibited.*** The entire portion of the wheel must remain flat except for the outermost edge that comes rounded from the factory casting. Examples of acceptable and unacceptable wheels are shown below.



- h. The portion of the wheel hub that rubs against the car body may only be polished to remove castings. No other modifications to the hub are allowable. The portion of the hub that rubs against the car body may not be rolled or beveled in any way and shall remain flat. If in the act of polishing, the hub becomes rolled or beveled, the hub will be deemed non-conforming and the wheel will need to be replaced with a conforming wheel.
- i. ***All Four Wheels Must sit flat on the Track. Wheel covers and hubcap type wheel covers will not be allowed and driver must remove them before racing at the District competition.***

10. Lubrication

- a. ***Only dry lubricant may be used.*** Regular oils and silicon sprays soften the plastic wheels.
- b. ***Cars are to be lubricated before inspection/registration.*** No other lubrication will be permitted.

11. Miscellaneous

- a. Cars must be freewheeling with no starting device or other propulsion.
- b. No part of the race car can protrude past the starting post.

INSPECTION

12. Each car must pass inspection by the Pack **Inspection Team** at each event before it may compete. **Each Inspection Team** has the right to disqualify any car that does not meet the rules and specifications. Drivers will be informed of any violations and will be given an opportunity to fix the specified violations.
13. The Pack Inspection Team will weigh all cars at registration. The readings of the Official Race Scale at each event will be considered final. For cars that advance to District, it is possible scale measurements will differ between the Pack and District Pinewood Derbies. Race car drivers and their pit crews must be prepared to adjust weight to meet the readings of the Official Race Scale at each level of competition.
14. Cars can be re-inspected at any time. If the car does not meet the rules and specifications, it must be brought into compliance before its next race or it will be disqualified. *If a car is found to not meet the rules and specifications after the last race is run the car will be disqualified. All disqualified cars scores will be removed from the record.* A minimum of five minutes will be allowed for a driver (or his pit crew) to bring his car into compliance if a problem is found during a race.
15. Once cars have been registered, weighed, and inspected, they will remain in the custody of the Pack **Race Officials** until the end of the competition.
16. Pinewood Derby Cars with wet paint or glue will not be accepted for inspection.

RACE TRACK

17. Only drivers racing in or staging for a race, **race officials**, or members of the **Track Team** will be permitted in the track area. Other people may be allowed in the track area when specifically approved by the **race officials**.
18. Each driver shall handle only his own car. A driver may be disqualified if he touches or handles another driver's car.
19. Each race will be announced and drivers will be called to the track area.
20. Drivers will choose or be assigned lanes by a random choice method.
21. Drivers will report to the starting line when the Starter tells them to and will place their cars on the appropriate lane. Scouts will be allowed 15 seconds to align their car on the track.
22. The **Starter** will ensure all cars are on the track lanes properly. Cars may be re-adjusted for proper placement at the direction of the **Starter**. Cars may not protrude beyond the starting post.
23. If a car leaves the track, runs out of its lane, interferes with another car, loses an axle, etc., the race will be rerun. If the same car gets into trouble on the second run, the car automatically loses the race. The **Race Officials** at each level of competition will decide, by majority vote, if a car can continue to race after it has these types of problems in two consecutive runs.
24. If a car suffers a mechanical problem during a race (loses an axle, breaks a wheel, etc.), the driver or his pit crew will have up to five minutes to fix the car. The driver will then be allowed to race his car. If repairs cannot be made in this time frame, the car will be disqualified.
25. If a car suffers a mechanical problem after a race, the driver or his pit crew will have five minutes or until the next race to fix the car. If repairs cannot be made in this time frame, the car will be disqualified.

RACE SCORING

1. Pack 116's race track is equipped with an electronic scoring device and software. The system will measure the elapsed time from the starting gate to the finishing gate. Each car's overall elapsed time is recorded.
2. Each car will run 5 passes. The slowest elapsed time will be dropped. The racer with the lowest overall elapsed time, as determined by the sum of all remaining elapsed times, will be declared the winner. The 2nd fastest car will be awarded 2nd place, and so on. There will be no official publishing of race results past 5th place, but the results will be available "offline" if you are interested as to where your son scored.
3. As the race progresses, the software will match up fast cars against other fast cars, and slower cars against other slower cars, to make for a more exciting race. However, remember that the **elapsed time is the ONLY measurement that matters**, not the number of "wins" when racing next to another car.
4. In addition to the speed contests, there are 3 design trophies – Best Design, Most Original, and Do Your Best. The design judges will be provided by the Pack's chartering organization, the Holy Cross Knights of Columbus council #12652. The design awards are handed out prior to the race.

PARENT/SIBLING RACE

1. The goal of the Pinewood Derby is to allow each boy the chance to work on a three-dimensional design, with woodworking tools, and with paints. As such, we encourage parents to let their sons do as much work as they can on their cars. The Boy Scouts of America recommends the use of hand tools over power tools in cutting and shaping the car, but you as a responsible parent know what your son can use safely.
2. To provide a "creative outlet" for parents and siblings, our Pack holds a "Parent & Sibling Race" after the Cubs have raced. This is a race for fun and bragging rights.
3. The entry fee for the parent/sibling race is \$5.00 per car. The winner will win 50% of the entry fees, and the other 50% will go to the Pack. Parents/Siblings are also responsible for purchasing their own car.
4. In allowing creativity, all of the rules for the Cub racers can be **ignored except** for the size (7A, 7B, 7C, 7E – height, width), weight (8A – 5oz), and propulsion (11A – gravity only, no springs).

LET'S GO RACING!