

Pack 958 Pinewood Derby Rules

The car should be the work of the Cub Scout to the maximum extent practical. Parents should only help with tasks the scout cannot do or help with tasks that are not safe for him to do (i.e. cutting the block of wood, etc.). There is an **“Open” Class for parents or siblings that want to make a car.** A new car must be built every year. Each car must pass inspection by the Official Inspection Committee before it may compete. Any objections or complaints regarding a car’s qualification must be brought to the race committee.

CONSTRUCTION RULES

a. Dimensions and General Specifications *(applies to all entries)*

1. Maximum **LENGTH**, including any attachments to the car body, shall not exceed 7”.
2. Maximum **WIDTH** overall (including wheels and axles) shall not exceed 2 3/4”.
3. Maximum **HEIGHT**, including any attachments to the car body, shall not exceed 3 1/2” so that car will pass under overhead portion of timing apparatus. See Figure 1.
4. Minimum **width** between wheels shall not be less than 1 3/4”. See Figure 1.
5. Throughout the 1 3/4” wide center area of the car positioned above the center guide strip or rails, the minimum distance between the bottom of the car and the plane of wheel contact with the track surface itself shall be 3/8”. This clearance distance also applies to any protrusions or weights extending from the bottom of the car in this area. See Fig.1.
6. Wheelbase may be modified provided that the car’s overall length, including wheels and any accessories or extensions from the body, does not exceed 7”.
7. The car must be free-wheeling with no starting device or other propulsion.
8. No hazardous materials may be used. Propellant, incendiary or explosive materials are absolutely prohibited.
9. Note: Races may be optically timed. A sharply pointed car may be subject to a slight timing disadvantage because, at the moment it crosses or trips the sensor, its point may not exactly align with the central location of the optical sensor or mechanical switch used to record the finish time in that car’s lane. Similarly, a pointed-car design may not align well with the release gate or pin, which may be rounded. See Figures 2 and 3.

b. Weight and Appearance *(applies to all entries)*

1. **Weight shall not exceed 5.0 ounces.** The readings of the Official Race Scale(s) will be considered final. Cars may be hollowed out and built up to the maximum weight by the addition of other materials or objects provided that such are securely built into the body or attached securely enough to prevent falling off or becoming separated from the car during normal race activity.
2. **Only BSA Official Pinewood Derby Kits may be used.**
3. Mercury shall not be used. It is a health hazard.
4. Details such as steering wheel, driver, spoiler, exhaust pipes, roll bars, decals, painting, and other interior and exterior detail are permitted as long as they cannot become separated from the car during normal race activity and as long as the car, together with any detail attachments, still satisfies length, width, clearance, and weight specifications.
5. Cars with wet paint or wet glue will not be accepted.
6. After a car passes inspection, its registration number will be attached using a small adhesive backed label or sticker which shall be located on the rear portion of the car for easy visibility in identifying the car and indicating its proper direction of travel.

c. Wheels and Axles *(Open entries are exempt from all requirements under this section.)*

1. The only wheels and axles allowed are from the BSA Official Pinewood Derby Kits.
2. Wheel bearings, spacers or bushings are prohibited.
3. The car shall not ride on any type of springs.
4. Only the tread surface and width of a wheel may be altered. The tread surface may not be modified to produce any configuration other than flat and parallel with respect to the axis of the axle bore. The tread width may be altered only from the side facing the body of car and may not be less than .275”. The wheel diameter may not be less than 1.150” nor greater than 1.200”. Lightly sanding and/or polishing the tread of the wheel to remove imperfections and/or mold marks will not normally reduce the diameter below this minimum. Should it prove impossible to remove imperfections or true a wheel without reducing its diameter to less than the specified minimum dimension, another approved wheel should be substituted.
5. Materials, other than permanent paint decoration or lettering highlights, may not be removed or added to the wheels except as stated above or as in c.7. below.
6. The backside (wheel side) of the axle heads may be ground or filed to remove burrs. Axle shaft diameter may not be less than .085” at any point that contacts or could contact the interior of the wheel’s axle bore. Simple polishing of the axle should not reduce its diameter below the allowable level.
7. No wheel covers (i.e. hubcaps) are permitted unless their function is for decoration only and not to measurably alter the weight or performance of the wheel. Decorative wheel covers that hide the ends of the nail-axles must be removable for inspection purposes. In particular, no covers designed to provide a reservoir for lubrication materials may be employed.

d. Lubrication *(applies to all entries)*

1. Only dry powdered lubricants, such as graphite, may be used. Excessive lubrication is prohibited as it may damage equipment or floors.
2. All lubrication residue must be wiped clean from any external body or wheel part(s) prior to inspection.

