

Pack 958 Pinewood Derby Rules

The work should be the work of the Cub Scout, to the maximum extent practical. Parents should only help with the tasks the scout cannot do or help with tasks that are not safe for a scout to do (i.e. cutting the block of wood with a saw). There is an "Open Class" division for parents and siblings who would like to build a car and race.

Only BSA Official Pinewood Derby kits may be used. No pre-fabricated cars or other kits are allowed.

A new car must be built every year; scouts and siblings cannot enter a previous year's car.

Construction Rules

A. Dimensions (reference Figure 1)

1. Maximum length, including any attachments to the car body, shall not exceed 7 inches.
2. Maximum width overall, including wheels and axles, shall not exceed $2\frac{3}{4}$ inches.
3. Maximum height, including any attachments to the car body, shall not exceed $3\frac{1}{2}$ inches. The car must pass under the racetrack timing system.
4. Minimum width between wheels shall not be less than $1\frac{3}{4}$ inches.
5. Minimum distance from the bottom of the car body to the plane of wheel contact with the track surface must be $\frac{3}{8}$ inches. This clearance distance applies to any protrusions or weights extending from the bottom of the car. This is to provide adequate clearance to the center guide rails of the track.
6. The car's wheelbase may be modified, provided the car's overall length (including wheels and accessories) does not exceed 7 inches.

B. Weight and Appearance

1. Weight shall not exceed 5.0 ounces. The readings of the official race scale will be considered final. Cars may be hollowed out and built to the maximum weight by the addition of other materials, provided they are securely built into the body or attached securely. Care should be given to prevent the likelihood of weights from falling off or becoming separated from the car during race activity.
2. The car must be free-wheeling, with no starting devices or propulsion sources.
3. No hazardous materials may be used. Propellant, incendiary, or explosive materials are prohibited.
4. Details, such as a steering wheel, driver figure, spoiler, exhaust pipes, roll bars, decals, painting, and other details are permitted, as long as they cannot become separated from the car during normal race activity. The car, together with all details and attachments must fit within the dimensional specifications in Section A.
5. Cars with wet paint or wet glue will not be accepted or allowed to race.
6. Note: The races are optically timed. A sharply-pointed car may be subject to a slight timing disadvantage, because the moment it crosses the timing sensor may not align with the most forward point of the car. Similarly, a pointed-front design may not align well with the track release pin, which may be rounded. This could cause your car to not be released with the other racers or be released misaligned down the track (reference Figures 2 and 3)

C. Wheels and Axles (*Open Class division entries are exempt from all requirements in this section.*)

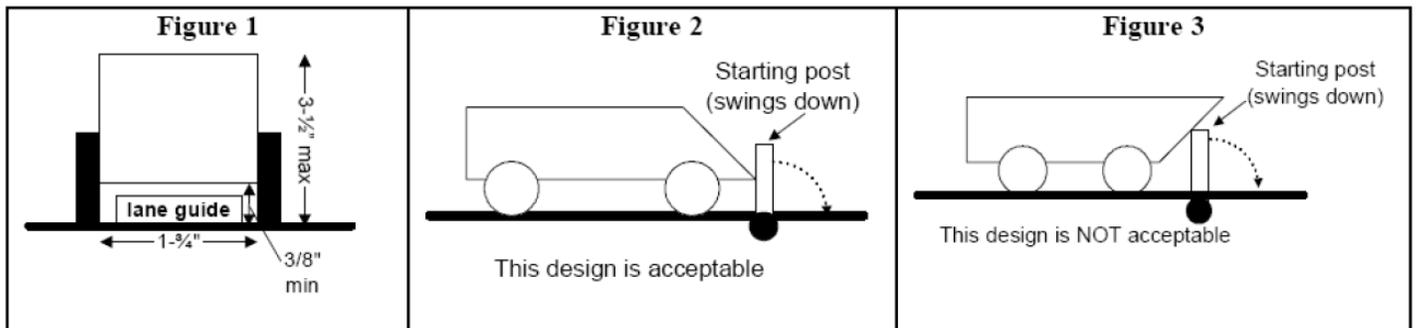
1. Only BSA Official Pinewood Derby wheels and axles are allowed. Wheels must bear the BSA Pinewood Derby embossing. Axles must be the ones that accompany the wheels in the kit.
2. Wheel bearings, spacers, or bushings are prohibited. The car shall not ride on any type of springs.
3. Only the tread surface 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 axis bore. The tread width may be altered only from the side facing the body of car and may not be less than 0.275". 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 will not normally reduce the diameter below the minimum specification.

- Materials, other than permanent paint decoration or lettering highlights, may not be added to wheels. No wheel covers (i.e. hubcaps, covers designed to provide a lubrication reservoir) are allowed.
- The backside (wheel side) of the axle heads may be ground or filed to remove burrs. Axle shaft diameter may not be less than 0.085" 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 specification.

D. Lubrication

- Only dry powdered lubricants, such as graphite, may be used. Excessive lubrication is prohibited, as it may damage race equipment or floors.
- All lubrication residue must be wiped clean from any car body or wheel parts prior to inspection.



Vehicle Inspection and Check-in

- Each car must pass inspection by the Pack Inspection Team before it may compete. The PIT will inspect each car and verify it meets the regulations outlined above. Any objections or complaints regarding a car's qualification must be brought to the race committee.
- After initial PIT inspection, a car may be modified by its owner. This will allow you to get the weight where you want it and make any other modifications desired or needed. Any alterations must be complete, with the car passing final inspection prior to the close of the car check-in timeframe.
- After a car passes final inspection, its registration number will be attached using a small adhesive-backed label or sticker on the rear portion of the car. This provides easy visibility in identifying the car and its proper direction of travel.
- Once checked in, the cars will be in the custody of the race committee and may not be accessed or modified.
- Any material that falls off a car during race activities will not be replaced. This includes weights and any additions or design details. Exception: If a car's wheel comes off prior to the car's last race, the race committee may elect to re-attach the wheel so a scout's car may continue racing in a safe manner.

Race Format

- Each scout's car will be raced against his/her den.
- Each car will race in four heats, running once in each lane.
- The cars are electronically timed. The results are obtained by averaging the four measured race times. Any outlier times or races deemed to be 'failed' by the race committee, may be elected to be re-performed.
- Sibling Class: Siblings may enter the derby and race in the sibling class. All rules apply.
- Open Class (Parents): All cars in this class must adhere to the weight and size limitations and may not have external power, springs, etc. Anything else goes.