

Innsbrook's 2nd Annual Pinewood Derby

a. Length, Width, Clearance & Wheel Location

- a. Maximum overall width (including wheels and axles) shall not exceed 2 $\frac{3}{4}$ inches.
- b. Minimum width between wheels shall be 1 $\frac{3}{4}$ inches so the car will fit over the center guide strip.
- c. Maximum length shall not exceed 7 inches.
- d. The car must fit underneath the timer.
- e. **The wheelbase** (distance between the front and rear axles) **may not be changed or altered**—precut slot in block must be used as the axle base (precut slots may be squared if needed).
Given that the blocks are mass-produced and there is some natural variability in the wood, the following measurements account for that variability.
 - i. The maximum allowable distance from the front of the car to the rear axle is 6 $\frac{1}{16}$ inches.
 - ii. The standard allowable measurement from slot to slot is 4 $\frac{3}{8} \pm \frac{1}{8}$ inches.
- f. No part of the car can protrude from in front of the starting peg. The nose of the car should not come to a point and should be at least approximately $\frac{1}{2}$ " wide to rest on the starting peg and to trip the finish timer.

b. Weight & Appearance

- a. Weight shall not exceed 5.00 ounces (141.75 grams). The readings of the official race scale will be considered final. The car may be hollowed out and built up to the maximum weight by the addition of wood or metal only, provided it is built into the body and/or firmly affixed to it. Weights cannot be taped to the car. Not loose or moving materials of any kind, including mercury, are permitted in or on the car.
- b. Details such as steering wheel, driver, spoiler, decals, painting, interior details, etc. are permissible as long as these details do not cause the car to exceed the maximum length, width, and weight specifications.
- c. Cars with wet paint will not be accepted.

c. Wheels & Axles

- a. Only official Scout Grand Prix wheels and axles can be used. Axles may be polished, but may not be grooved. Axle diameter may not be decreased.
- b. Wheels may be lightly sanded to remove mold imperfections and flashings. The light sanding is the only wheel modification allowed. **NO** material may be removed from the wheel, this includes removal of the step from either end of the wheel bore, or outer hub face, or removing material from the wall of the wheel for "balancing". Beveling, tapering, sanding, wafering, rounding, lathe truing, reducing diameter, narrowing thinning, etc., is prohibited.

For clarification:

- i. Wheel diameter may not be reduced below 1.170 inches
- ii. Wheel width may not be reduced beyond 0.360 inches
- c. Wheel bearings, washers or bushings are prohibited.
- d. The car shall not ride on any type of springs.
- e. The car must be free-wheeling with no starting device or other propulsion.
- f. Distance between front and rear axles must be maintained at 4 ½ inch spacing. (See 1.f.ii)
- g. The car must have four wheels, free spinning on axles, in the normal vertical position, with axles installed in the precut slots, but it is not required that all four wheels contact the track.
- h. The axles, including the tip, must be visible to the inspector. Any glue or epoxy in the slot must be transparent.

5. Lubrication

- a. Only dry lubricants, such as powdered graphite, may be used. Krytox, XOil, Nyoil, and similar liquid lubricants are NOT allowed. Car must have visible evidence of dry lubricant application. Regular oils or silicone sprays may soften the plastic wheel or damage the track and are prohibited.
- b. Powdered graphite will be permitted only in the Pit Stop Area inside the derby location.
- c. Cars may be lubricated in the Pit Stop Area before inspection. No further lubrication will be permitted.