

MID-AMERICA COUNCIL PINewood DERBY

RULES AND REGULATIONS

- Good sportsmanship is expected at all times by everyone present at the race.
- Any violation may result in disqualification from the race.
- Cars must be constructed from Official Cub Scout Grand Prix Derby Kit

Body Specifications

- Width – not to exceed 2 $\frac{3}{4}$ inches (7cm)
- Length – not to exceed 7 inches (17.8cm)
- Height – must have clearance under Finishing Gate – not to exceed 6 $\frac{1}{2}$ inches
- Weight – not to exceed 5.0 ounces (10.0 ounces for open adult class) – 143.4 grams measured on Official Race Scale
- Overweight cars must be reduced to maximum weight or below before they can officially be entered, at the Race Day Check in.
- Center Rail Clearance – Cars must clear the center rail which is 1 $\frac{3}{4}$ inches wide by $\frac{1}{4}$ inch tall along the entire length of the car.
- Wheelbase – Can be extended.
- Axle holes may be drilled into body of car as long as the specs are met.
- The main body structure must be made of pinewood.
- Body design may be enhanced by adding other stable materials such as plastic, metal or details. All additions must be firmly attached and conform to size specifications. No loose materials will be allowed on the cars.
- No part of the car's body, wheels, or attachments can extend beyond the starting peg on the track what so ever. Additionally the wheels may not extend beyond the rear of the car or past the front of the car – the length is not to exceed 7 inches.

Prohibited Items that can NOT be used

- Magnets, springs or suspension systems of any type.
- Starting devices, finish line devices, propellants, or propulsion systems
- Liquids, Wet paint, Oil of any kind or Sticky substances
- Glass or excessively fragile parts
- Electronic or lighting devices (if lights are on the car they must be turned off)
- Bearings, bushings, washers, sleeves, hubcaps or inserts attached to or in contact with the axle, body or wheels.
- Solid one piece rod style axles
- Axles and wheels attached to any device that mechanically alters rotation or spin.

Wheels

- Only Official BSA Wheels are allowed (either new style & old style) all markings must be intact on inside and outside of wheel. You may use the Official BSA Colored wheels
- Outer wheel surface may be sanded, shaved, lathed or polished to remove any imperfections, true roundness, remove mold castings and burrs, but must not be reshaped in any way to minimize tread contact or alter aerodynamics.
- The fluting (small decorative dots on the edge) must remain visible around the entire circumference.
- The tread / contact surface must remain flat and parallel to the bore.
- The width of the tread must not be less than 7.5mm
- No removing or reducing the letters or spokes or drilling additional holes.
- The following wheel modifications are NOT Allowed

- No Rounding of the wheel treads – they must remain flat.
- No Grooving, H-cutting, V-cutting, Crowing, Tapering or Dishing
- No Narrowing of the tread surface or Altering the wheel profile
- No Drilling sidewalls
- No Filling of any wheel surface with any type of material
- Coning the hubs, truing the inside edge of the wheel, and removing the outer hub step down is allowed.
- Wheel Bore treatment is allowed including polishing, sanding and / or tapping.
- Wheel bores may not be filled and re-drilled
- There must be at least four wheels on the car, however it is not required that all four wheels make contact with the track surface – one wheel may be lifted from the track surface.
- Each wheel must be mounted on an axle, on the outside of the car, on the vertical side of the car.
- Each wheel must be attached by an axle and spin freely

Axles

- Nail type axles as found in the Official Pinewood Derby kit are to be used.
- Modifications to the Axles are allowed that include straightening, sanding, polishing, canting, grooving, beveling & tapering of axle head as long as the Diameter of the Axle is not reduced the Diameter may not be less than .084 inches (2.13mm).
- Axles can be mounted by drilling Axle holes or inserted into the slots on car.

Lubrication

- Only Dry Graphite may be used as a lubricant for wheels
- No oil lubricants are allowed which include nyoil, krytox

Race Operations and Miscellaneous Rules

- All Cars MUST pass inspection before being allowed to race based on the rules and specification stated above
- An approved inspected car will then be checked in and not be touched by anyone but the race officials. Until the cars are released by Race Officials.
- All lubrication of wheels must take place prior to final inspection check in – using DRY Graphite Only and before Final Race.
- Officials have the Right to Disqualify Any Car, which does not meet all of the stated rules and specifications. The Officials Decision is Final.
- Appealing a decision – if a Race Official makes a ruling and you wish to appeal it – all Officials will be assembled and based on majority rule the decision will be upheld or overturned.