Cub Scout Pack 309 Open Pinewood Derby Fundraiser Race Rules 2027

Race Date: February 20th, 2027

Fundraiser Registration & Entry Fees

- **Entry Fee (Strict or Renegade Division):** $15 per car.
- **Rivalry Runs:** $5 per run (open exhibition challenge heats between competitors; does not affect official tournament scoring).

Class 1: Strict Division (Standard Specification)

All cars in this class must be built using an Official BSA Grand Prix Pinewood Derby kit or official BSA replacement parts.

1. Body Material & Construction

- **Chassis Material:** The main structural chassis/body of the car must be carved or shaped from solid wood (pine or similar softwood).
- **Chassis Restrictions:** Full-composite, 3D-printed, solid metal, molded plastic, or pre-fabricated die-cast chassis are prohibited.
- **Cosmetic Accents:** Non-wood materials (e.g., 3D-printed details, plastic parts, styrene, wire, weights, decals) are permitted for accents, drivers, spoilers, and aesthetic additions, provided the primary structural core remains wood and all dimension/weight limits are satisfied.

2. Wheelbase & Axle Placement

- **Wheelbase Dimension:** Front-to-rear axle distance (measured center-to-center) must be between **4-1/4 inches and 4-1/2 inches** (nominal 4-3/8 inches with a ±1/8 inch tolerance).
- **Mounting:** Builders are **not** required to use the pre-cut factory body slots. Axle holes or custom slots may be drilled or cut into the wood chassis, provided the center-to-center wheelbase remains within 4-1/4" to 4-1/2". Extended wheelbases pushed to the absolute front or rear of the block are prohibited.

3. Dimensions & Track Clearances

- **Overall Width:** Maximum **2-3/4 inches** (including wheels and axles).
- **Overall Length:** Maximum **7 inches**.

- **Overall Height:** Maximum **5 inches**
- **Track Clearance:** Minimum **3/8 inch** underbody clearance across the bottom of the car to ensure it freely clears the center lane guide.
- **Inside Wheel Clearance:** Minimum **1-3/4 inches** between opposing wheels.

4. Weight

- **Maximum Weight: 5.00 oz** (141.7 g) measured on the official check-in scale. The official scale at check-in will be used for weight qualification. At check in, entrants will be allowed to adjust final weight after checking the official scale.
- **Securing:** All weights must be firmly secured inside or attached to the body. No loose, movable, or liquid weights (e.g., loose lead shot, mercury).

5. Wheels & Axles

- **Wheels:** Must use official BSA wheels. These can be from the kit or purchased separately from Scout Shops. The outer wheel surface/tread must remain flat and parallel to the axle bore. Rounding, tapering, H-cutting/thinning to a razor edge, drilling, or grooving is prohibited. Factory outer edge serrations and original lettering on both sidewalls must remain clearly visible. Note: The official wheel design was updated in late 2025 to align with the Scouting America naming. Older wheels say “BSA” and newer ones say “Official.” Either kit is acceptable. Vintage wheels from prior to approximately 2000 will not have these markings and are not allowed in the strict division.
- **Axles:** Official BSA nail-style axles only. Polishing, deburring, and minor dry smoothing are permitted. Bearings, bushings, sleeves, washers, and hubcaps are prohibited.
- **Track Contact:** At least 3 wheels must make flat contact with the track at all times.

6. Lubrication & Propulsion

- **Lubricant:** Dry lubricants such as powdered graphite only. No wet oils, sprays, Teflon liquids, or silicone lubricants.
- **Propulsion:** 100% gravity-driven. No magnets, springs, launch triggers, or stored potential energy.

Class 2: Renegade Division (Open Gravity)

The Renegade Division encourages maximum mechanical creativity, advanced engineering, and custom fabrication, while protecting track surfaces and spectator safety.

1. Propulsion (100% Pure Gravity)

- **Gravity Only:** Cars must rely solely on gravitational potential energy from the start incline.
- **Prohibited Systems:** Absolutely no electric motors, ducted fans, propellers, CO2 or compressed gas cartridges, chemical propellants, mousetrap levers, clockwork springs, rubber band drives, flywheels, or start-pin magnetic repellers. This list only serves as an example. Any other propulsion system other than pure gravitational potential energy is prohibited.

2. Chassis, Body & Materials

- **Open Construction:** Solid wood, machined aluminum, full 3D-printed chassis, brass, carbon fiber, or composite builds are fully permitted.
- **Track & Spectator Safety:** No sharp exterior metal points, exposed blades, or abrasive surfaces that could gouge the track lanes or cause injury.

3. Wheelbase & Dimensions

- **Wheelbase:** Completely open. Extended, offset, three-wheel, or asymmetrical wheelbases are permitted.
- **Overall Width:** Maximum **2-3/4 inches** (must not encroach on neighboring lanes).
- **Overall Length:** Maximum **7 inches** (must fit standard starting pins and laser finish gates).
- **Overall Height:** Maximum **5 inches**
- **Track Clearance:** Minimum **3/8 inch** underbody clearance across the chassis.
- **Inside Wheel Clearance:** Minimum **1-3/4 inches** between opposing wheels.

4. Weight

- **Maximum Weight: 10.0 oz**. measured on the official check-in scale. The official scale at check-in will be used for weight qualification. At check in, entrants will be allowed to adjust final weight after checking the official scale.
- **Attachment:** All weight must be solidly anchored, epoxied, glued, or encapsulated. No loose shot or shifting liquid weight.

5. Wheels, Axles & Bearings

- **Open Hardware:** Aftermarket precision wheels, razor wheels, Delrin wheels, custom 3D-printed wheels, ball bearings, ceramic bearings, needle axles, and custom bushings are allowed. This list is only intended as examples and does not imply prohibition of any hardware not listed.

6. Lubrication & Track Care

- **Permitted Lubricants:** Dry lubricants such as powdered graphite only. No wet oils, sprays, Teflon liquids, or silicone lubricants.