

## II. CUB SCOUT RACE CAR DESIGN STANDARDS

**T-1. Material:** Race cars shall be constructed for this event from the parts contained in the Official Grand Prix Pinewood Derby Kit (referred to below as the kit). Materials from the kit may be supplemented but not replaced.

**T-2. Weight:** Race cars may weigh no more than five (5) ounces (total weight) as determined on the official scales during the pre-race check-in.

**T-3. Wheels and Axles:** The car shall roll on the wheels from the kit. The wheels shall turn about the axle nails from the kit. The axle nails shall be firmly affixed to the wood of the car body, and **MUST** be placed in the 'axle grooves' in the supplied wooden block. It must be obvious to the judges that the grooves, wheels, and the nails from the kit are being used. All four wheels **MUST** touch the ground when placed on a level surface.

**T-4. Size:** Race cars may be no longer than 7 inches, nor wider than 2-3/4 (2.75) inches, as determined by the official gages during the Registration and inspection. Underside clearance of at least 3/8 (0.375) inches and inside wheel to wheel clearance of at least 1-3/4 (1.75) inches is recommended, so that the car will run on the race track. Adequate clearance is the responsibility of the race car builder. Since track timers have clearance limitations, it is requested that cars be no taller than three inches.

**T-5. Weights and Attachment:** Weight may be added to the car and will be considered part of the car for purposes of all measurements. "Weight" is considered to be any material on the car that is not provided in the kit. All weight must be securely fastened to the car, by permanent glue, nails, screws, or Coin Pockets but not by "sticky substances", such as tape, or tack spray. Weights shall be passive, i.e. non-moveable, non-magnetic, non-electric, non-sticky, etc.

**T-6. Wheel Treatment:** Wheel treatment (hub and tread smoothing and polishing) may not result in substantial removal of mass or in reducing the wheel width from the original kit wheels. Some of the original "tread marks" on the wheel face must remain intact, i.e., apparent to the inspector. Wheels may not be machined to a beveled condition and the portion of the wheel surface that contacts the track must remain parallel to the axle.

**T-7. Unacceptable Construction:** The following may NOT be used in conjunction with the wheels or axles: hubcaps, washers, inserts, sleeves, bearings, or riding on springs. The following may NOT be incorporated into the construction of the car: protrusions (i.e., wires) that extend beyond the front of the car; cuts that allow the front of the car to extend beyond the starting line; or additions to the car that cause the car's front wooden edge to not be in contact with the starting pin.

**T-8. Gravity Powered:** The race car may not be constructed or treated in such a way that the track's starting mechanism imparts momentum to the car. (For instance, this provision disqualifies cars with sticky substances on the front of the car and protrusions which may catch on the starting pin.)

**T-9. Lubricants:** Only dry lubricants such as graphite or powdered teflon "white lube" will be allowed for lubricating the wheels. *Lubricants may not foul the track.* Lubricants must be applied before entering the building. No lubricant may be applied to the car after it has been inspected or registered.

(Source: [http://www.boyscouts-ncac.org/download/3051\\_2007\\_powhatan\\_district\\_pinewood\\_derby\\_rules.pdf](http://www.boyscouts-ncac.org/download/3051_2007_powhatan_district_pinewood_derby_rules.pdf))