2014 Arapahoe District Pinewood Derby Championships
Saturday, April 12, 2014
General Information and Official "Rules of the Road"

Get ready for the 15th annual Arapahoe District Pinewood Derby Championships!

This year's District Races will be hosted by the Arapahoe District Cub Scouts and **Troop 870** and will be held at **The Church of Jesus Christ of Latter-Day Saints – Ridge Road** in the gym. The LDS building is easy to get to from any part of our district. Take 470 to Broadway; go north on Broadway past Dry Creek. Turn left (west) on Ridge Road (map):

> **LDS Building**
> 910 W Ridge Road
> Littleton, CO 80120

This is an optional event intended to enhance your Pack program, with an admission fee of $8.00 per Scout to help cover the costs of the event. Your Pack may elect to pay this fee for your participants, and all fees will be collected on or before Race Day, before the Scout is eligible to race.

To register, please go to the District's web site at www.ArapahoeDistrict.org

Please see the accompanying "Rules of the Road" for the for the Arapahoe District Pinewood Derby Championships.

Eligibility: Each Pack in the District can send their **Top 2 racers from each rank** (Tigers, Wolves, Bears, Jr. Webelos and Sr. Webelos). It is recommended that each Pack designate an alternate for each rank, in case the 1st or 2nd place racer cannot attend.

Good luck and have fun!

Sincerely,

Robert McMahan & Steve King

Robert McMahan—Pack 467
Steve King—Troop 870
Arapahoe District Pinewood Derby Coordinators

Only Cub Scouts officially registered with the Denver Area Council at the time of the District Pinewood Derby are eligible to race, with the exception of Sr. Webelos who participated in their Pack Pinewood Derby, and who are not registered in their Pack's recharter because they are graduating; these Sr. Webelos are still eligible to race. The car entered in this championship must be the same car used in the most recent Pack Pinewood Derby. Cars constructed for previous year's competitions may not be used for this year's race.

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In order to participate, your car must fit within the rules given below. **Your Pack's guidelines may have been different, so please check your car against the Official District "Rules of the Road".** There will be a small work area to make minor adjustments, but please make the proper measurements, ahead of time, to avoid disappointment. There will be a preliminary weigh-in scale, at the race for you to check your weight before you check-in with the official weigh-in scale. There will also be an area to lubricate your car, but only before it is checked-in. Once the car has been checked in, it will not be touched until race time and then only by race officials.

Race Day Schedule – Saturday, April 12, 2014 at LDS building –
910 West Ridge Rd. Littleton, CO 80120

8:00 am – 9:00 am Tigers (1st grade) check-in / weigh-in
9:00 am – 10:30 am Tigers (1st grade) race

9:30 am – 10:30 am Wolves (2nd grade) check-in / weigh-in
10:30 am – 12:00 pm Wolves (2nd grade) race

11:00 am – 12:00 am Bears (3rd grade) check-in / weigh-in
12:00 pm – 1:30 pm Bears (3rd grade) race

12:30 pm – 1:30 pm Jr. Webelos (4th grade) check-in / weigh-in
1:30 pm – 3:00 pm Jr. Webelos (4th grade) race

2:00 pm – 3:00 pm Sr. Webelos (5th grade) check-in / weigh-in
3:00 pm – 4:00 pm Sr. Webelos (5th grade) race

3:30 pm – 4:00 pm Finals check-in
4:00 pm – 4:30 pm Finals race

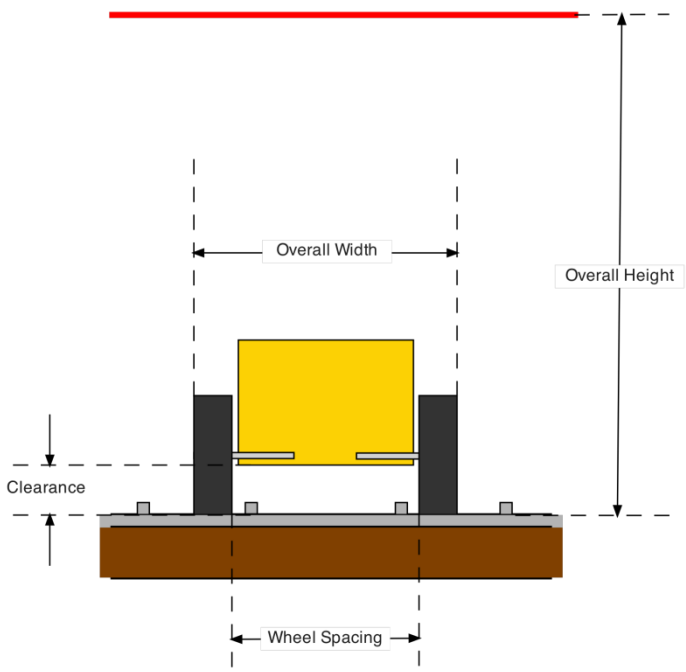
Arapahoe District Finals Pinewood Derby Rules of the Road (Ver. 013013)

While there are many web sites and other resources that discuss Pinewood Derby designs, and while many Packs have their own rules, the following rules are established for the Arapahoe District Finals Race, and in fairness to all participants, cars that cannot conform to these specifications will not be allowed to race.
These requirements provide assurance that the car meets dimensional requirements ensuring the car can race without obstruction or interference to other racecars on the track, and to ensure the race remains fair across all competitors.

Prior to the race or prior to the end of the established check-in period, any participant's vehicle that does not meet the following requirements can be modified in an attempt to meet the specified requirements.

Dimensional Requirements:

The car dimensional requirements are set with respect to the dimensions of the racetrack being utilized by the Arapahoe District for this race.



Wheelbase:	$= 4\frac{3}{8}" \pm \frac{1}{16}"$ (Distance between the front and rear axles)
Overall Width:	≤ 2.75"
Overall Length:	≤ 7.0"
Overall Height:	≤ 5.0"
Clearance:	≥ 0.25"
Wheel Spacing:	≥ 1.75"
Weight:	≤ 5.0 ounces (relative to official race scale)

Fair Competition Requirements:

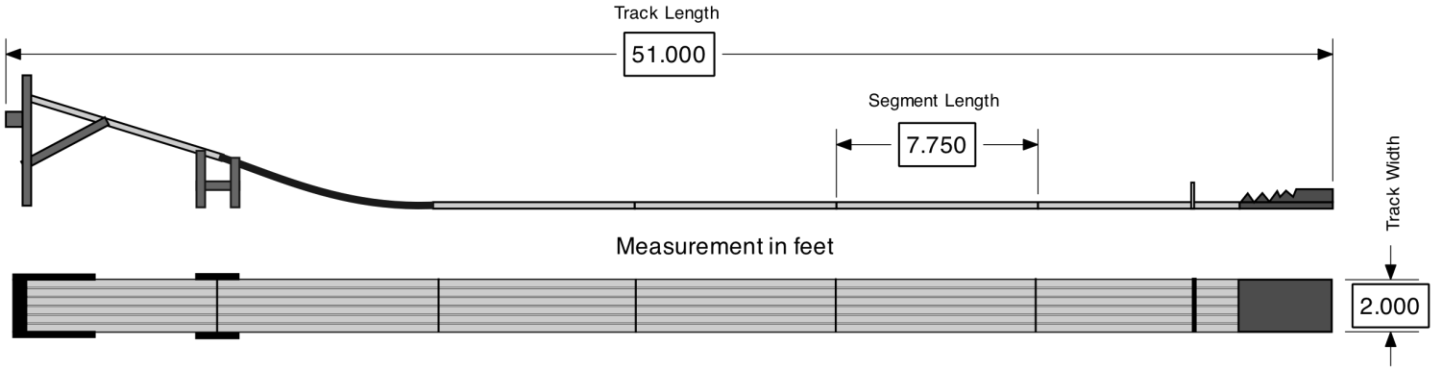
The criterion for fairness is set forth by the Arapahoe District Committee and includes these restrictions:

1. Cars constructed for prior year District competitions may not be used for this year's race.
2. All cars must be constructed from the Official Cub Scout Grand Prix Pinewood Derby Kit. A car kit includes a 1.75" wide x 1.25" high x 7" long block of pinewood with an axle spacing of 4 3/8". It includes four nail axles and four wheels. It is okay to augment the body of the car with aftermarket accoutrements such as weights and decorative additions such as engines, exhaust pipes, fenders, windows, and other decorations. All of these accoutrements must be firmly affixed to the vehicle.
3. Axle spacing must not be altered. It is okay to relocate the axles but the axle spacing must be maintained. The axle spacing set forth by the Official Cub Scout Pinewood Derby Car Kit is 4 3/8".
4. The construction of the cars must not include aftermarket axles or wheels. Examples include single axles or precision-machined pins in place of the two nail axles that came with the kit. It is okay to modify the nail axles to improve performance. These modifications can include but are not limited to polishing, removing ridges, or removing material. The construction of the car must allow for inspection to verify use of these kit materials. The ends of each axle nail must remain visible.
   Note: It is allowable to have only three (3) wheels touching the track, commonly referred to as a "lazy wheel".
5. A car must not utilize bushings, washers, wheel bearings, axle bearings, or a suspension system of any kind. The materials for movement are limited to the official wheels, official axle nails, and dry lubricant.
6. A car must not include any motive forces such as springs or electrical or mechanical drive mechanisms. The force of gravy must be the sole force that acts to propel the car down the track.
7. At the starting gate, the car is retained by a starting pin located in the front and center of the car. No mechanical feature of the car can protrude beyond the uphill edge of the starting pin. Examples of this are cars with a V-cut feature for the front, or protruding aspects such as a gun barrel on a tank.
8. Wheel modifications are strictly limited to the removal of the wheel's mold seam on the tread to create a flat and even surface for the wheel to ride upon the track. The wheel's track contact surface cannot be rounded, grooved, ridged, or reduced in width with the purpose of limiting the amount of wheel contact area riding upon the track. The axles must not be affixed in such a way as to cause the wheels to ride along on its edge, effectively reducing the wheel contact area. The wheels must not be machined as to reduce the mass of the wheel such as reducing the thickness of the wheel material. Wheels will be subject to precision measurement at check-in.
9. All wheels that ride upon the track must be freewheeling.
10. All car finishes (such as paint or clear finishes) must be contact dry (not wet or tacky). Verify the car does not use wet lubricants. If lubrication is present, it must be a dry lubricant such as graphite powder.
11. Cars must have a designated front and rear. If the car's front and rear are not obvious, then before or during check-in, the participant must mark the car to indicate the front and rear. All cars will be raced with the front first.

During check-in, each car will be inspected for compliance to these above criteria. Any cars not meeting these criteria will be disqualified. Participants can make any necessary modification, as possible, to achieve a successful check-in. At the completion of the check-in period, additional cars will not be accepted. All cars that pass check-in inspections are accepted and retained by the race officials until completion of the race. All cars that are accepted at check-in will not be re-evaluated for meeting check-in criteria. No participant or race official can challenge a car that has been accepted – no exceptions. Due diligence will be performed to ensure a fair race and good sportsmanship will prevail.

General Information:

1. The track is 48 feet long, with a raised center that is 1 5/8" wide and 1/8" thick running down the center of each lane to keep the car in its respective lane. The starting gate has a slightly wider lath so the cars are accurately centered in the lane. It is very important not to reduce the width of the wood block where the wheel and axle are attached to the car body. If wood is removed from this area, the wheels may rub on the center lath and slow the car.



2. Pinewood Derby cars are approximately 1/24 scale, and many decals and accessories are available at local hobby stores in this scale. In addition, there are decal sets and plastic drivers available at The Council Scout Shop (10455 West 6th Avenue, Suite 125, Denver, CO 80215 303-477-4830).
3. A car that jumps the track or interferes with another car will cause the Race Officials to pause the race and determine the cause of the problem. If debris on the track caused the car to jump out of the lane, the debris will be removed, the track will be wiped down / cleaned quickly, and the heat will be re-run with the cars in their same lanes. If Race Officials determine that the car's design or performance caused it to jump the track, Race Officials will determine whether the problem can be adjusted or repaired within 5 minutes, and the Scout / Racer will be given all reasonable opportunity to repair the car and continue racing. The heat will then be re-run with the cars in their same lanes. If the car jumps the track following the rework or repair, the car will not be rerun and it will lose the heat. If the race officials rule the car cannot be fixed, then the car will be removed from the competition and a dummy car will be run in its place.
4. Within reason, and to be decided by Race Officials, if a car experiences breakage during a race, the Scout and parent may be allowed a quick (up to 5 minutes) repair of the car to enable the Scout's continued participation. Officials will then run that heat again. If the car cannot be repaired within 5 minutes, it loses the heat.
5. After check-in, race officials will hold the racecar until after race time. No alterations will be allowed after the car is checked in. The weight at check-in will be official. Identification numbers will be furnished at check-in. The inspection team has the right to disqualify those cars which do not meet official specifications. Graphite powder will be available to everyone on race day for use prior to check in. Following check-in, no re-lubrication will be allowed.
6. If a car does not make it to the finish line, the car will be picked up and it will register a max time for that heat. Except for cars that have mechanical problems, no car will be allowed to be removed from the race until the race is complete. Between races, a Scout / Racer can elect to withdraw from the competition for any reason. Additionally, race officials can remove a car from the competition between races for unsportsmanlike conduct.

GOOD SPORTSMANSHIP AND BEHAVIOR ARE EXPECTED FROM SCOUTS AND PARENTS. Race Officials may ask anyone not following this rule to leave.