

# SUNSET DISTRICT PINWOOD DERBY

## RULES - 2010

The objective of the *Sunset District Pinewood Derby* race is to allow the single fastest, Cub Scout built Pinewood Derby car from each pack, in each rank, to race in the *Sunset District* competition. One Cub Scout of each rank, from each pack within *Sunset District* is eligible to participate. Each qualified entry will be inspected by the District Pinewood Derby inspection team on race day and must meet the following criteria:

1. The pinewood derby car must be Cub Scout built this Scouting year, starting with the official **BSA PINWOOD DERBY KIT**, using issued bodies, wheels and axles. No substitutions will be allowed! Examples: "PINE CAR", "HODGES", "WOOD SHOP", or other brand of car kits, bodies or wheels. This includes any preformed car bodies, solid axles, axles that have been radically machined (fig. A & B), wheels with spokes, or purchased wheels that have an electrostatic coating of graphite, i.e.: "DERBY PRO", to enhance their performance. Or any purchased wheels *other than BSA issue*. Any car found with these parts will not be allowed to compete. This is a BSA sanctioned event. **Only BSA parts are to be used.**
2. **CAR SPECIFICATIONS:**
  - A. **Overall Car Width:** 2 ¾ inches (2.75") Car cannot interfere with the car in the next lane.
  - B. **Car Length:** Car length must be greater than 4 ⅜ inches (4.375") Refer to rule 2-G below. Attachments that are part of the cars' design, and increase the cars' length are OK. Just as long as the car is not greater than 8".
  - C. **Weight:** Total weight not to exceed five (5) ounces (or 141.75 grams.) This is a BSA National rule. All participating cars will be weighed on the official Sunset District scales.
  - D. **Ground Clearance:** ⅜ inches (0.375") or greater. The car should roll over 5-stacked nickels.
  - E. **Overall Height:** Three inches (3.00"). The distance under the finish line at the end of the track.
  - F. **Distance Between Wheels:** Side to side = 1 ⅞ inches +/- (1.875" +/-). This allows the car to travel the following strip on the track with minimal side-to-side movement.
  - G. **Distance Between Axles:** Front to back = 4 ⅜ inches (4.375"). Official BSA kit dimensions. **This distance cannot be altered. THE CAR MUST FIT INTO A BSA TEMPLATE, OR IT WILL NOT BE ALLOWED TO RACE.**
3. **CAR DETAILS:**
  - A. **Attachments Allowed:** Details such as drivers, side pipes, roll bars, steering wheels, air spoilers, decals, (regardless of who makes them), *open* fenders and additional weights are allowed. Said attachments must be securely attached and without moving parts. Attachments must meet all car specifications rules stated in #2, above. Be sure any weights that may be added do not interfere with the ground clearance as stated in #2D above, and do not move. Weights should be put **in** the car, not **on or under** the car.
  - B. **Attachments Not Allowed:** Items such as washers between the wheels and the body, wheel bearings, bushings, springs, starting devices, hubcaps, full wheel covers, full fenders covering the nails, any type of suspension, be it a device or a body design element, or anything that will impede the inspection process. If additional weights are added, they must be securely attached and have no loose or moving internal parts. Cars with any sticky substance on the front will be disqualified.
  - C. **Finish Line:** The track has an electronic finish line. This device emits a light beam approximately the diameter of a pencil. It is recommended that the car does not have a front that comes to a sharp point. A sharp pointed car may not trigger the electronic finish line correctly. (See figure D.)
  - D. **Starting Gate:** The track starting gate is less than a ½ inch wide. A sharp pointed car design, such as a pencil, may not align itself correctly against the starting gate (See #3 C, above). A "chisel" point of *at least* ½ inch wide or more is recommended. A car that has a "U" or a "Y" front design will be ran backwards, in order to insure a correct start. At no time shall any portion of the car extend past or over the starting gate. All cars must start from a standing still position.
  - E. **Wheel Modifications:** It is recommended that the wheels be *lightly* sanded to obtain as flat a surface as possible. Wheels with high spots produce a bumpy ride, causing loss of time and might cause the car to leave the track, possibly resulting in major damage. **NO ALTERATION, NARROWING, LATHE CUTTING, OR RE-SHAPING OF THE WHEELS (INSIDE OR OUTSIDE) IS ALLOWED.** This type of modification is way beyond the scope of a Cub Scout aged boy. Suspect wheels will be measured with a micrometer. Wheels must be full width as provided in the kit. Wheels must not be tapered or re-formed to reduce the "footprint" of the wheel on the track (see Fig. C). Most of the original tread marks on the edges of the wheel must remain intact and be apparent to the inspector. (See figure E.) The amount of removal of these tread marks determines the degree of rounding. If it considered extreme, it will be measured with a micrometer. And if it does not meet *NEW WHEEL* thickness standards, it will be considered illegal and disqualified. **ALL FOUR WHEELS MUST HAVE AT LEAST 90% OF THE WHEEL TREAD IN CONTACT WITH THE TRACK AT ALL TIMES. CARS WITH ONE RAISED WHEEL MUST BE MODIFIED TO CONFORM TO THIS RULE, OR WILL NOT BE ALLOWED TO RACE.**

## AXLE SPECIFICATIONS

1. Stock: 100% - **OK**
2. Slightly modified: 75% of head remaining - **OK**
3. Radically modified: Less than 75% of head remaining - **Illegal**

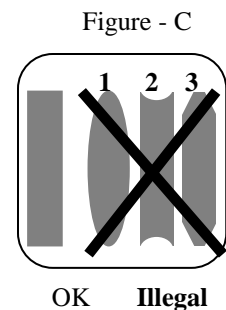
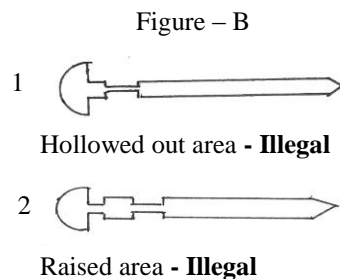
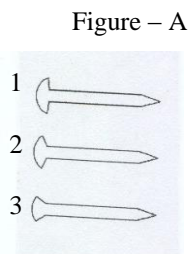
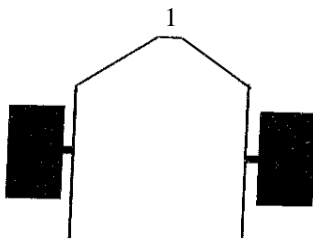
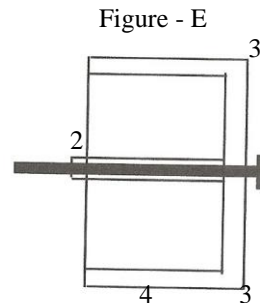


Figure - D  
Front of car must have *at least* a 1/4" flat spot (1) in order to insure a correct start.



Sanding or "coning" of *old wheel hubs* (2) is allowed. Conforming to the *new wheel design*.



Edges (3) may be *slightly* sanded. Do not remove the tread marks. The inspector will be looking at the amount of tread marks removed as an indicator of how extreme a wheel has been altered.

Surface (4) of BSA kit issued wheel (old or new) may need to be sanded to make it as flat as possible. Do not create a ridge, (fig. C 1), high spots on the edges, (fig. C 2), or any narrowed surface, (fig C 3). Any cars with suspect wheels will be ran thru the talcum powder test. 90% of the wheel **must** contact the surface of the track. Anything .01" less than the *NEW WHEEL* diameter (1.180") will be considered extreme and be disqualified. Suspect wheels may be measured for tread thickness with a micrometer.

F. **Axle Modifications:** The axles provided (nails) in the official BSA kit **must be used**. Sanding the axles to remove the die seams that are a result of the manufacturing process is recommended. Polishing the axles with toothpaste or jewelers' polishing compound is a good idea. Chroming or any other type of special technical process will not be allowed. To reduce the diameter of the head of the nail, in order to minimize friction will be allowed - *within limits*. To reduce the size of the head of the nail by more than 25% will be considered extreme and will not be allowed. (fig. A) Any suspect nails will be measured by an inspection official, with a micrometer, and **if less than 75% of the head remains it will be disqualified**. Also, putting hollowed out areas or raised areas in the axles (see figure B1 & B2) will be considered extreme and will be disqualified. If a race official suspects a set of axles have been illegally modified, you may be asked to remove the axles and show they are stock. These procedures, as well as any chroming process, are considered beyond the scope of a Cub Scout aged boy.

4. **Lubrication:** A dry lubricant such as graphite, or the BSA white dry lubricant (powdered Teflon) is allowed. Some oils are caustic to the plastic wheels, causing damage. Therefore, all "wet" lubricants are not recommended. The lubricant should be applied to the wheel hubs, axles (nails) shafts/heads, and all other contact points where the wheel touches the body of the car. Lubrication cannot be applied after the car has been registered. Dry graphite is a messy material. Please do not bring this material into the building. When spilled, it is impossible to remove from the floor, and is a potentially dangerous substance if ingested. Please apply the lubricant at home under adult supervision, or outside in the parking lot. It is helpful to "work in" the dry lubricant by spinning the wheels often. It is recommended that the graphite be applied several days *prior* to race day. Allowing time to "work" it in. **Anyone found using lubricant in between races would be disqualified from further racing.**
5. **Racing:** On race day the car will be inspected for adherence to all the rules. The weight will be checked at this time using the official Sunset District scales. **All** cars will be weighed using these scales. If the car is over weight, facilities will be available to remove weight to bring the car down to the 5-ounce limit. After the car has been certified legal, no other modifications will be allowed, such as adding additional lubricant and/or weight. The car will be placed in a holding area for display and closer inspections. All cars are not to be touched by any racers after inspection is complete. If a car becomes damaged *during* the race, supervised timely repairs will be allowed in order to continue the race. If a car leaves the track during a race, that heat will be run again. If the car leaves the track a second time during the same heat, that car will be disqualified due to time constraints. **All cars are subject to an inspection at any time if tampering is suspected in between races.**
6. **Staging:** If a car does not "stage" correctly, that is, fit on to the starting gate correctly because the car has too narrow of a nose, see figure d, or the front is modified as to "ride up" the starting gate because the front has too steep an angle, it is the official district starter's option to run the car backwards to insure a correct start. If the car has a split front end, a "Y" or "U" front-end design, the car *must* run backwards.

# SUNSET DISTRICT PINWOOD DERBY

## TIPS AND REMINDERS - 2010

- THE REGISTRATION FORM AND FEE MUST BE RECEIVED BY APRIL 30, 2010. NO ON SITE REGISTRATIONS CAN BE ACCEPTED. MAKE SURE COUNCIL GETS YOUR FORM IN ENOUGH TIME FOR YOUR PACK TO BE ELIGIBLE. MAIL IT EARLY, EVEN IF YOUR PACK'S PINWOOD DERBY RACE HASN'T HAPPENED YET.
- SUNSET DISTRICT'S RACING COMMITTEE ATTEMPTS TO PUBLISH AND MAKE KNOWN THE RULES WE USE. THE RULES ARE AVAILBLE AT DISTRICT ROUNDTABLES AND ON LINE. ANY PROBLEMS WITH LACK OF KNOWLEDGE OF CURRENT RULES SHOULD BE TAKEN UP WITH YOU PACK'S PINWOOD DERBY COMMITTEE.
- PLEASE PRINT CLEARLY. THIS REGISTRATION FORM WILL BE USED TO CHECK EACH SCOUT'S ELIGIBILITY.
- ALL THAT IS NEEDED ARE THE PACK'S REGISTRATION FORM AND REGISTRATION FEE. PARTICIPATING SCOUTS NAMES ARE NOT REQUIRED. PARTICIPANTS MAY CHANGE BY RACE DAY, OR ALTERNATE RACERS MAY BE NEEDED.
- EACH PACK SHOULD SEND THE FIRST PLACE WINNER FROM EACH RANK: TIGER CUB, WOLF BEAR, 1<sup>st</sup> YEAR WEBELOS AND 2<sup>nd</sup> YEAR WEBELOS. CONSIDER A RUNNER UP FOR EACH CUB SCOUT IF THE 1<sup>st</sup> PLACE WINNER IS UNABLE TO ATTEND.
- REMEMBER, THIS IS AN OFFICIAL SCOUTING EVENT. **ALL PARTICIPANTS ARE EXPECTED TO BE IN UNIFORM.** BRING IT WITH YOU AND CHANGE WHEN YOU GET THERE.
- EACH CUB SCOUT WILL BE REGISTERED BY PACK NUMBER, RANK, CHARTERED ORGANIZATION'S NAME, CUB MASTER'S NAME AND CITY. MAKE SURE YOUR SCOUTS REMEMBER THIS INFORMATION, ESPECIALLY THE TIGER CUBS.
- EACH CUB SCOUT WILL BE RACING IN THE RANK THAT HE WAS WHEN HE COMPETED IN HIS PACK'S RACE. SOME SCOUTS MAY HAVE ADVANCED A RANK BY DISTRICT RACE DAY. EXAMPLE: SECOND YEAR WEBELOS MAY BE BOY SCOUTS BY DISTRICT RACE DAY.
- IF THE FRONT OF THE CAR IS NOT OBVIOUS, BE PREPARED TO IDENTIFY THE FRONT OF THE CAR. WE DO NOT WANT TO RACE A CAR BACKWARDS BY MISTAKE. WE WILL RACE IT BACKWARDS IF IT IS NECESSARY. SEE #6, "STAGING", ABOVE.
- EACH CUB SCOUT PARTICIPATING WILL RECEIVE A SPECIALLY DESIGNED SUNSET DISTRICT PATCH FOR RACING IN THIS EVENT.
- TROPHIES WILL BE AWARDED FOR THE FIRST, SECOND AND THIRD PLACE FINISHERS FROM EACH OF THE FIVE RANKS. AN OVERALL WINNER WILL ALSO BE AKNOWLEDGED. PARENTS, IF YOUR SCOUT WINS HIS RANK, PLEASE WAIT, OR RETURN TO PARTICIPATE IN THE OVERALL RACE AT 2:00 PM
- A \$25 PER PACK REGISTRATION FEE MUST ACCOMPANY THIS FORM.
- MAKE CHECKS PAYABLE TO **GREAT LAKES COUNCIL**
- ALL CHECKS RECEIVED MUST HAVE THE SIGNATOR'S DRIVER'S LICENSE NUMBER ON IT. MAIL THEM BOTH TO:  
GREAT LAKES COUNCIL  
1776 WEST WARREN                      *attention:* Sunset District Pinewood  
DETROIT, MICHIGAN 48208                      Derby Registration

IT IS EXPECTED THAT EVERYONE (ADULTS INCLUDED) CONDUCT THEMSELVES IN A SCOUTING LIKE FASHION. THIS IS A FUN, SCOUTING EVENT, NOT COMPETITION BETWEEN PARENTS. THE DECISIONS OF THE SUNSET DISTRICT RACING OFFICIALS ARE MADE WITH THE OFFICIAL SUNSET DISTRICT RULES IN MIND. ALL DECISIONS ARE FINAL. IF YOU WOULD LIKE TO BE PART OF THE DECISION MAKING PROCESS, CONSIDER VOLUNTEERING FOR NEXT YEAR'S RACE.

# SUNSET DISTRICT PINEWOOD DERBY REGISTRATION FORM MAY 8, 2010

SAINT ROBERT'S CHURCH, SOUTH EAST CORNER OF  
INKSTER AND WEST CHICAGO, REDFORD

**RACING SCHEDULES:**

<u>RANK</u>	<u>REGISTRATION</u>	<u>RACE STARTS</u>
Second Year Webelos	8:30 a.m.	9:00 a.m.
First Year Webelos	9:30 a.m.	10:00 a.m.
Bear	10:30 a.m.	11:00 a.m.
Wolf	11:30 a.m.	12:00 noon
Tiger Cubs	12:30 p.m.	1:00 p.m.
Overall District Race	-	2:00 p.m.

Pack Number: \_\_\_\_\_ City \_\_\_\_\_

Chartered Organization's name: \_\_\_\_\_

Cub Master's Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Pack Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

An event of this size would not be possible without the assistance of many volunteers. Please ask your Pack if anyone would like to volunteer some time to assist with our district race this year. Please check the time slot you prefer.

**NAME:** \_\_\_\_\_ **PHONE:** \_\_\_\_\_

- Help Set Up: 7:30 am to 9:00 am
- Help in A.M: 8:30 am to 12:00 noon
- Help in P.M.: 12:00 noon to Closing
- Help All Day: 7:00 am to Closing
- Help Take Down and Clean Up: 2:00 pm to 3:00 pm
- Help with 1 Registration and 1 set of Races: \_\_\_\_\_  
(Specify)

2010 Sunset District Pinewood Derby,  
Doug La Belle, Chairman 313-531-3359 (6 pm to 10 pm)