



# Pacifica District 2009

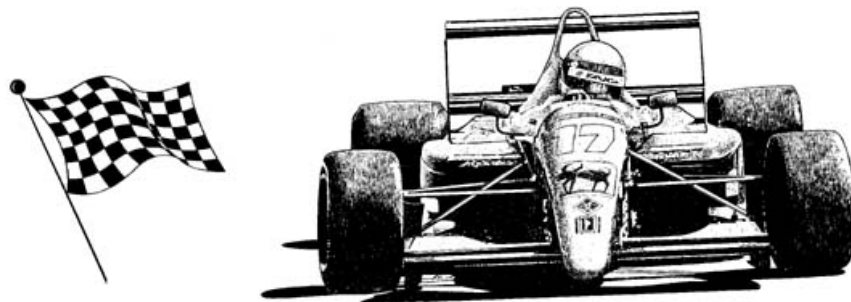


## *Soap Box Derby*

Saturday, July 11<sup>th</sup>

Join us in El Segundo for Racing, Food, Music, and Fun!

Organized by Pack 968  
<http://www.pack968.com>



For information: Julio Catzalco (310) 739-4035 or (310) 487-5416  
Email: [soapboxderby@pack968.com](mailto:soapboxderby@pack968.com)  
When: Saturday, July 11, 2009  
Where: El Segundo Scout House, 325 E. Grand Ave., El Segundo, CA 90245

**Grand Ave will not be closed off until 10:00am**

**Registration, Check-in and Inspection: 10:00am - 11:15am (Mandatory)**

Time of First Race: 12:00pm

# 2009 PACIFICA DISTRICT SOAP BOX DERBY RULES

## Race Rules and Team Requirements:

- For insurance reasons, drivers must be registered Scouts: Wolf to Webelos (No graduated Webelos)
- Tour permits should be filed for each participating unit
- Racing will be grouped by Den rank as follows: Wolf, Bear, 1st year Webelos, 2nd year Webelos (scouts race at their new rank as held after spring graduations)
- Teams with drivers of mixed scout ranks must race in highest ranked scout group
- Each team must have a minimum of two registered drivers (no maximum number of drivers)
- Each team must have a minimum of two adult crew members (one at the start line, one at the finish line)
- Seatbelt and helmet (bike, motorcycle or football helmets OK) required for each driver
- Drivers must be familiar with & able to operate all car controls (practice in steering & braking is highly recommended)
- No sharing of cars between race teams
- No practice racing or trial runs on race day
- Gravity race only (no pushing off, no power/drive/assist devices allowed)
- Lane Racing: Disqualification for crossing the centerline or interfering with the other car
- Double Elimination Tournament: Race teams must lose twice to be eliminated from the event, time permitting.
- Keep all drivers close to your car - race teams not ready to race after the third start call may be required to forfeit that race at the discretion of the race officials
- Decisions of the race officials and judges are final
- Your team must return your car to the Starting Pit

# 2009 PACIFICA DISTRICT SOAP BOX DERBY RULES (continued)

## Car Specifications and Requirements:

- Maximum Overall Length 60 inches
- Maximum Wheel Base 50 inches
- Minimum Wheel Track Width 30 inches
- Maximum Overall Width 36 inches
  
- Each car must have a seat and braced backrest allowing driver to sit upright with feet forward (no head-first driving position)
- A safety belt must securely restrain driver, and must be securely attached to car frame
- The car frame must be constructed from quality 2 x 6 wood and the axle supports from quality 2 x 4 wood (or equivalent material and design to provide strength and safety for the drivers)
- Axles must be fastened securely to axle support - axles must be fixed and must not turn or rotate
- Steering shall be done with the feet and/or with the hands holding a rope or mechanical steering device attached securely to the front axle support
- **Two 2 x 4 steering limiters (or equivalent) must be installed on the front axle support - the limiters must be fastened 1/8" maximum from the frame to safely limit turning radius (straight line racing requires only a minor steering correction)**
- An effective brake must be installed on the car, and must be easily operated while steering the car – brakes that drag on the road surface shall be faced with rubber (old tire tread works great)
- Maximum wheel diameter is 12"
- All wheels must have solid rubber tires
- Wheels shall have plain sleeves or bushings only - **No ball, roller, needle, etc. wheel bearings will be allowed** - race teams will be required to remove wheels for inspection of bushings on race day (bring appropriate tools)

**NO MODIFICATIONS ARE ALLOWED AFTER ENTRY HAS BEEN INSPECTED;**  
**MODIFICATIONS AFTER INSPECTION, INCLUDING ADDITION OF WEIGHT WILL**  
**RESULT IN DISQUALIFICATION**

Pack 968 reserves the right to disqualify any car based upon safety and/or design  
Please be Trustworthy Scouters with the construction of your race cars!

**Be sure to order Patches and T-shirts in advance during pre-registration.  
Each year we order extras, but we have sold out the last couple of years.**



# 2009 PACIFICA DISTRICT SOAP BOX DERBY

## RACE SCHEDULE

|  |                     |
|--|---------------------|
| Set up (Food Stand, Tables, Start and Finish lines)              | 10:00 am            |
| Race Day Registration/Check-In<br>(Mandatory for all Race Teams) | 10:00 am - 11:00 am |
| Car Inspection<br>(Mandatory for all Race Teams)                 | 10:00 am - 11:15 am |
| Line up cars in Starting Pits                                    | 11:30 am            |
| Opening Ceremony   | 11:40 am            |
| Racing Begins  | 12:00 pm            |
| Final Races  | 3:00 pm             |
| Trophy Presentation  | 3:15 pm             |
| Clean Up/Fun Racing  | 3:30 pm – 4:30 pm   |
| Grand Avenue Re-opened   | 5:00 pm             |

If possible, we will open the race course to family fun racing after the trophy presentation

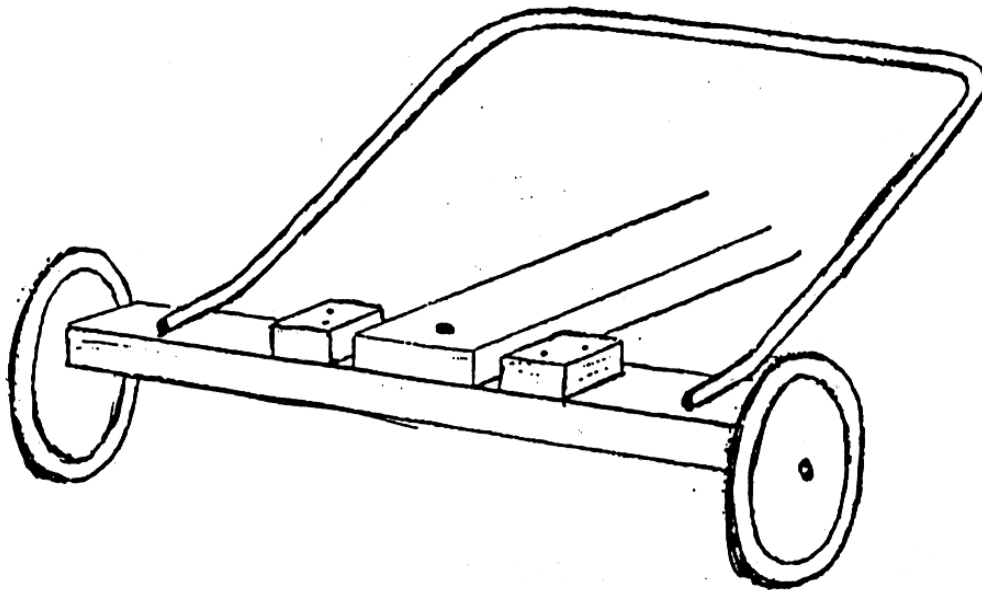
# CAR CONSTRUCTION SUGGESTIONS

## General

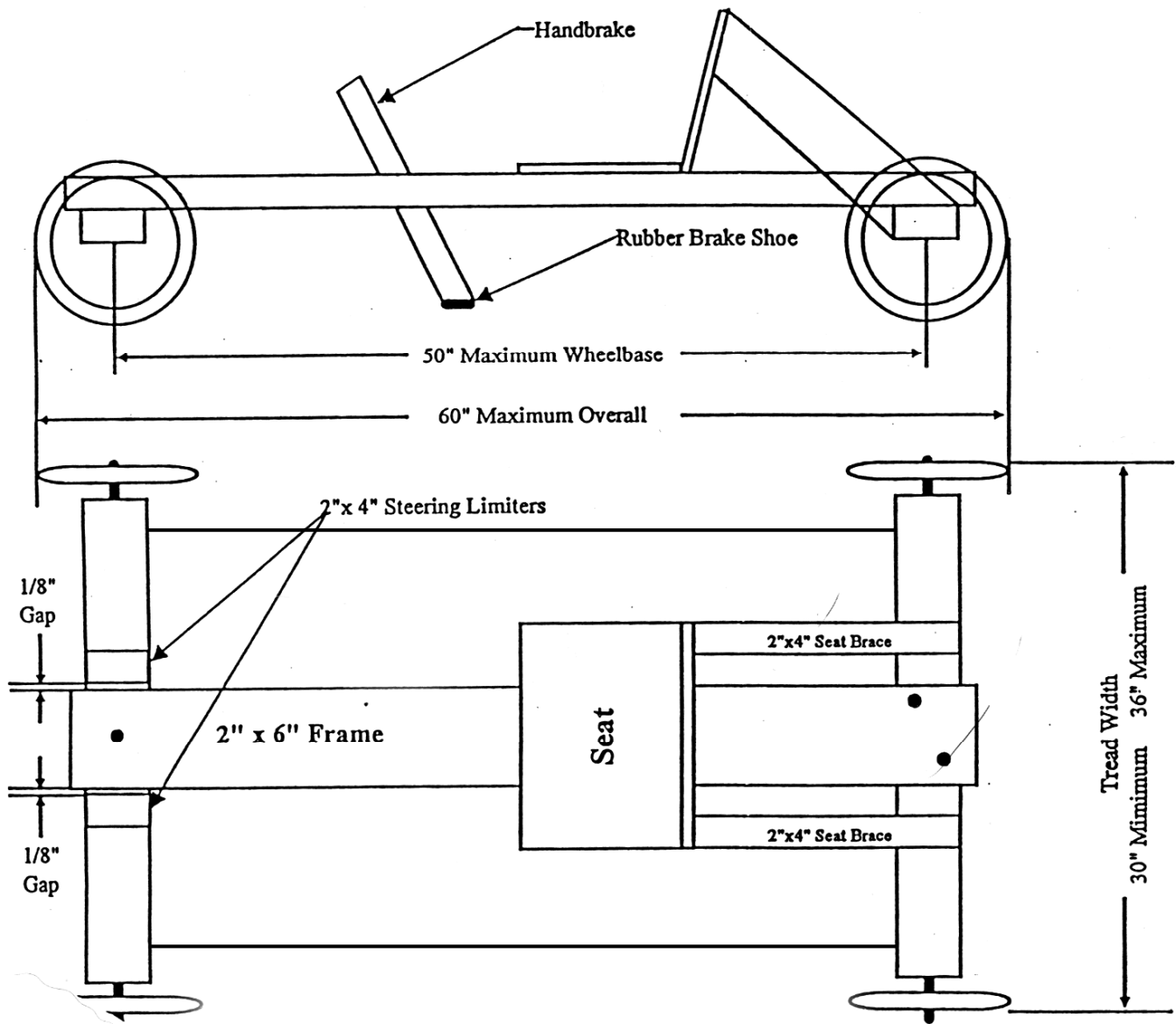
1. This race evolved in El Segundo over the years and has grown from a local event to a District event. It has no actual affiliation with the International Soap Box Derby. Certain rules may seem somewhat odd (e.g., “no wheel bearings”), but these restrictions limit the technology, cost, and speed to reasonable levels. Safety and fun are the two most important reasons for the success of the event.
2. A Den of four or five Cubs is about the right size for a one-car effort, both in terms of the cost of building the car and racing opportunities (all cars will get at least two runs down the hill; faster cars win more races and get additional opportunities). Larger Dens may want to consider building two cars. Think of the car as an investment in a multi-year activity that your Cubs can race each summer throughout their Cubbing career. Each year, your car can be improved upon (talk to the veterans about speed tips) and become faster and more competitive. The biggest investment in time and money is the first year.

## Car Construction

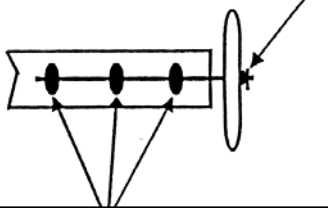
1. The official Soap Box Derby wheels are highly recommended for a competitive car. Axles can be made from  $\frac{1}{2}$  inch or larger steel rod or stock. Contact a local (small) machine shop to help with the axles and bushings; they may donate their time if you tell them it is for Cubs. Bushings can be made of many materials (steel, brass, plastic, etc.). Any type of lubricant is allowed (oil, graphite, etc.).
2. A steering approach has evolved that younger Cubs feel more comfortable with than the older rope/feet method: the tiller (see illustration). The handle bar or tiller is made from  $\frac{1}{2}$  or  $\frac{5}{8}$  inch electrical conduit, bent to the shape shown. It is attached to the front axle 2 x 4 with carriage bolts; a wood dowel inserted into the conduit will keep the bolt from crushing the conduit. This device is recommended for younger Cubs.



# Suggested Pacifica District Soap Box Derby Car



Washer and Cotter Pin



Fasten axle to axle support with J-bolts or Electrical Conduit Clamps so axle cannot turn.

Maximum wheel size is 12" diameter. Use sleeve or graphite bushings.

**Do not use ball or roller bearings...**

Fasten axle to axle support with electric conduit clamps or J-bolts. The axles must be fixed so they can't turn.

A seat belt is passed through slots cut in the seat back and bolted to the frame behind the seat.

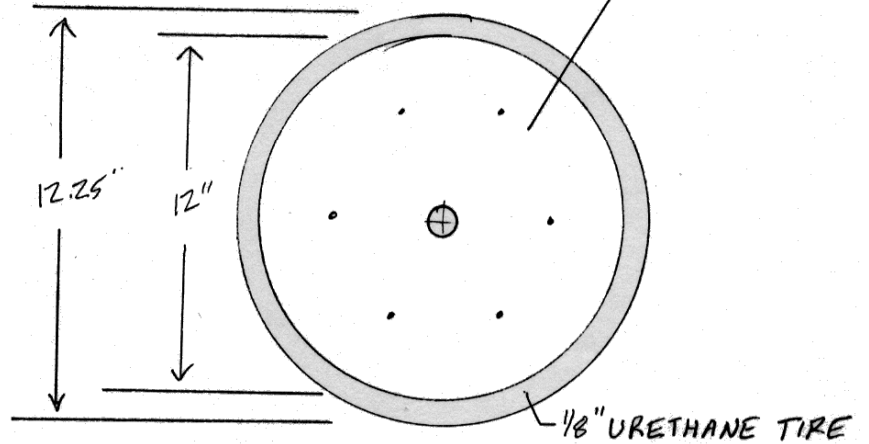
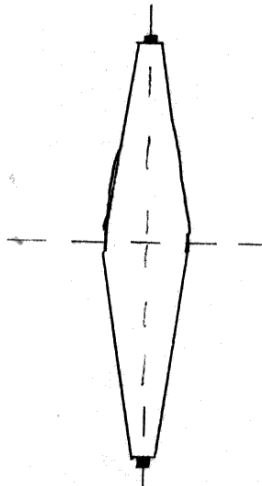
A rope or other device is attached securely to the front axle support for steering.

**NOTE:**

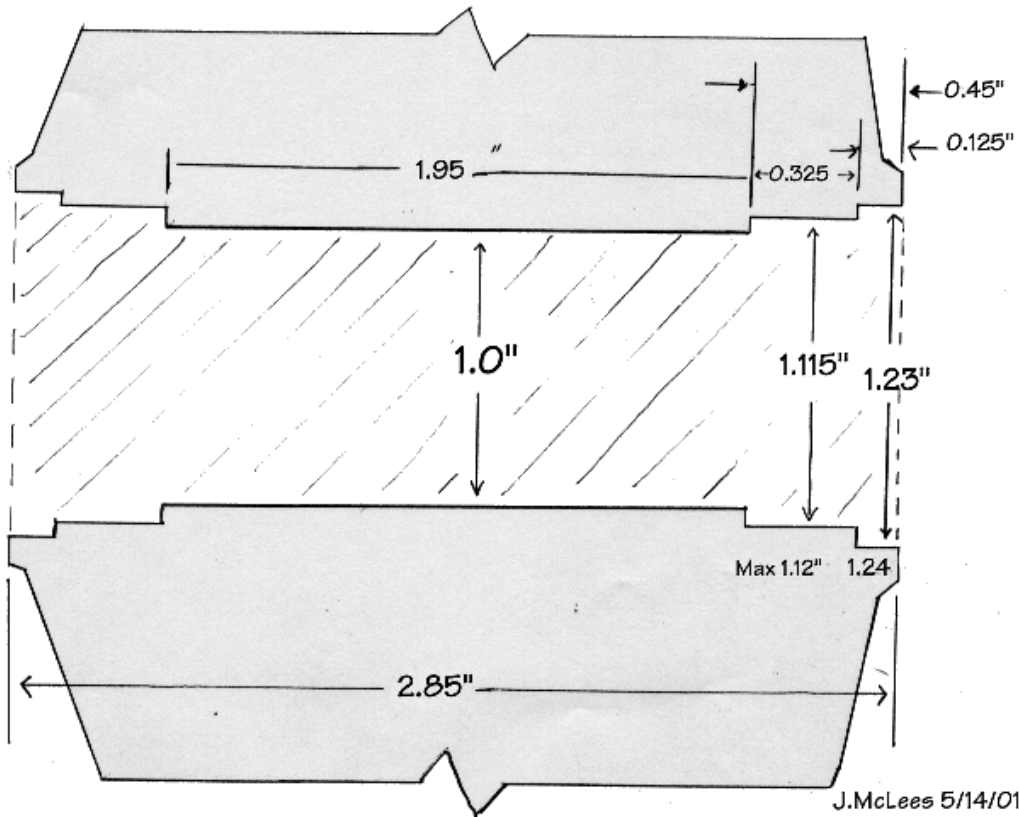
Car may be imaginatively festooned by adding custom bodywork, exhaust pipes, etc., provided the basic dimensions and material specifications shown here are adhered to. **Cars lacking the materials, running gear, and safety equipment equivalent to that shown here will not be permitted to run.**

# OFFICIAL SOAP BOX DERBY Z-GLASS WHEELS

# DUPONT ZYTEL NYLON RIM



## HUB DIMENSIONS (not to scale)



To Order Call **International Soap Box Derby, Inc.** (330) 733-8723  
Or order online at [www.aasbd.com](http://www.aasbd.com) Cost [5/05]: \$100.00 plus shipping

## Soap Box Derby - Suggested Parts List

### Wood Parts

|                    |                |           |  |
|--------------------|----------------|-----------|--|
| <b>2 x 4</b>       | Rear Axle      | 31.5 "    | This may vary with<br>The type of wheel used |
|                    | Front Axle     | 31.5 "    |  |
|                    | Seat Brace     | 20.0 "    | figure about 10 feet                         |
|                    | Seat Brace     | 20.0 "    |  |
|                    | Limiter        | 3.50 "    |  |
|                    | Limiter        | 3.50 "    |  |
| <b>Total</b>       | <b>110.0 "</b> |           |  |
| <b>2 x 6</b>       | Frame          | 51.5 "    | With 12" wheels                              |
|                    | Frame          | 53.5 "    | With 10" wheels                              |
|                    | <b>Total</b>   |           | figure about 5 feet                          |
| <b>2 x 2</b>       | Brake          | 20.0 "    | figure about 2 feet                          |
| <b>½ " plywood</b> | Seat back      | 12 x 14 " | Scrap wood                                   |
|                    | Seat bottom    | 12 x 14 " |  |

### Hardware

| Qty | Part Name                           | Use         |
|-----|-------------------------------------|-------------|
| 4   | 10" or 12" diameter narrow wheels * |             |
| 2   | ½" diameter steel rod 36" long      | axle        |
| 8   | ½" electrical conduit clamps        | axle        |
| 16  | #8 x 1" round head wood screws      | axle        |
| 18  | ½" washers                          | wheels      |
| 1   | ½" x 4" bolt (hex)                  | front pivot |
| 1   | ½" nut                              | front pivot |
| 1   | 5/16" x 4" lag screw                | brake       |
| 2   | 5/16" x 4" bolts (hex)              | rear axle   |
| 3   | 5/16" nuts                          | rear axle   |
| 1   | 5/16" x 2 ½" bolt (hex)             | seat belt   |
| 7   | 5/16" washers                       | rear axle   |
| 10  | #8 x 2" round head wood screws      | seat        |
| 4   | #8 x 2 ½" round head wood screws    | seat        |
| 4   | ¼" x 3 ½" bolts (hex)               | limiters    |
| 4   | ¼" nuts                             | limiters    |
| 8   | ¼" washers                          | limiters    |

\* optional, but recommended - Official Soap Box Derby Z-Glas wheels from  
International Soap Box Derby, Inc., P.O. Box 7225, Akron, OH 44306-7225  
Phone [330] 733-8723 or order online at [www.aasbd.com](http://www.aasbd.com)  
(these wheels come with bearings which must be replaced with bushings)