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# PineWood Derby Racing User Manual

by: Jim Abraham



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**\* Please perform prior to starting a new Racing Event.**

## Set-Up: (Enter Racer Information)

5.

6.

### Enter Racer Information:

1. Click on “Racer Name” entry field, and type Racer Name.
2. Click on “Car Number” entry field, and type Car Number.
3. Select Racer Group. Click on Group1-4, or Open Class.
4. Click on “Enter Data” button to enter racer information in database.
5. Race name will now appear under Group Name above.
6. To exit Set-Up screen, click on the “Exit” button.

## Set-Up: (Revise Racer Information)

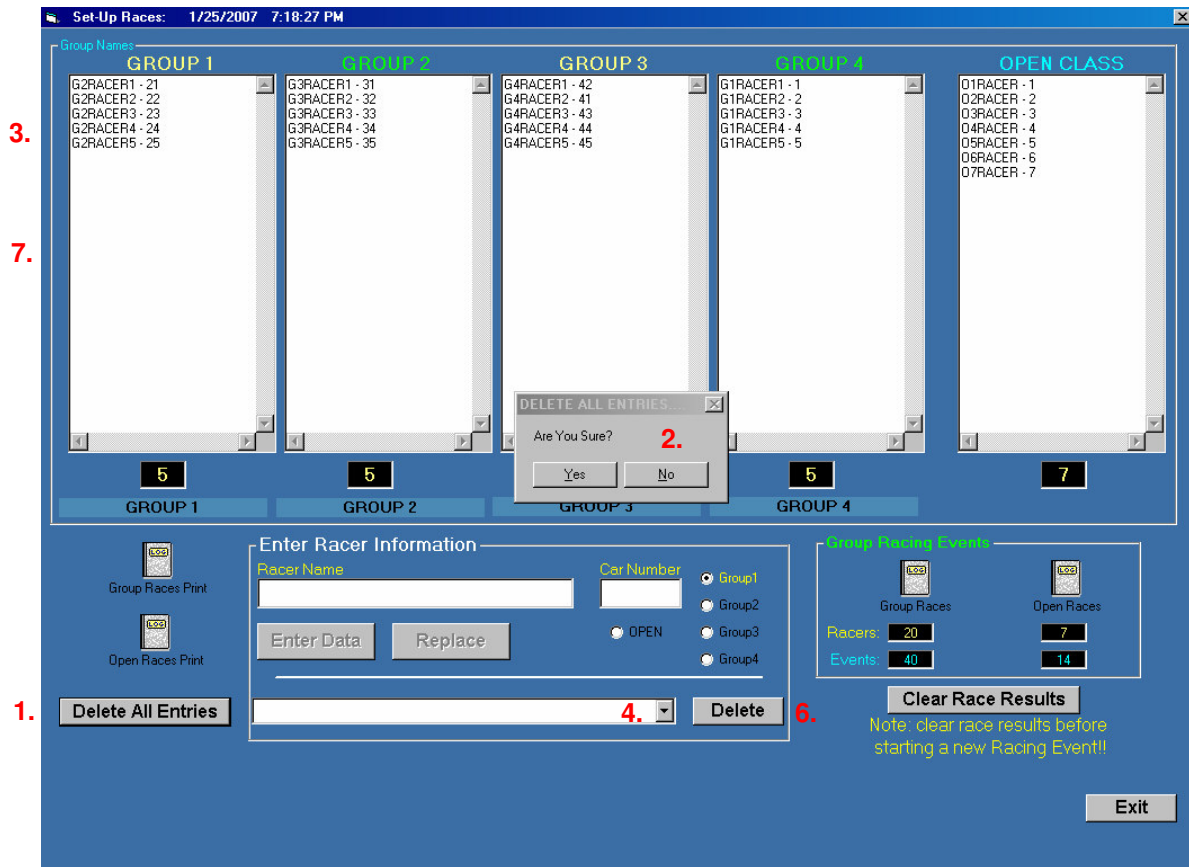
5.

The screenshot shows the 'Set-Up Races' application window. At the top, it displays 'Set-Up Races: 1/25/2007 7:17:48 PM'. Below this, there are five columns representing different groups: GROUP 1, GROUP 2, GROUP 3, GROUP 4, and OPEN CLASS. Each group has a list of racers with their names and car numbers. For example, GROUP 1 lists G2RACER1 - 21 through G2RACER5 - 25. Below each list is a small black box with a white number: 5 for GROUP 1, 5 for GROUP 2, 5 for GROUP 3, 5 for GROUP 4, and 7 for OPEN CLASS. In the center of the interface is a form titled 'Enter Racer Information'. It has a 'Racer Name' field containing '3.', a 'Car Number' field, and radio buttons for 'Group1', 'Group2', 'Group3', 'Group4', and 'OPEN'. Below these are 'Enter Data' and 'Replace' buttons, with '4.' next to the 'Replace' button. To the left of the form is a 'Delete All Entries' button. Below the form is a list of racer names: G1RACER1, G1RACER2, G1RACER3, G1RACER4, G1RACER5, G2RACER1, G2RACER2, G2RACER3, with '2.' next to the list. To the right of the form is a 'Delete' button. On the far left, there are 'Group Races Print' and 'Open Races Print' buttons. On the far right, there is a 'Group Racing Events' section with 'Group Races' (20) and 'Open Races' (7) buttons, and 'Events' (40) and (14) buttons. Below this is a 'Clear Race Results' button and a note: 'Note: clear race results before starting a new Racing Event!!'. At the bottom right is an 'Exit' button.

### Revise Racer Information Already Entered:

1. Click on down arrow next to the white field. A pop up list of racers will appear. (Use down or up arrow keys to index through name list)
2. Click on desired racer name and press the "Enter" key on keyboard.
3. Racer information will appear in white fields above.
4. Revise racer information and click on the "Replace" button.
5. The revised race information will now appear under Group Name above.

## Set-Up: (Delete Racer Information)



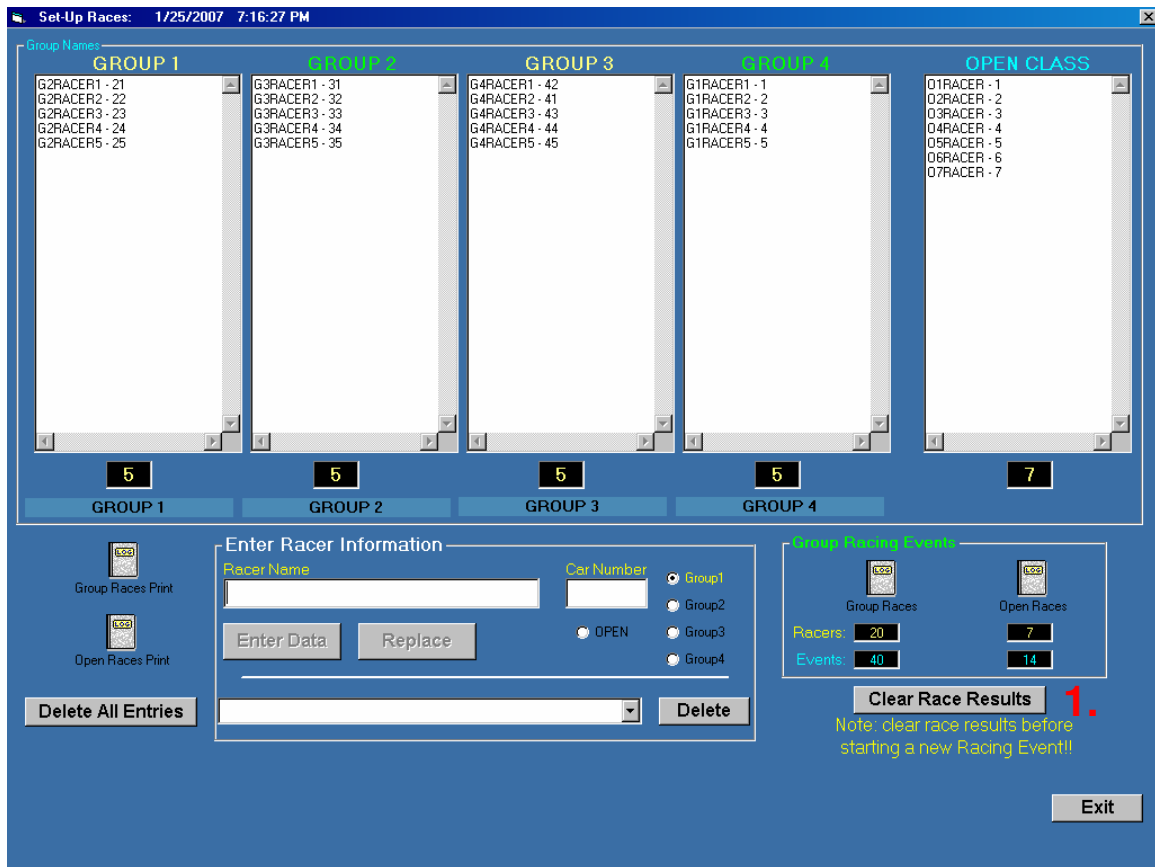
### Delete All Racer Information:

1. Click on "Delete All Entries" button.
2. A pop up message (Are You Sure) will appear to make sure that this is what the user wants to do. Click on the "Yes" button to delete all information or "No" to cancel request.
3. If the user clicked on the "Yes" button, all racer information will be removed from program. (All names will be removed from under Groups 1-4 and Open Class headings.)

### Delete a Single Racer's Information:

4. Click on down arrow next to the white field. A pop up list of racers will appear.
5. Click on desired racer name.
6. Click on the "Delete" button.
7. The race information will disappear under Group Name above.

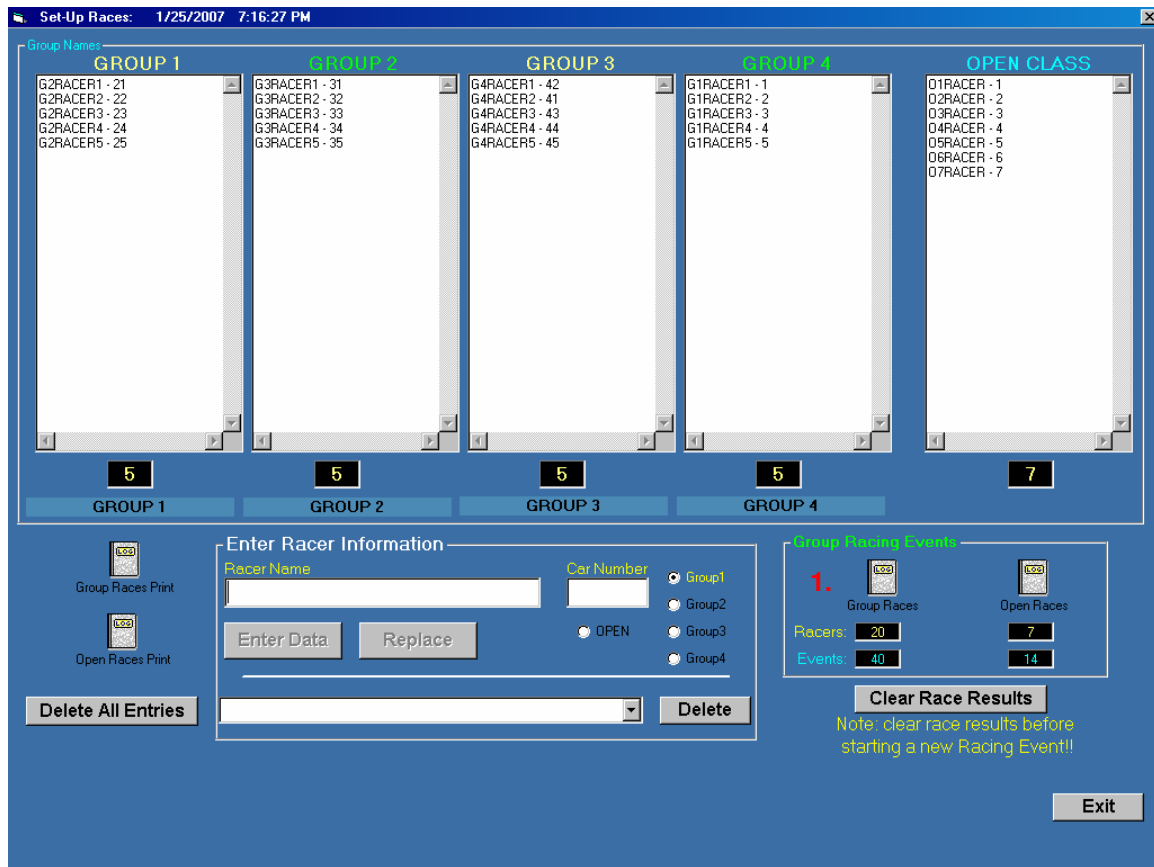
## Set-Up: (Clear Racer Result Files)



### **Clear Racer Result Files:**

1. Click "Clear Race Results" button.
2. All program files will be cleared and ready for a new session on racing to begin.
3. **This is an important step, and must be performed before new racing events can be started. Otherwise the program will malfunction.**

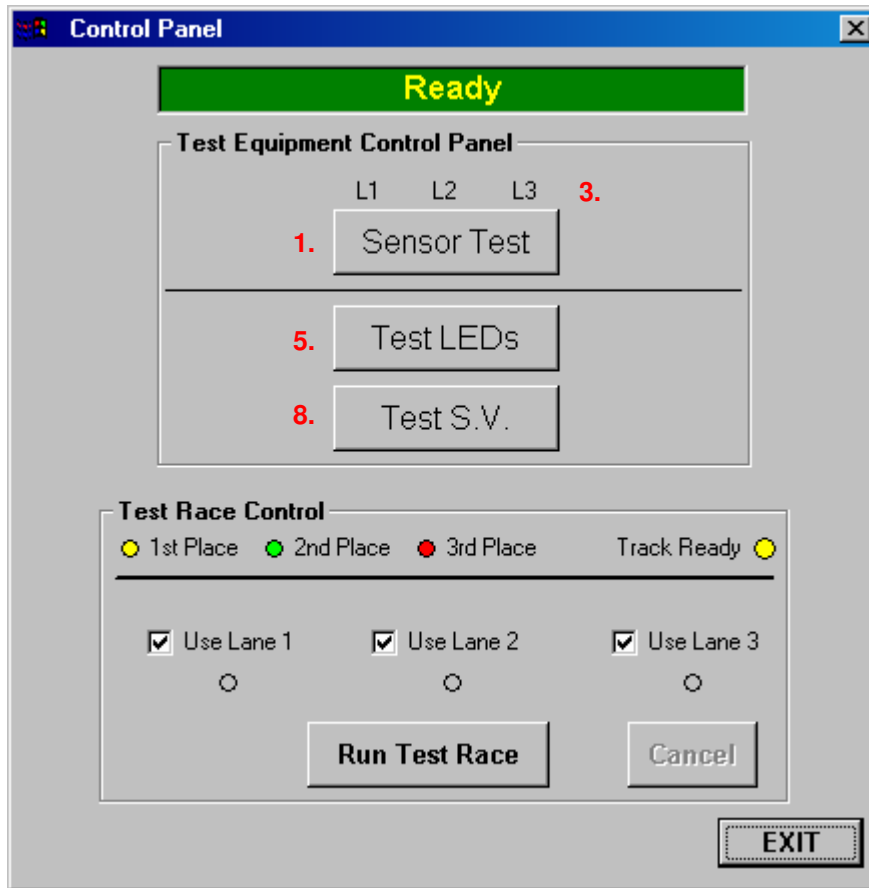
## Set-Up: (Check Racer Assignments)



### Check Racer Assignments:

1. Double Click on "Group Races" or "Open Races" logbook icon to open a file that list the racer assignments for all races in that group.
2. Double Click on "Group Races" or "Open Races" logbook icon to open a file that list the racer assignments for all races in that group. This file is formatted to be printed to a default printed connected to the PC.

## Control Panel: (Test Equipment)



### **Sensor Test:**

1. To test the finish line sensors, click on the “Sensor Test” button.
2. Block the invisible beam going to the bottom sensor on each track.
3. The corresponding LED above the track will turn on and either L1, L2, or L3 will light up on the control panel.
4. When complete, click on the “Done?” button.

### **Test LEDs:**

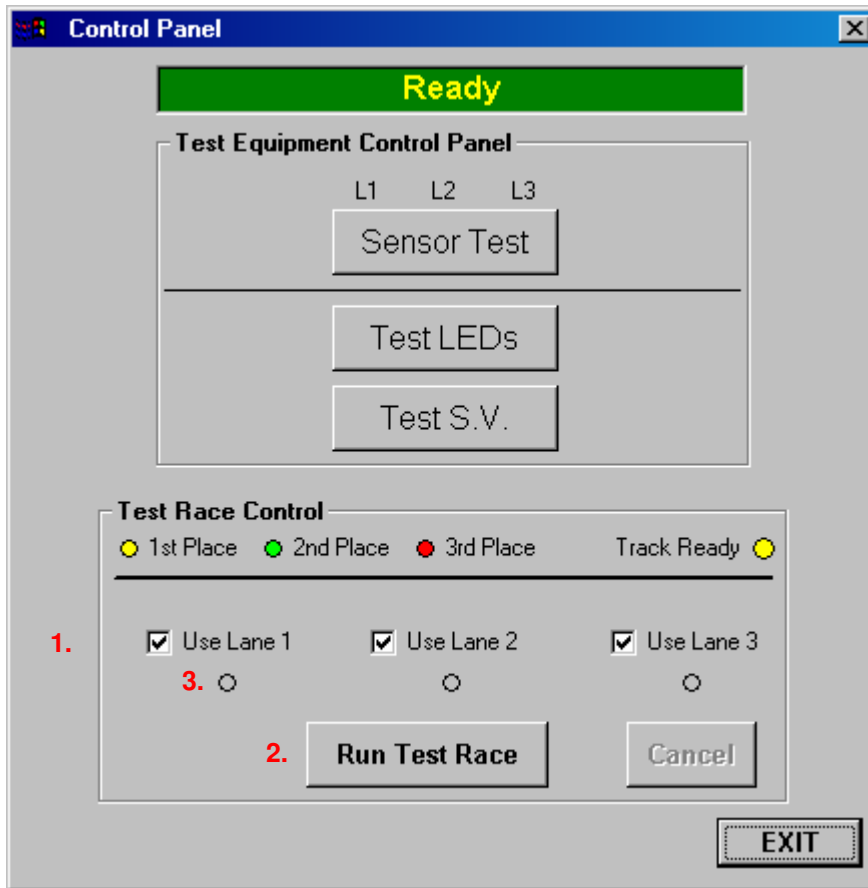
5. To test the LEDs on box at the end of the track, click on the “Test LEDs” button.
6. The Ready, Set, Go, Lane 1, Lane 2, Lane 3 LEDs will turn on.
7. After a few seconds, the test will be complete and all the LEDs will turn off.

### **Test S.V. (Car Release Solenoid Valve):**

8. To test the S.V. at the top of the track, click on the “Test S.V.” button.
9. The solenoid valve will pull down the car release bar in each lane. This is used to release the cars at the start of the race.
10. After a few seconds, the test will be complete and the solenoid valve will allow the bars to return to the car start position.



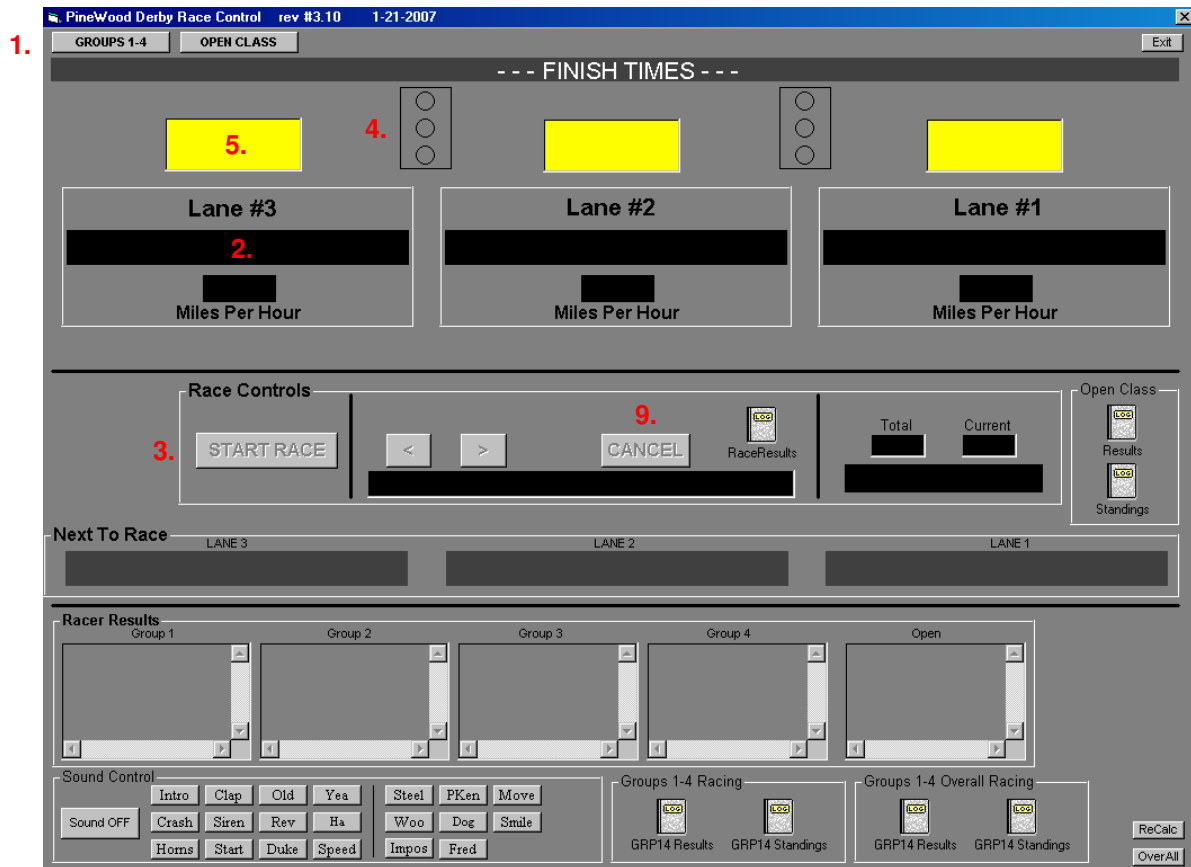
## Control Panel: (Run Test Race)



### **Run Test Race:**

1. To run a test race, select what lanes to be used.
2. Click on the "Run Test Race" button.
3. The circle under the "Use Lane" text will turn yellow for 1<sup>st</sup> place, green for 2<sup>nd</sup> place, or red for 3<sup>rd</sup> place.
4. Wait for the Track Ready circle to turn yellow again to start a new test race.

# Race Control: (Race a Group)



## **Race a Group:**

1. Select group to race, Click on “Groups 1-4” or “Open Class” button.
2. The Group name database will be loaded into the program and racing can be started. Racer names will appear under each Lane.
3. When the race cars are at the start position, click on the “Start Race” button.
4. The READY-SET-GO leds will light up in sequence. When the GO led is turned on and the cars will be released.
5. Also, the times in each lane will start to increment.
6. When a car crosses the finish line, the lane led will turn on indicating the winner. “WINNER” will flash above lane time.
7. When the other cars cross the finish line, the times will stop incrementing and speed of car will be displayed in mph.
8. After 10 seconds, the display and leds will reset and the system will be ready for the next race.
9. To cancel a race before it is saved, click on the “Cancel” button and re-run the race.

See next pages for screen shots.....

# Race Control: (Race a Group – Screen shots)

PineWood Derby Race Control rev #3.10 1-21-2007

GROUPS 1-4 OPEN CLASS

--- FINISH TIMES ---

<b>2.20</b>	<b>2.20</b>	<b>2.20</b>
Lane #3 <b>G4RACER5 - 45</b> Miles Per Hour	Lane #2 <b>G1RACER3 - 3</b> Miles Per Hour	Lane #1 <b>G1RACER1 - 1</b> Miles Per Hour

Race Controls

START RACE < > CANCEL RaceResults

Start Racing...

Total: 40 Current: 1 **Groups 1-4**

Open Class Results Standings

Next To Race

LANE 3 <b>G1RACER1 - 1</b>	LANE 2 <b>G1RACER4 - 4</b>	LANE 1 <b>G1RACER2 - 2</b>
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Racer Results

Group 1 Group 2 Group 3 Group 4 Open

Sound Control

Intro Clap Old Yea Steel PKen Move  
Crash Siren Rev Ha Woo Dog Smile  
Horns Start Duke Speed Impos Fred

Groups 1-4 Racing GRP14 Results GRP14 Standings

Groups 1-4 Overall Racing GRP14 Results GRP14 Standings

ReCalc OverAll

PineWood Derby Race Control rev #3.10 1-21-2007

GROUPS 1-4 OPEN CLASS

--- FINISH TIMES ---

<b>WINNER</b> <b>2.48</b>	<b>2.63</b>	<b>2.75</b>
Lane #3 <b>G4RACER5 - 45</b> <b>219.9</b> Miles Per Hour	Lane #2 <b>G1RACER3 - 3</b> <b>207.4</b> Miles Per Hour	Lane #1 <b>G1RACER1 - 1</b> <b>198.3</b> Miles Per Hour

Race Controls

START RACE < > CANCEL RaceResults

Race Over...

Total: 40 Current: 1 **Groups 1-4**

Open Class Results Standings

Next To Race

LANE 3 <b>G1RACER1 - 1</b>	LANE 2 <b>G1RACER4 - 4</b>	LANE 1 <b>G1RACER2 - 2</b>
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Racer Results

Group 1 Group 2 Group 3 Group 4 Open

Sound Control

Intro Clap Old Yea Steel PKen Move  
Crash Siren Rev Ha Woo Dog Smile  
Horns Start Duke Speed Impos Fred

Groups 1-4 Racing GRP14 Results GRP14 Standings

Groups 1-4 Overall Racing GRP14 Results GRP14 Standings

ReCalc OverAll

## Race Control: (Race a Group – Miscellaneous)

### **Race Results Files:**

Double click on the logbook icons to view results at any time.

- |                      |  |
|----------------------|--|
| Groups1-4 Results:   | contains all racer times.                |
| Groups1-4 Standings: | displays the top 5 racers in each group. |
| RaceResults:         | contains entire racing results.          |

### **When Groups1-4 Racing is Complete:**

1. Print out the “Groups1-4 Standings File” in the Groups1-4 Racing section.
2. Print out the “Groups1-4 Standings File” in the Groups1-4 Overall Racing section.
3. When a group race is complete, exit the program (press the “Exit” button) and restart the program.

### **When Open Class Racing is Complete:**

1. Print out the “Standings File” in the Open Class Racing section.
2. When a group race is complete, exit the program (press the “Exit” button) and restart the program.

### **Play Sound Effects:**

Click on the buttons in the “Sound Control” section to hear sound effects. Be sure that volume is turned on and not muted.

# Data Files:

## File Names and Info. (Data Folder)

FILES	COMMENTS
patrol_info.dat	Racer Names, Car Number, Group #
RaceControlSetup.ini	Time Delays
Setup.ini	Program settings, user configurable

## File Names and Info. (RaceResults Folder)

FILES	COMMENTS
racerresults.dat	Complete Racing Results of every Race
Grp14Results.old	BACKUP - All Race results
Grp14Stand.old	BACKUP - All Groups 1st to 5th placements

## File Names and Info. (SetUp Folder)

FILES	COMMENTS
Group_Racers.dat	Racer Name, Numer, Group #
Group1.dat	Group 1 Racer Names
Group11.dat	Group 1 Racer Names - Car Number
Group2.dat	Group 2 Racer Names
Group22.dat	Group 2 Racer Names - Car Number
Group3.dat	Group 3 Racer Names
Group33.dat	Group 3 Racer Names - Car Number
Group4.dat	Group 4 Racer Names
Group44.dat	Group 4 Racer Names - Car Number
Group55.dat	Group 5 Racer Names - Car Number

## File Names and Info. (Groups1-4 Folder)

FILES	COMMENTS
Grp_EventPrint.dat	(Print Out) Racing Events
Grp_RaceEvent.dat	Groups 1-4 Racing - Racer lane assignments
Grp#2ndTieRaces.dat	2nd place ties
Grp#3rdTieRaces.dat	3rd place ties
Grp14Info.dat	Racer Avg time, Max, Min times
Grp14Race.dat	Current Race results
Grp14Results.dat	All Race results
Grp14Stand.dat	All Groups 1st to 5th placements
Grp14StandTie.dat	Racer and Avg time (Used to determine ties)
Grp1Tie.dat	Racer Names (Tie races)
Grp1TieRaces.dat	Racer lane assignments for tie breaker races
Grp2Tie.dat	Racer Names (Tie races)
Grp2TieRaces.dat	Racer lane assignments for tie breaker races
Grp3Tie.dat	Racer Names (Tie races)
Grp3TieRaces.dat	Racer lane assignments for tie breaker races
Grp4Tie.dat	Racer Names (Tie races)
Grp4TieRaces.dat	Racer lane assignments for tie breaker races
GrpRaceTime.dat	Racer Names with all Finish Times
GrpTiesResults.dat	Racer results

## File Names and Info. (OverAll Folder)

FILES	COMMENTS
Grp_Overall.dat	Overall Racing - 1-2-3 Place Racers in All Groups
Grp_Overall_Races.dat	Overall Racing - Racer lane assignments
Grp_Overall_Results.dat	Overall Racing - Racing Finish Times
Grp_Overall_Standings.dat	Overall Racing - 1st to 5th placements
OverallTimes.dat	Racer Names, Avg Time, MPH

## File Names and Info. (OpenClass Folder)

FILES	COMMENTS
OC_EventPrint.dat	(Print Out) Racing Events
OC_Group.dat	Open Class Racer Names
OC_Info.dat	Racer Avg time, Max, Min times
OC_RaceEvent.dat	Groups 1-4 Racing - Racer lane assignments
OC_Racers.dat	Racer Name, Numer, Group #
OC_RaceTime.dat	Racer Names with all Finish Times
OC_Results.dat	All Race results
OC_Stand.dat	All Groups 1st to 5th placements
OC_RaceEvent.dat	Open Class Racing - Racer lane assignments

## **PineWood Derby Rules:**



1. The maximum weight is 5.0 ounces (142 grams).
2. Except for weights, decorations, adhesives, and lubricants, you must use the pine block, wheels, and axles from the original Pinewood Derby kit. (Prohibited items: Motors, rubber bands, springs, starting devices, bearings, bushings, washers, skids/runners, and wet paint. ) Weights and decorations must be securely attached.
3. The original axles and wheels cannot be reshaped, although wheel irregularities (e.g., spur, flash) can be removed.
4. The car must fit the track.  
Areas of concern are:
  - Overall height (clearance of electronic finish gate)
  - Height of nose (reach of starting gate posts)
  - Ground clearance (height of lane guides, plus allowance for the bending of the track)
  - Overall width (separation between lanes)
  - Body width at axles (width of lane guides)
  - Rear axle location (length of track behind starting gate)

### **DERBY CAR SPECIFICATIONS:**

ALL CARS MUST MEET THE FOLLOWING SPECIFICATIONS

LENGTH : 7-1/2"  
WIDTH : 2-3/4"  
MAX HEIGHT : 3.0"  
MAX WEIGHT : 5.5 oz.

### **GENERAL RULES:**

- A CONTESTANT MAY ENTER ONLY ONE CAR PER RACING CLASS/GROUP.
- CAR MUST FIT ON AND DOWN THE TRACK WITHOUT INTERFERING WITH ANY OTHER CAR.

### **RACING SEQUENCE:**

FOR EACH RACING GROUP:

- FIRST, SECOND AND THIRD PLACE WINNERS WILL BE ESTABLISHED.

OVERALL WINNERS:

- WHEN ALL RACING GROUPS ARE COMPLETED, THE FIRST PLACE WINNER IN EACH GROUP WILL RACE FOR OVERALL FIRST, SECOND AND THIRD PLACE.

## **Royal Ranger Pledge:**

With God's help, I will do my best to serve God, my church, and my fellowman; to live by the Ranger Code; to make the Golden Rule my daily rule.

Teaching young boys to become men of God