



Lovettsville Cub Scout Pack 962

OPERATIONS GUIDE

EVENT PLANNER: Pinewood Derby

Event Planner: Pinewood Derby

Description: Annual Cub Scout Pinewood Derby – Scouts, with parental supervision, build a Pinewood Derby car from an official BSA kit. The cars are raced on a special track with timing equipment. This event generally runs a full day. Time the event to maximize income from the concession (see separate planner)

Timing: February

Tasks:

Task	Timing	Notes
Planning meeting (with Derby Committee)	12 weeks prior	-Establish Derby Committee -Set a Derby Date (make sure it is before the District Derby so Pack Winners can compete) try to check date of annual Ski trip and Elementary School's have a heart party -Decide on Unlimited Rules -Compare Scout/Sibling rules to the District rules to ensure Pack winners will be able to compete in the district Derby.
Arrange location	10 weeks prior	We usually use Mt. Olivet's Fox Hall
Pinewood Derby Flyer and Rules	8 weeks prior	Copies of the 2006 rules and flyer are attached (attachment A & B).
Order trophies	4 weeks prior	Use Crown in Sterling: 21595 Cedar Lane – Unit A, Sterling, VA 20166 Tel: 703-430-9777
Order patches	4 weeks prior	
Import Roster	1 week prior	load the roster into Grand Prix Race Manager and assign car numbers
Driver's licenses	1 week prior	Create "licenses" on business card stock. Create extra blank licenses in case of errors, for siblings, etc.
Stickers	1 week prior	Create stickers on Avery 8167 (1/2x1 3/4) labels with car number and name. Print an extra 30-40 stickers for Sibling and Adult class (number and room to write in name)
Cubmaster's Cup	Day of the Derby	Make sure previous year's winner has written his name on the cup when he returns it on the day of the race. Voting for the Cup takes place at the Pack meeting following the Derby.
Submit names of Scouts who want to participate in the District Derby	2 weeks prior to the District Derby	In 2006, the name, rank and Pack # of the competitors were e-mailed to TJ Shutt (tishuffjr@aol.com). The Webelos II were asked to arrive with the Pack flag and participate in a opening ceremony.

Volunteers:

Volunteers	Number	Duties
Setup	5	Arrange chairs, tables, assemble track
Clean-up / tear-down	5	Clean-up and return room to original setup.



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Other Resources: [what other resources are required?]

Resource	Description
Track, impound stands, timer, computer	Track currently stored at John Blackwell's house; small parts, timer, and computer are at Mike O'Brien's house
Test Cars	Run a couple of test cars to make sure all track seams are aligned.
Stadium Stands for Impound Area	Racks that hold the cars.
Mouse	For use with the race computer
Duct tape	To secure loose cables to the floor
Allen wrench	Bring more than one; a drill (with torque setting) is very helpful
Phillips screw driver	
LCD projector, screen	For projection of race results
Extension cords	1 20' heavy duty, 1 power strip (computer and equipment), 1 12 ft. household extension (finish gate, camera)
Video camera with RCA video out	For photo finish
15-20' RCA cables	To allow placement of the camera closer to the finish
Tripod or other camera mount	To hold the finish line camera
Decorations	Minimally need caution tape to rope off the track area (some left over decorations, including black & white streamers, caution tape and black & white balloons are stored with the track).
Masking or Painters Tape	To hang decorations and caution tape.
Judging sheets	Judging worksheet (see separate Excel files), instructions for Best-in-Show awards (Attachment C), clipboards and pens/pencils.
Sharpies	
Digital scale	Need two for the inspection table and one for the pit area.
Dimension box	Need to build new boxes to check car dimensions
Extra weights	
Graphite	Ensure graphite is only used over drop cloth/table cloth.
Pit Area tools	Should have drill (cordless if possible), Dremel, and chisels.
Drop cloth	For pit area (should be at least 10x10)
Table Cloths	Two table cloths to cover pit tables, to keep wood shaving and graphite off the tables.
Result Sheets	Write down names of winners, especially Best-in-Show
Optional: printer	Bring drivers, USB hub, and paper

Budget: [provide a budget template and estimates for the event]

Item	Income	Expense
Donation to Mt. Olivet		\$100.00
Trophies		\$220.00
Patches		

BUDGET TOTAL: (\$320) Note: offset by concession income

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Trophy Order

Contact: Curtis Berger – Tel: 703-430-9777 Fax: 703-430-1958, Crown Trophy (www.crowntrophy.com/stores/store112.html)

Race Awards:

1st place by Den (QTY 5): 14" dated trophy (#7730), inscribed:

**1st Place - <rank>
Cub Scout Pack 962
<year> Pinewood Derby**

2nd place by Den (QTY 5): 12" dated trophy (#7702), inscribed:

**2nd Place - <rank>
Cub Scout Pack 962
<year> Pinewood Derby**

3rd place by Den (QTY 5): 10" dated trophy (#7700), inscribed:

**3rd Place - <rank>
Cub Scout Pack 962
<year> Pinewood Derby**

Siblings and Unlimited

1 per class and place medals (6 total: 2 Gold, 2 Silver, and 2 Bronze) inscribed:

**<place> Place
<class>
Pack 962
<year>**

Grand Champion

1st Place: 3-column 30" dated trophy (#1077) inscribed:

**Grand Champion 1st Place
Cub Scout Pack 962
<year> Pinewood Derby**

Note: Traditionally the Committee Chair donates the 1st place Grand Champion trophy to the pack (\$55)

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2nd Place: 14" dated trophy (#7730), inscribed:

**Grand Champion 2nd Place
Cub Scout Pack 962
<year> Pinewood Derby**

3rd Place: 12" dated trophy (#7702), inscribed:

**Grand Champion 3rd Place
Cub Scout Pack 962
<year> Pinewood Derby**

Best-in-Show Awards

1st Place by Den (QTY 5): 11" dated trophy (#7701) inscribed:

**<rank> Best-in-Show 1st Place
Cub Scout Pack 962
<year> Pinewood Derby**

2nd (silver) and 3rd (bronze) place medals (QTY 5 each) inscribed:

**<place> Place
<rank>
Pack 962
<date>**

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Attachment A – Cub Scout and Sibling Rules



2006 Pack 962 Pinewood Derby

February 11th, 2006

Fox Hall

Mount Olivet Church



Design and Construction Rules Cub Scout and Sibling Classes



Rules for the 2006 Pinewood Derby mirror those established for the District Pinewood Derby and will be enforced. Tops finishers at the Pack Derby will have the opportunity to compete in the District Derby on May 4th, 2006.

WEIGHT

Cars cannot weight over 5 ounces as determined at the time of registration on Derby Day by the official scale as judged by a member of the race staff. 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, e.g. by permanent glue, nails or screws, but not by "sticky substances", e.g. tape, or tack

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spray. Weights shall be passive, i.e. non-moveable, non-magnetic, non-electric, non-sticky, etc.

SIZE

Overall **length** cannot exceed 7 inches. Overall **width** cannot exceed 2 $\frac{3}{4}$ inches. Overall **height** cannot exceed 4 inches (**To fit under the top of electronic timer/Finish Line**). Underside clearance of at least $\frac{3}{8}$ (0.375) inches and inside wheel-to-wheel clearance of at least $1\frac{3}{4}$ (1.75) inches is recommended, so that the car will run on the racetrack. Adequate clearance is the responsibility of the racecar builder.

WHEELS AND AXELS

1. Wheels **must** be the Official B.S.A. wheels provided in the Pinewood Derby Kit.
2. Axles (Nails) **must** be the Official B.S.A. axels provided in the Pinewood Derby Kit. **Solid axles are not permitted.**
3. Bearings, washers or bushings on the wheels or axels are prohibited.
4. Springs or suspensions of any kind are prohibited.
5. Wheels must be able to come into direct contact with the body of the car.
6. Wheels may be lightly sanded. Rounding or thinning of the wheels is prohibited.
7. Hubcaps are not permitted.
8. Car must have adequate ground clearance to fit the track.
9. All cars must have four wheels; at least three need to touch the track surface.
10. The wheels must be placed in the slots provided. If a wheel is broken and a new slot is needed, the slot cannot exceed $\frac{1}{4}$ th of an inch from the original position (the original slots are cut at $4\frac{1}{2}$ ").
11. Only dry-lubricants are allowed. Petroleum-based lubricants are not allowed. Powder Graphite is the most popular.
12. Needed repairs must be completed in the pit area and must be viewed by a race official.
13. The pit area is restricted to race officials and race workers. Anyone taking his or her car out of the pit area without permission will be disqualified.

CONSTRUCTION AND DESIGN

1. Cars **must** have been built AFTER last year's (2005) Pinewood Derby Race.

Planner: Pinewood Derby Race

2. Cars **must** have been built by the Cub Scout entrant. (Some parental or other adult assistance is permitted.)
3. Added weights must be of a solid material (e.g., metal, plastic, wood, etc.)
4. Lead shot or other moveable weights are not permitted. (Lead shot is permitted if imbedded in a solid non-moveable material).
5. Moveable (i.e., loose) parts are not permitted.
6. Added design features are permitted if they comply with all other Design and Construction Rules.
7. Cars must be clean and dry. (No wet glue, paint or lubricant).
8. No part of the car may extend beyond the starting mechanism of the racetrack. The front of the car must have a minimum of a ¼” flat surface to be placed against the starting mechanism. The distance between the front axle and the front of the car shall not be modified.

INSPECTION and REGISTRATION

Each car must pass a technical inspection before it may compete. Technical inspection and registration of cars occurs the morning of the race.

The inspection will consist of the following:

- Weighing on the official race scale (calibrated using an official BSA 5 oz weight)
- Height, width and ground clearance check via the “inspection box”
- Visual inspection to confirm the following:
 - Wheels and axels are BSA kit standards
 - Wheel placement used standard axel grooves
 - Wheel modification limited to light sanding
 - No part of car will extend beyond starting gate
 - No loose parts or loose/movable weights
 - No “wet” lubricants were used on the car

Failure to Pass Inspection: The Inspection Committee shall disqualify cars that do not meet the rules as described herein. If a car does not pass inspection, the owner will be informed of the reason his car did not pass. Cars that fail the initial inspection may be taken away from the inspection area, modified, and brought back for re-inspection. No car may be altered in any way after it has been registered. After a car passes registration, it will be stored by the Pinewood Derby Race Committee in an impound area.

RACE DAY RULES INTERPRETATION

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On Race-Day, the Cub Scout must make all questions of rules interpretations and procedures to the Pinewood Derby Chairman or Race Officials promptly. Decisions of Race Officials on questions of rules interpretations and procedure may be appealed to the Pinewood Derby Chairman. All decisions of the Pinewood Derby Chairman are final. Decisions of Race Officials on questions of fact (i.e. the result of a specific race) may not be appealed beyond Race Control And/or Finish Line Judges. **Note:** Un-sportsman like conduct by any participant or spectator will be grounds for expulsion from the competition and/or the race area.

COMPETITOR CATEGORIES

1) Races will be held for each rank (Tiger Cub, Wolf, Bear, Webelos I and Webelos II). Awards will be given for the 1st, 2nd, and 3rd place finishers at each level. The top finisher from each level will represent that level in the Grand Championship race, trophies will be awarded to the top three Grand Champion finishers. We will also be having awards for the “car show”, so encourage the boys to be creative in their designs and decorations.

2) We will also hold a race for any siblings who wish to build and race a pinewood derby car. Rules for the sibling class will be the same as those explained above for the Cub Scouts. We will also be having awards for the “car show”, so encourage the siblings to be creative in their designs and decorations.

3) The final race will be the unlimited class. This category is reserved for adults or older siblings who want to build cars and participate in the fun. Rules for this class differ from those established for the Cub Scout and siblings classes, and are detailed on a separate sheet. We will also be having awards for the “car show”, so be creative with designs and decorations.

STAFF AND RACES OFFICIALS

Each den shall provide at least one person to help during setup, cleanup and to assist with the running of the concessions stand during the day. They will not be asked to help during a race in which a family member participating.

RACE DAY SCHEDULE

9:00 – 11:00	Decorating/Setup and Track Assembly
10:30 – 11:00	Tiger Registration
11:00 – 11:30	Tiger Racing/Wolf Registration
11:30 – 12:00	Wolf Racing
12:00 – 12:30	Lunch Break/Bear Registration

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12:30 – 1:00	Bear Racing/Webelos I Registration
1:00 – 1:30	Webelos I Racing/Webelos II Registration
1:30 – 2:00	Webelos II Racing
2:00 – 2:30	Grand Championship Race/Sibling and Unlimited Class Registration
2:30 – 3:00	Sibling Racing
3:00 – 3:30	Unlimited Class Racing
3:30 – 5:00	Cleanup

AWARDS

Awards will be presented at the conclusion of each race class. After all levels have raced, the top three finishers from each rank will compete for the Grand Championship.

IMPORTANT THINGS TO REMEMBER ON RACE DAY

- Each den must recruit one adult for setup and cleanup.
- Each den must recruit one adult to assist with the concessions stand.
- Once cars have been placed in the impound area, they can not be removed until after it has raced.
- Cars which do not meet, or can not be made to comply with, the official rules will be allowed to race, but will be disqualified from any racing awards.
- Scouts may race their cars by proxy if they can not attend the race, but will be disqualified from any racing awards.
- Remember, we are guests of Mt. Olivet. Please remember to cleanup any messes created in the pit areas. No Painting will be allowed inside Fox Hall.

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Attachment B – Unlimited Rules



2006 Pack 962 Pinewood Derby

February 11th, 2006

Fox Hall

Mount Olivet Church



Design and Construction Rules **Unlimited Class**



WEIGHT

Cars cannot weight over 10 ounces as determined at the time of registration on Derby Day by the official scale as judged by a member of the race staff. 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, e.g. by permanent glue, nails or screws, but not by "sticky substances", e.g. tape, or tack spray. Weights shall be passive, i.e. non-moveable, non-magnetic, non-electric, non-sticky, etc.

SIZE

- There is no limit to the overall **length**, however the distance from the front of the car to the rear axle should not exceed 8 inches (otherwise the back wheels will be off the start area). No part of the car shall extend past the start gate.

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- Overall **width** cannot exceed 2 ¾ inches.
- Overall **height** cannot exceed 7 inches (**To fit under the top of electronic timer/Finish Line**).
- 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 racetrack. Adequate clearance is the responsibility of the racecar builder.

WHEELS AND AXELS

14. Wheels can be the Official B.S.A. wheels provided in the Pinewood Derby Kit, or straight axle wheel kits with BSA similar wheels. The wheels must 1.8 inches, but can be lightened, rounded or thinned.
15. Bearings, washers or bushings on the wheels or axels are prohibited.
16. Springs or suspensions of any kind are prohibited.
17. Wheels must be able to come into direct contact with the body of the car.
18. Car must have adequate ground clearance to fit the track.
19. Only dry-lubricants are allowed. Petroleum-based lubricants are not allowed. Powder Graphite is the most popular.
20. Needed repairs must be completed in the pit area and must be viewed by a race official.
21. The pit area is restricted to race officials and race workers. Anyone taking his or her car out of the pit area without permission will be disqualified.

CONSTRUCTION AND DESIGN

9. Cars **must** have been built AFTER last year's (2005) Pinewood Derby Race.
10. Cars **must** have been built by the Cub Scout entrant. (Some parental or other adult assistance is permitted.)
11. Cars **must** be gravity propelled with no “assist” mechanisms.
12. Added weights must be of a solid material (e.g., metal, plastic, wood, etc.)
13. Lead shot or other moveable weights are not permitted. (Lead shot is permitted if imbedded in a solid non-moveable material).
14. Moveable (i.e., loose) parts are not permitted.
15. Added design features are permitted if they comply with all other Design and Construction Rules.

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16. Cars must be clean and dry. (No wet glue, paint or lubricant).
17. No part of the car may extend beyond the starting mechanism of the racetrack.
The front of the car must have a minimum of a ¼” flat surface to be placed against the starting mechanism. The distance between the front axle and the front of the car shall not be modified.

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2:30 – 3:00	Sibling Racing

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3:00 – 3:30	Unlimited Class Racing
3:30 – 5:00	Cleanup

AWARDS

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Attachment C

Pack 962 Pinewood Derby Judges Scorecard

All categories should be rated between 1 and 10, with 10 being the highest and 1 being the lowest.

Originality – How original is the overall design of the car.

Decoration – How creatively is the car decorated.

Workmanship – What is the quality of the work on the car. For example, are the edges sanded?; Is it painted neatly?

Scout Involvement – This is a very difficult category to judge. Most scouts are not allowed to cut out car using power tools, but should be doing most of the other work by themselves. This includes painting, decorating, and sanding. We have some very creative and talented scouts, so this may not always be clear. Please feel free to talk to the leaders if you have any questions.