

**Service Unit 80-9
Powder Puff Derby
Saturday January 15, 2011**

Hosted by Girl Scout Troop 1436

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1 Purpose

The purpose of the Powder Puff Derby is as both a craft-learning experience and a competition for the child. As such, the parent/child team should strive to do their best in crafting the car, and in making it go fast, while enjoying the opportunity to work together. To balance all of these aspects of the project can be a bit of a challenge. To help you achieve a balance, we offer the following guidelines:

1. The parent should make sure that the child is involved to the greatest extent possible in all aspects of the project, while taking into account the child's age and capabilities. Here are some ideas for making sure that the child stays involved.
 - a. Help the scout select a design that he can build, without the parent having to do the majority of the work.
 - b. Allow your child to do as much as he physically and safely can accomplish. This will tend to slow things down (an excellent exercise in patience for the parent!).
 - c. Show your child the proper use of tools.
 - d. Help your child work through the required steps (no shortcuts) and help her understand why the steps are important.
 - e. Add strength and/or finesse for those steps that the child cannot do (initial saw cuts, drilling straight, inserting axles, etc).
2. If you choose to use more sophisticated tools, supplies, techniques, keep your child engaged at each step. Help him to understand the purpose for each tool or technique, and let them use the tool whenever possible. If you have access to a machine such as a drill press or lathe, explain why the machine is being used, show your child how to use the machine, and let your child run the machine (assuming that he is at an age where he can do so safely).
3. Give your child the Powder Puff Derby building experience. Buying an "almost guaranteed district championship car" is very easy these days, but it cheats both you and your child out of the whole experience.
4. Make some happy memories and enjoy yourselves each step of the way!

2 GENERAL RULES: (Applies to all Race Events)

2.1 Essential Materials

All cars entered shall be constructed from the "Official Grand Prix Pinewood Derby Kit" (referred to below as the kit) as distributed thru your troop leader.

2.2 Competitor Categories:

Scouts will compete with others in the same scouting Grouping: Daisy scouts, Brownie scouts, Junior scouts or Teen scouts. The first place winners in each Grouping will move on to the finals.

2.3 Attendance

The Girl Scout MUST enter her own car. This means that the Girl Scout must be present at "Inspection and Registration" to enter her car into competition. The car will be registered under a name chosen by

the scout, so be prepared to register your car with this name during the inspection times listed below. Examples: Pink Beauty, Purple Pony, Red Dragon, Lightning Bolt, etc....

2.4 New Work

Construction of ALL entries MUST have begun AFTER last year's SU 80-9 Powder Puff Derby Races.

2.5 Single Entry per Person

Only one car may be registered by any person in the Powder Puff Derby.

2.6 Inspection and Registration

Each car must pass a technical inspection before it may compete. Technical inspection and registration of all cars, including those racing in the open class, will occur on Friday, January 14, 2011, from 7:00 pm to 9:00 pm and Saturday, January 15th 8:00 am to 10:00 am at Old Bridge United Methodist Church's Fellowship Hall. Cars will not be registered after 9:00 pm on Friday night or 10:00 am on Saturday morning. Car must be registered prior to the start of a heat (i.e. Daisies will start at 9:00AM). No exceptions.

2.7 Failure to Pass Inspection

The Registration Team 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 home for modifications and brought back no later than 10:00 am on Saturday, January 15, 2011 for final inspection and registration.

2.8 Impound

No car may be altered in any way after it has been registered. After a car passes registration, it will be stored by the Powder Puff Derby's Registration Team until race day & time.

2.9 Car Design Rules Interpretation

Interpretation of the rules described in 2.1 through 2.10, and 3.1 thru 3.9 are at the sole discretion of the Registration Team present during the Registration and Inspection process.

2.10 Race-Day Rules Interpretation

On Race-Day, the Girl Scout must make all questions of rules interpretations and procedures to the Powder Puff Derby Chairman or Rules Team promptly. Decisions of the Rules Team on questions of rules interpretations and procedure may be appealed to the Powder Puff Derby Chairman. All decisions of the Powder Puff Derby Chairman are final. Decisions of any race officials on questions of fact (i.e. the result of a specific race) may not be appealed beyond the Pit Crew Captain and/or Finish Line Judges. Note: Unsportsmanlike conduct by any participant or spectator will be handled by the Scout

Leader and/or Service Unit Manager, and may be grounds for expulsion from the competition and/or the race area.

3 RACE CAR DESIGN STANDARDS

3.1 Material

Race cars shall be constructed for this event from the parts contained in the Official Grand Prix Pinewood Derby Kit (referred to below as the kit) as sold by the Northern Virginia Scout Shop, Springfield, Virginia. Materials from the kit may be supplemented but not replaced. If an item from the derby kit is damaged or destroyed during construction that item may be replaced only by an official like item sold as a replacement part.

3.2 Weight

Race cars may weigh no more than five (5) ounces (total weight) as determined on the official scales during registration. Note: The official scale will be available at the Registration dates mentioned above in G-6 and on race day.

3.3 Wheels and Axles

The car shall roll on the wheels from the kit. The wheels shall turn about the axle nails from the kit. The axle nails shall be firmly affixed to the wood of the car body and may be glued into place. The axle grooves may be modified/moved (i.e. redrilled/recut) from the original placement in the block of wood, but the overall length of the car shall not exceed 7 inches. It must be obvious to the Registration Team that the wheels and nails are from the same BSA stock as the car kits.

3.4 Size

Race cars may be no longer than 7 inches, nor wider than 2-3/4 (2.75) inches, as determined by the official gages during registration and inspection. 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 race track. Adequate clearance is the responsibility of the race car builder.

3.5 weights and Attachment

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, nonelectric, non-sticky, etc. BSA policy prohibits the use of lead weights for health safety reasons.

3.6 Wheel Treatment

Wheel treatment (hub and tread smoothing and polishing) may not result in substantial removal of mass or in reducing the wheel width from the original kit wheels. Wheels may be sanded and polished but may not be machined to a beveled condition, the "BSA" logo should remain untouched on the wheel face and visible to the inspectors, and the portion of the wheel surface that contacts the track must remain parallel to the axle.

3.7 Unacceptable Construction

The following may NOT be used in conjunction with the wheels or axles: hubcaps, washers, inserts, sleeves, bearings.

3.8 Gravity Powered

The race car may not be constructed or treated in such a way that the track's starting mechanism imparts momentum to the car. (For instance, this provision disqualifies cars with sticky substances on the front of the car and protrusions which may catch on the starting pin.)

3.9 Lubricants

Only dry lubricants such as graphite or powdered teflon "white lube" will be allowed for lubricating the wheels. Lubrication shall be applied only on or before registration day. No lubrication after registration is closed.

4 CONDUCT OF THE RACES

Competition will consist of heat races within each Scout Grouping, and a Final race at the Service Unit level. Track officials are responsible for the proper conduct of the races.

4.1 Inspection Gauges

The race-day car repair area will have the official scale and length box. Official weigh-in and size check of each car will take place only during registration. All Girl Scouts should be prepared to make necessary adjustments to their car during registration and inspection.

4.2 Lane Assignment

To equalize differences among track lanes, four lanes shall be used in each heat and all cars will race in each lane at least one time. This method shall be used for all heats in each Grouping and also for Service Unit championship race.

4.3 Winning the Heat

During the course of a heat, each car will race in each lane once and the car's finishing place for each race will be recorded (ex. first, second, third or fourth.) The car with the most number of wins finishes for the four races (one race in each lane) will determine the heat winner. When a car advances to the next round, a new total is begun.

4.4 In Case of a Tie

Should two cars have the same total number of wins, there shall be a one race run off to break the tie. Lane assignment will be drawn at random by the Pit Crew. The winner shall take first place, the second place car in the tie breaker race shall take second place, and the next car with the next fastest time shall take third place. This same procedure will take place if multiple cars have the same total number of wins.

4.5 Car Leaves Lane

If, during a race heat, a car leaves its lane but proceeds down the track in a manner that does not interfere with its opponent, then the race will be called normally. If the car leaves its lane and interferes with another car, the race will be re-staged and re-run. If the same car again leaves its lane and interferes with another car, that car will be judged last place, and the race will be re-staged and re-run without that car.

4.6 Car Leaves Track

If, during a race heat, a car leaves the track without interfering with its opponent, it shall be considered to have ended its heat at that point.

4.7 Car Repair (Without Fault)

If, during the race, a wheel falls off or the car becomes otherwise damaged, a Pit Crew member shall, to the best of his ability, perform repairs at the repair table.

4.8 Car Repair (With Fault)

If a car is damaged due to track fault, or damage caused by another car or person, a Pit Crew member shall, to the best of his ability, perform repairs at the repair table.

4.9 No Finishers

If, during a race heat, no car reaches the finish line on the track, the car which went the farthest in its lane shall be declared as the heat winner.

4.10 Track Champion

The top finishers from each Grouping/Level shall have their cars impounded on the stage until the start of the SU Championship Finals.

4.11 Track Fault

If a car leaves its lane, at his sole discretion, the Track master may inspect the track and, if a track fault is found which probably caused the initial violation, the Track master may order the race heat to be rerun after the track is repaired.

4.12 The Race Area

Only race officials may enter the track area. This rule will be strictly enforced.

4.13 Rewards and Recognition

The most important values in Powder Puff Derby competition are parent/daughter participation, good sportsmanship and learning how to follow rules. The Awards Committee is responsible for recognizing and encouraging these qualities in addition to traditional racing awards. Racers will be recognized as follows:

1. Every participating Scout will receive a Powder Puff Derby patch.

2. All cars will be judged and will be awarded a certificate for winning its own unique appearance category (Most Creative, Most Humorous, Most Colorful, Best Paint Job, and so on).
3. Ribbons will be awarded to the first, second and third-place finishers in each Girl Scout level: Daisy, Brownie, Junior & Cadette.
4. Medals will be awarded for the first, second, and third place finishers overall in Service Unit 80-9.
5. Following the conclusion of each scout level's race, all cars not advancing to the finals will be released by the pit crew.

5 THE RACING ENVIRONMENT

5.1 Track Length and Drop

The track shall have a racing surface (starting line to finish line distance) of approximately 28 feet with a drop of approximately 4 feet.

5.2 Track Slope

The track slope shall decrease from approximately 30 degrees at the starting line to approximately 0 degrees at the finish line.

5.3 Lanes

Each lane will consist of a straight, smooth wooden strip approximately 1 1/2 (1.50) inches, but certainly less than 1-3/4 (1.75) inches, wide and approximately 1/4 (0.25) inches, but certainly less than 3/8 (0.375) inches thick, centered on a smooth surface no less than 4 inches wide. Each race car shall straddle such a strip during its heats.

5.4 Finish Line Judging

Finish line judging will be done using electronic timing sensors and Derby master software. If the sensors or software malfunction and a time for each car cannot be determined, the race will be re-staged and re-run. In the event the sensors or software malfunction and cannot be recovered, the heat in progress will be restaged and re-run with the manual judging procedures outlined below. Any heats still to be run will use the manual procedures. Manual procedures: Three impartial Finish Line Judges shall be on station to observe each heat. Heat finish judging is determined by the majority vote of the finish line judges. If the winner of the race cannot be determined by the Finish Line Judges, the race will be re-staged and re-run.

5.5 Finish Line Judge Backup

Finish Line Judges will temporarily excuse themselves if they know that one of the heat contestants is a daughter or relative. Backup Finish Line Judges shall be available in case a judge needs to be excused for any reason.

5.6 Race Standings

The winner and finishing place for each race will be displayed on a screen in the front of the auditorium using the Derby master software.

6 SPECIAL NOTES TO ALL CONCERNED

This project is a parent and daughter event, and is recommended as such by the National Boy Scouts of America. The Powder Puff Derby Committee **STRONGLY SUGGESTS** that each parent emphasize this idea with your daughter. In all of the events, we require that the cars be built this year. Parents can assist their scouts with the construction of their cars for safety and teaching purposes (proper use of saws, drills, spray paints, protective eyewear, etc.) but the design and the majority of the construction should be the work of the individual scout. Parents with 'race fever' should be encouraged to enter their own cars in the Open Class event if available.

6.1 Sportsmanship

Two things the Powder Puff Derby requires each participant to learn are 1) the craft skills necessary to build a car, and 2) the rules that must be followed. Even more important, though, is how we act and behave while participating in the Powder Puff Derby or any other group activity. This is called sportsmanship.

The first thing to remember about sportsmanship is that everyone's skills are a little different. You may be good at something like singing or drawing, but not as good at something else like basketball or computers. Parents have different skill levels, too. This doesn't mean that you are a good person one time and not good another time. You can always be a good person, whether or not you have good car-building skills. Remember, you and your friends are scouts first and racers second. This idea is often called having respect for others.

The second thing to remember is to follow the rules. Without rules, there would be no Powder Puff Derby. You will never know if you are really good at doing something unless you follow the rules. This is often called being honest.

The third thing to remember about good sportsmanship is that there are winners and losers in every competition. You accept this when you choose to compete. There may be times when you win and feel happy, and times when you lose and feel unhappy. Being a winner is easy, and losing is sometimes hard. If you win, you must not brag or gloat. If you lose, you must not feel jealous or bitter. To be a good sportsman, you must be able to say "I did my best" and be satisfied with the results. You must also be able to appreciate and feel happy for someone else when they run a good race or build a neat car.

7 KEY DATES AND TIMES

Dec 9, 2010 – Car Kits distributed at SU Meeting

Jan 14, 2011 – 7:00PM to 9:00 PM – Car Registration

Jan 15, 2011 – 8:00AM to 10:00 AM – Car Registration

Jan 15, 2011 – 9:00AM to 2:30 PM – Derby

All events will take place in the Old Bridge United Methodist Church Fellowship Hall.