

Pinewood Derby Workshop

- I. Introductions
- II. Purpose of meeting
 - a. Provide basic info on building a car (rules, design)
 - b. Provide access to tools (includes instructions on safety, and function)
 - c. Provide info on the building process
 - d. Ensure success for each parent / child
 - e. Share examples of cars of good, bad, and pitfalls.
- III. Rules have been given out, with supplemental information as examples / resources.
- IV. Fun for both child and parents, with the correct involvement of the child (skill/ability). Use “Boy in Control” .

A. Conceptualize the Car.

Building a car – you will need a concept to build towards. Referring to pictures, sketches, or models help creating a realistic model. With the limitations set by the pinewood derby rules a scale model of your concept car is a challenge.

- Sketch out car on paper. Complete top, side and end perspectives.
- Keep the design simple. Makes cutting out, sanding, and painting simple and easy.
- Verify with wheels for perspective and scale. Better to make adjustments now.

The goal is to create a simple design resembling what you wish to make. Remember building a symmetrical car with smooth, glossy paint, and decals will really be a success. Children with limited abilities will be unable to create a detailed and precise model. The car should be durable. Some items like wings can break off easily. Consider the demeanor of your child when building your car.

Determine how involved you want to become. Complicated designs require adult assistance.

B. Create building plans for the car. Do I start cutting the side view first? Will I add additional pieces? Where will the weight be added? Examples will be demonstrated.

C. Cutting out the car. Demonstrate using the scroll saw, and band saw, perhaps coping saw.

D. Shaping can be completed with a rasp, file, heavy sandpaper, dremel tool, or other tools you are familiar with. Check the design with the wheels on. Adjust the shape as needed. Don't worry about small imperfections. Start big, and work your way down to smaller details. Now is a great time to start preparing for weights. Remove any material necessary from the bottom of the car for weights. Complete a rough weigh in now, leaving some room for additional weight if necessary.

E. Begin sanding your car. Start with lower number sandpaper and work your way to larger number sandpaper. The “Grit” or number on the sandpaper relates to the size of the abrasive. Smaller numbers mean fewer abrasives fit per unit volume, larger numbers mean many fit per unit volume. (I can only hold one rock in my hand, or 10,000 grains of sand in my hand).

F. Filling in with glazing putty helps remove smaller scratches, and imperfections. Fill the area with a thin layer of putty, and let it dry. The layers can dry in 10 to 15 minutes. Glazing putty is not strong, so don't plan on filling large areas with putty. Heavy applications take a long time to dry, and can also crack. Once the putty is dry repeat the sanding process.

G. Seal the car with Deft

Deft is a spray paint (lacquer) that is clear used in wood finishing. It dries quickly, can be sanded easily. It is expensive.

Check to see if additional filler is needed. Once the car is sealed it will become slightly more apparent. Best to repeat filling and sealing process now. Sealing will minimize the need for paint. Light sanding and use of steel wool will prepare the car for a nicely painted finish.

H. Begin painting the car in a warm and ventilated area as specified on the can. Avoid open flames, etc. Paint the car with many light coats. Heavy applications require more time to dry, and are more apt to drip or run. Wait for paint to appropriately dry until the next layer of paint is applied. Several coats of paint can be applied with light sanding or steel wool in between coats. If you wish to create that ultimate look, try alternating colors between coats. When sanding your car it will become apparent how close you are to sanding too much in one area.

I. Application of decals can greatly enhance the look of your car. Both rub on and water applied decals can be used, but the rub on decals are easier to use.

J. Optional - True the wheels and polish axels for speed if you wish.

K. Install the wheels. Best to use a low strength fast drying glue to "tack" the wheels into position. Tacking the wheels will enable you to reposition the wheels to ensure all four touch the ground. Use just a little glue to complete the tacking process. Once this step has been completed the use more glue, and or some stronger glue to hold the wheels in place.

L. Check out the final weight of the car, and compliance for regulations. Make any needed changes.