



## Panther Car kit

### 1. Prepping

To prepare the car body, we suggest doing a light sanding with a fine sandpaper (220 grit or higher) to smooth the rough surfaces on your car. Next, we suggest painting the car with a **wood sealer/primer**. Any primer paint will work. This seals the wood. Priming the wood gives your car a nice smooth surface before painting.

### 2. Painting and Decorating

You can paint your car with any acrylic paint. We suggest brush on paint (rather than spray paint) if working with a child so they can do the painting. Spray paints are fast but difficult for a child to apply. When the paint is dry, you can apply stickers or decals. Lastly, we suggest coating the car with a clear gloss sealer to protect the paint job.

### 3. Lubricate your Axles

Squirt graphite into both sides of the wheel bore where the axle goes through. Insert the axle and spin the wheel to work in the graphite. **Repeat this several times and do it on all four wheels/axles.** Get as much graphite as possible on your axles and inside the wheel bore. This process reduces friction where the wheel rotates on the axle and is the **single most important thing to make your car fast.**

**Safety Note:** Graphite is messy! It is best to wear light gloves. When applying graphite, be sure to do it over newspaper and in a safe area away from food and where children play. Wash your hands thoroughly when finished.

### 4. Install the Axles and Wheels

Place the blue wheel spacer against the car body and slide your axles/wheels into the axle slot (for more speed raise the front left wheel – see below). Be sure to push the axle all the way in until the wheel is snug against the wheel spacer.

### 5. Speed Option - Raise one wheel for extra speed!

**Read your rules!** If your rules say, “*All four wheels must touch the track*”, then you can not raise a wheel. If you are allowed to raise a wheel, your car includes an extra axle hole above the front left axle slot. Insert the front left axle into the top axle hole...**your car will actually roll fine on 3 wheels!** Raising one wheel will make your car faster because it takes less energy to spin 3 wheels than it does to spin 4 wheels.

### 6. Add Weights

Place your car, axles, wheels and the **round weights** on a scale. Cut the round weights with a scissors and slide them into the weight holes. Then add the stick-on flat weight to the scale and cut it so the scale reads 4.9oz or 5.0oz.

**Do not exceed 5.0oz.** Peel and stick the flat weight to the bottom rear of the car. **Speed Tip:** Place flat weights so the center of gravity (where car balances on your finger) is 1” in front of the rear axles.

### 7. Bonus!

Included is a 1.5 Degree Bent Steering axle. This is the individual axle #040355 with a screwdriver slot cut in the head for easy turning. Replace the front right axle with this axle if you want to fine tune steering to go perfectly straight. Or, **for experts only**, use it to gently steer your car into the rail to make a rail-rider car (**experts only!** Read full details and **warnings about rail riding** here: [www.pinewoodpro.com/rail-rider-derby-car.php](http://www.pinewoodpro.com/rail-rider-derby-car.php))

**That's it...Your car is ready to race!**

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**Questions?** Call 203-400-3713 or email [info@pinewoodpro.com](mailto:info@pinewoodpro.com)