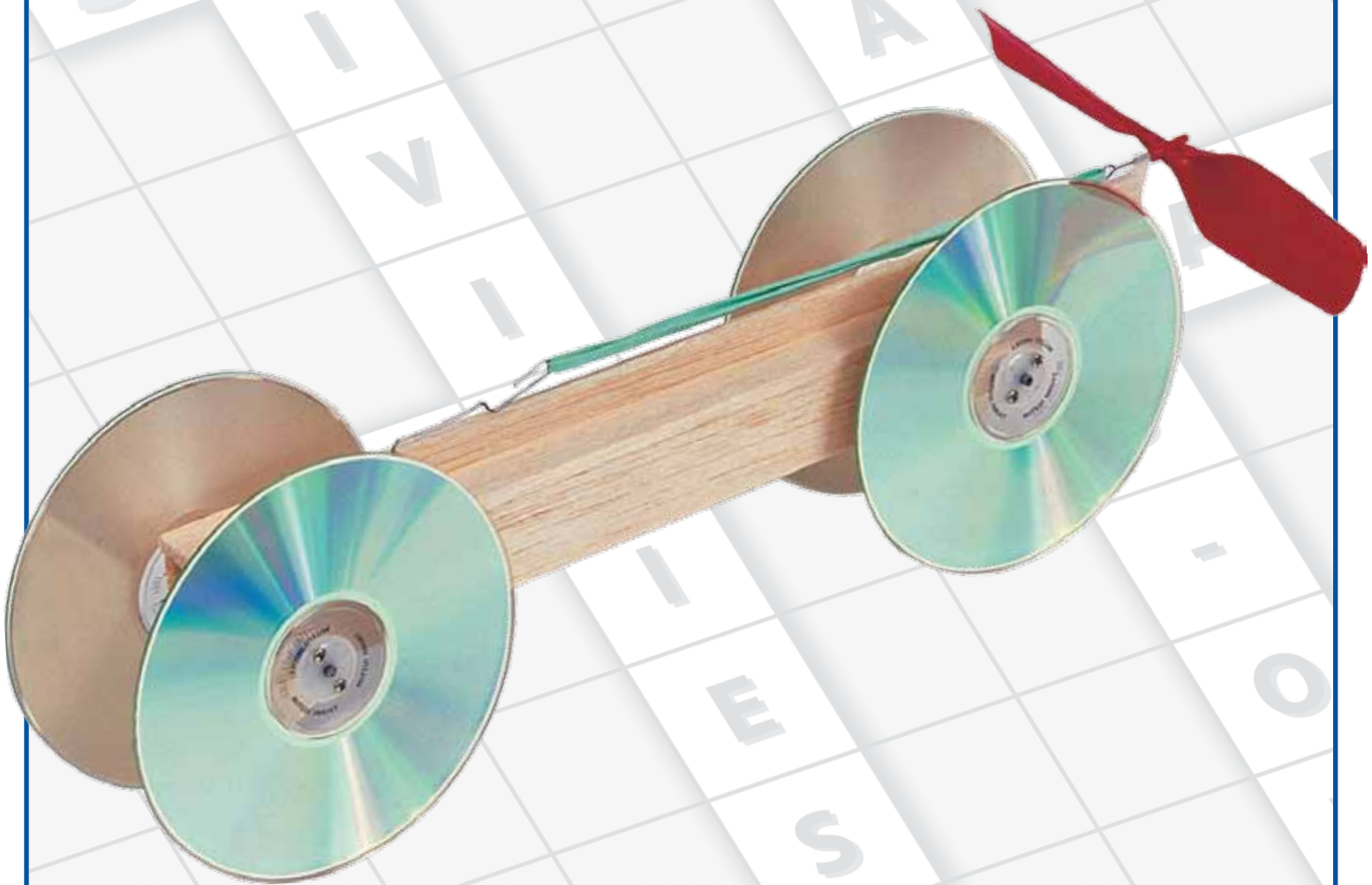


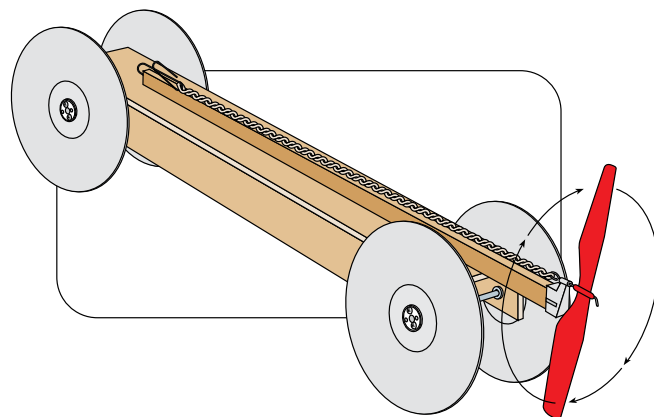
# Elastic Energy Prop Racer

*User Guide*



## Materials Included

- Clear CDs (4)
- 1/8" axles (2)
- CD hub/bearing set
- 2" x 12" balsa wood pieces (2)
- 1/8" x 3/8" x 12" balsa wood piece
- Rubber band
- Propeller with assembly



## Items Required (not included)

- Small screwdriver
- Transparent tape
- Drill
- Glue
- Metal straightedge such as a ruler
- Utility knife
- Paper clip

## Procedure

1. Using a metal straightedge and a utility knife, cut one of the wider (2" x 12") strips of wood in half lengthwise to make the side rails of the vehicle (Figure 1).

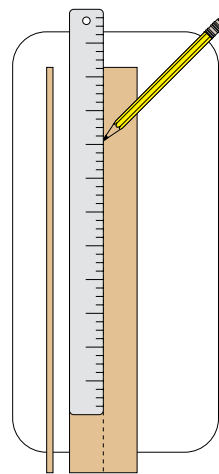


Figure 1

2. Tape the two pieces together back-to-back lengthwise. Make a mark 3/4" from the end of each piece and centered in the middle.

Drill a hole at each mark (Figure 2). There should be a total of four holes.

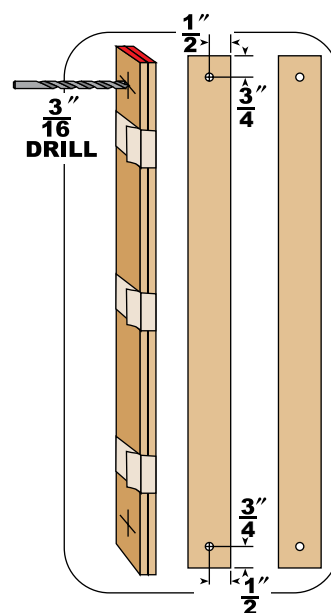
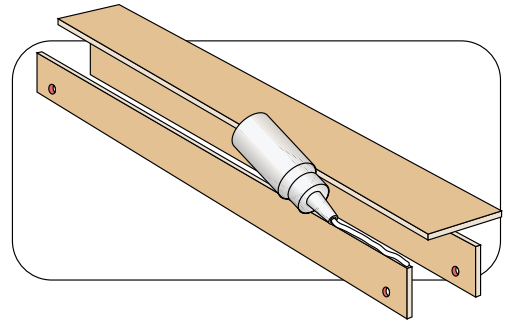


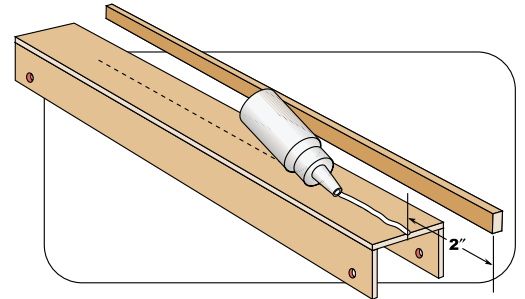
Figure 2

3. Separate the two side rails. Glue the rails on each side of the remaining 2" x 12" wood piece at a 90° angle (Figure 3). The holes should be on both ends of the body.



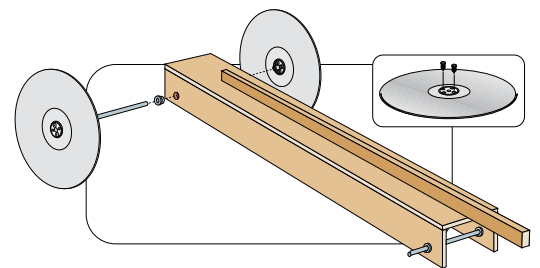
**Figure 3**

4. Locate the 1/8" x 3/8" x 12" balsa wood piece and place it in the center of the racer body with the side rails pointed down (Figure 4). Be sure it hangs over one end at least 2" before gluing it into place. Attach the piece on its edge, not flat on its side.



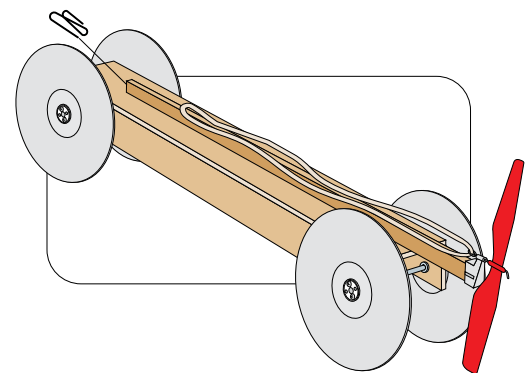
**Figure 4**

5. After locating the CDs and the CD hub set, insert hubs into the center of the CDs and screw them into place (Figure 5). Place four bushings from the CD hub set into the drilled holes of the side rails. Then, push the 1/8" axles through the bushings. Insert the CDs onto the ends of the axles to form the wheels.



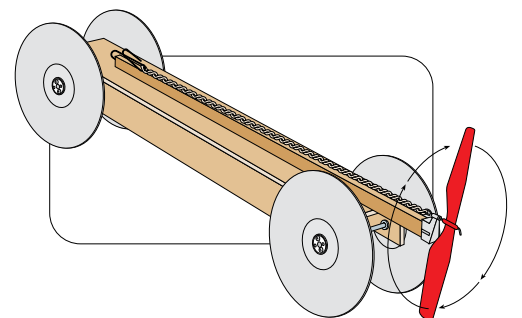
**Figure 5**

6. After the glue is dry, shape the paper clip into a hook. Insert one end of the hook into the end (the end near the back of the body, not the overhanging end) of the 1/8" x 3/8" x 12" balsa wood piece. Slide the plastic propeller assembly onto the overhanging end of the wood piece. Stretch your rubber band from the eyehole hook behind the propeller to the paper clip hook so that it stretches along the body (Figure 6).



**Figure 6**

7. Wind the propeller 50 times or so until the rubber band is twisted tight (Figure 7). Then, place your vehicle on a smooth, flat surface and release it. Be ready to run after your racer! Try switching the direction you wind the propeller to see how the Elastic Energy Prop Racer travels differently.



**Figure 7**

# PITSCO

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