

# LSRAV Dragster User Guide

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The following materials should be in the LSRAV Dragster Kit. If anything is missing, call Pitsco Customer Service at 800-358-4983 or e-mail [service@pitsco.com](mailto:service@pitsco.com).

**Teachers:** Copy these instructions for the class pack kits.

**Materials Included:**

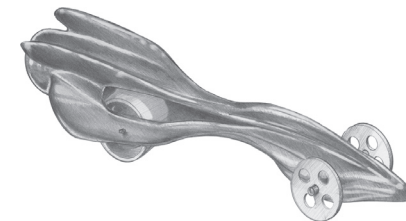
- 2 front wheels
- 2 rear wheels
- 2 axles
- 2 screw eyes
- 4 brass washers
- Wooden body blank
- Foam body blank
- Plastic straw
- CO<sub>2</sub> cartridge
- Grid paper
- 1/4" grid paper

**Items Required (not included):**

- Pitsco Free Hand Foam Cutter or coping saw
- Latex or tempera paints (for foam prototype)
- Drill (drill press recommended)
- Spray or acrylic paints (for dragster finish)
- Band saw or jigsaw
- Construction paper
- Carbon paper
- Scissors
- Wood rasp
- Sandpaper
- Sanding sealer (optional)
- Decals and stickers (optional)

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## Section 1: Making the Prototype

1. On the grid paper, draw the side view of the LSRV dragster you designed. Directly above the side view, draw the top view of the LSRV. Show the engine and axle locations (axles: 1" from the end and 3/8" above the bottom; engine: hole centered 1-1/4" above bottom, 3/4" diameter x 2" deep).
2. Trace the top view onto a piece of construction paper. To do this, place a piece of carbon paper between the drawing and a narrow piece of construction paper aligned with the drawing. Trace the drawing. Cut out the design on the construction paper and use it as your template.
3. Repeat Step 2 for the side view, using a wide piece of construction paper for this template. **Note:** If you have a kit without the foam block, skip to Section 2.
4. Tape the templates onto the foam body blank and use a pen to trace around them. Be sure to tape the top view template onto the bottom of the foam body blank.
5. After tracing around the templates and removing them, cut the side view first using the Pitsco Free Hand Foam Cutter or a coping saw.
6. Second, cut the shape drawn on the bottom of the body blank.
7. Use wet or dry sandpaper to smooth the surface of the body blank. Other types of sandpaper do not work as well.
8. Using latex or tempera paints, paint the mock-up as you want the production LSRV to appear.

## Section 2: Making the Production LSRV Dragster

1. Refine your original drawings and make new templates, if necessary.

2. Tape the templates onto the wooden body blank and use a pencil to trace around them. Locate the axle holes (1" from the end and 3/8" from the bottom of the wooden body blank) and engine housing. Remove the templates.
3. Drill the axle holes. If available, use a drill press to ensure the holes are drilled perpendicular to the dragster body.
4. Use a band saw or a jigsaw to cut the side view first. Then, cut the top view that was traced onto the bottom of the body blank.
5. Use a wood rasp to shape the body. Use sandpaper to smooth it.
6. If sanding sealer is available, apply a coat to the dragster. After the sealer dries, sand lightly with wet or dry sandpaper.
7. Apply several coats of spray paint, letting each coat dry before applying the next coat. If using acrylic paint, apply a coat of clear acrylic finish over the dried paint to provide an even, glossy finish. When the finish is dry, add decals if desired.
8. Cut the straw into two pieces about 1/8" longer than the width of the dragster body at each axle. Insert the cut straws in the axle holes – they will act as bearing surfaces. Insert the axles and place washers over the axle ends.
9. Firmly push the wide wheels on the back axle. Push the narrow wheels on the front axle. Position wheels on the axles so they have a little room between the wheels and the straw ends. The wheels should spin freely.
10. Install the screw eyes on the dragster bottom about 3/4" to 1-1/2" from each end of the body, making sure they are centered. **Caution:** Be sure the screw eyes are not directly under the axles.
11. Your LSRV should be ready for a test run. Follow your teacher's instructions. (See a picture of a completed dragster on the next page.)