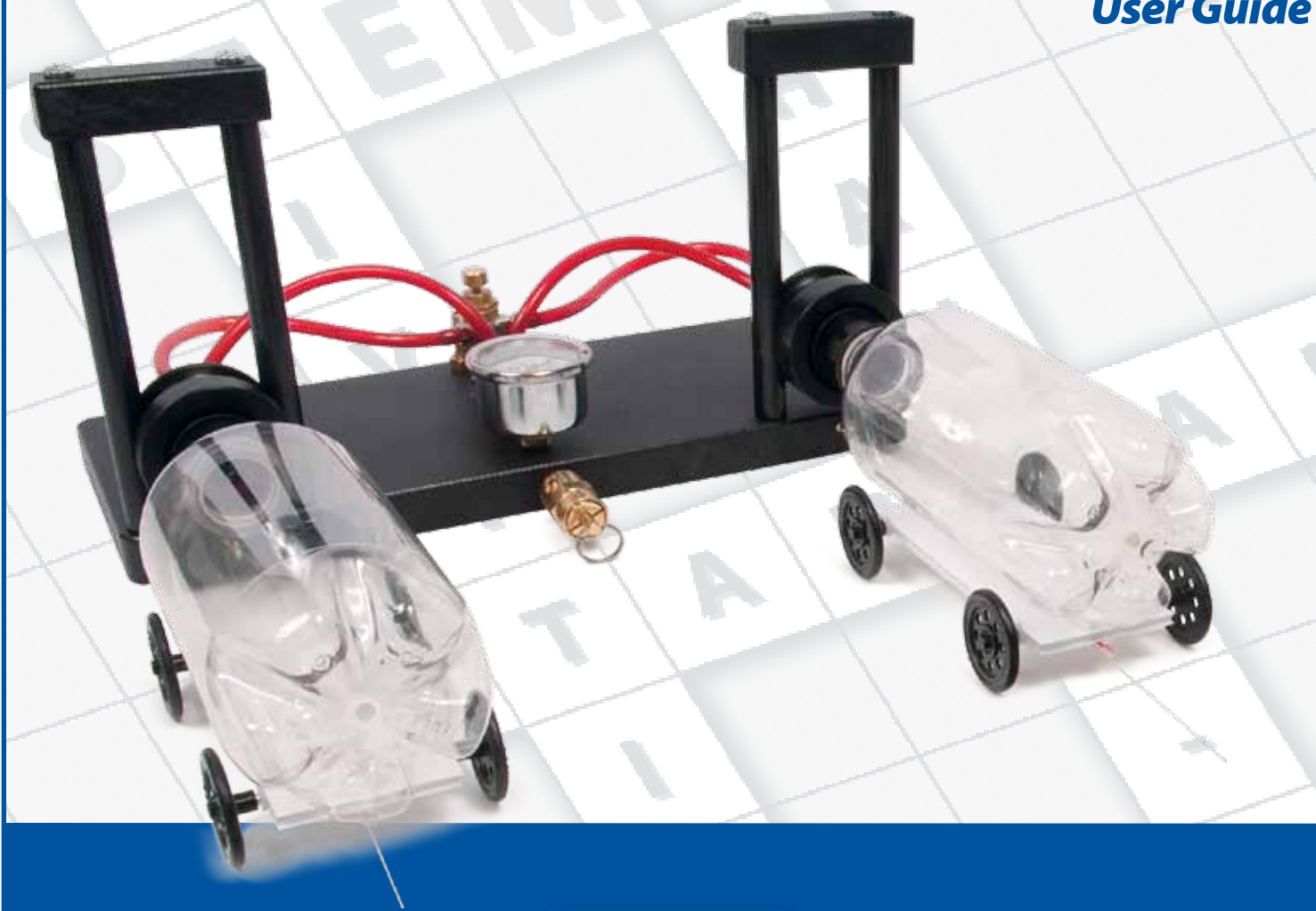


AP Bottle Racer Launcher

User Guide



PITSCO
EDUCATION

60075 V0413

Cautionary and Warning Statements

- This equipment is designed and intended for educational purposes only.
- Use only under the direct supervision of an adult who has read and understood the instructions provided in this user guide.
- Read warnings on packaging and in manual carefully.
- Only use bottles for carbonated beverages with this launcher (no water bottles).
- Safety glasses required.

Safety

Teachers should provide adequate supervision when leading this activity in the classroom. As needed, teachers should implement general safety requirements, including but not limited to the following: eye protection, proper ventilation, and instruction on the use of hand tools. Furthermore, teachers should implement the safety guidelines required by their district and/or state in combination with the safety requirements mentioned in this user guide. Pitsco, Inc. is not responsible for bodily injury or property damage resulting from the misuse of its products or the teacher's failure to implement proper safety measures within the classroom.

Materials Included

- AP Bottle Racer Launcher
- String anchor
- Monofilament line
- 2 nozzles with seals

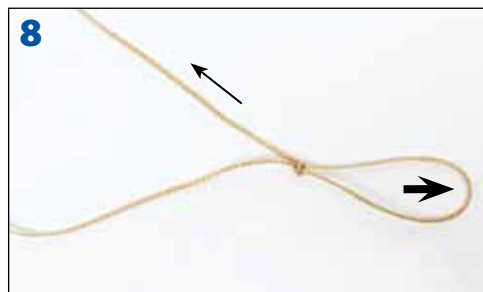
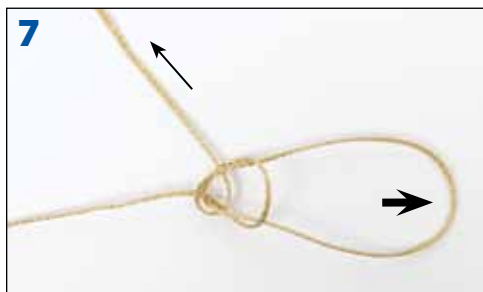
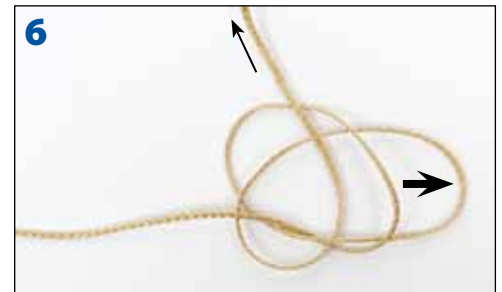
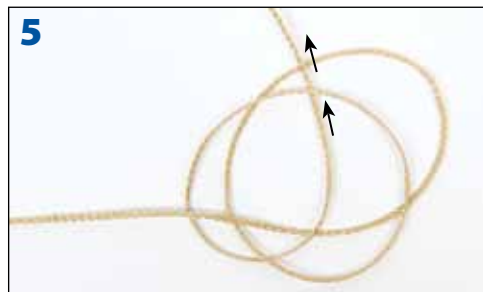
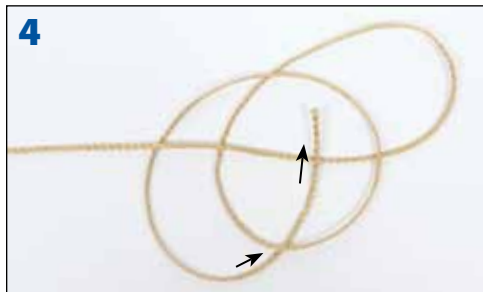
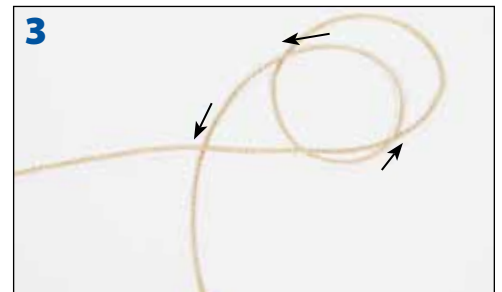
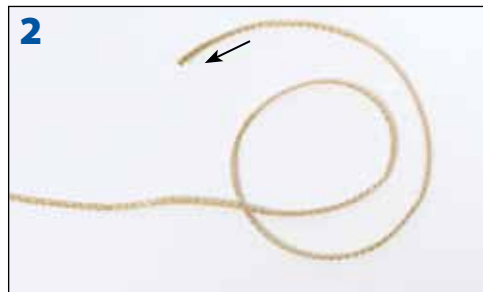
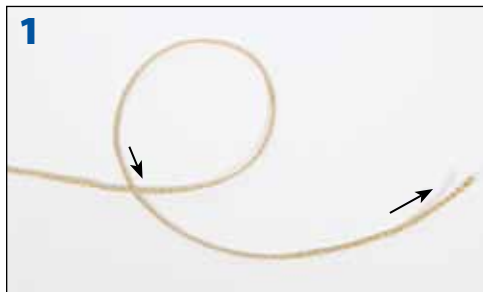
Items Required (not included)

- Tire pump
- Gaffer or duct tape
- Tape measure
- Scissors
- 2 or more AP Bottle Racers
- 2 towels (for deceleration)

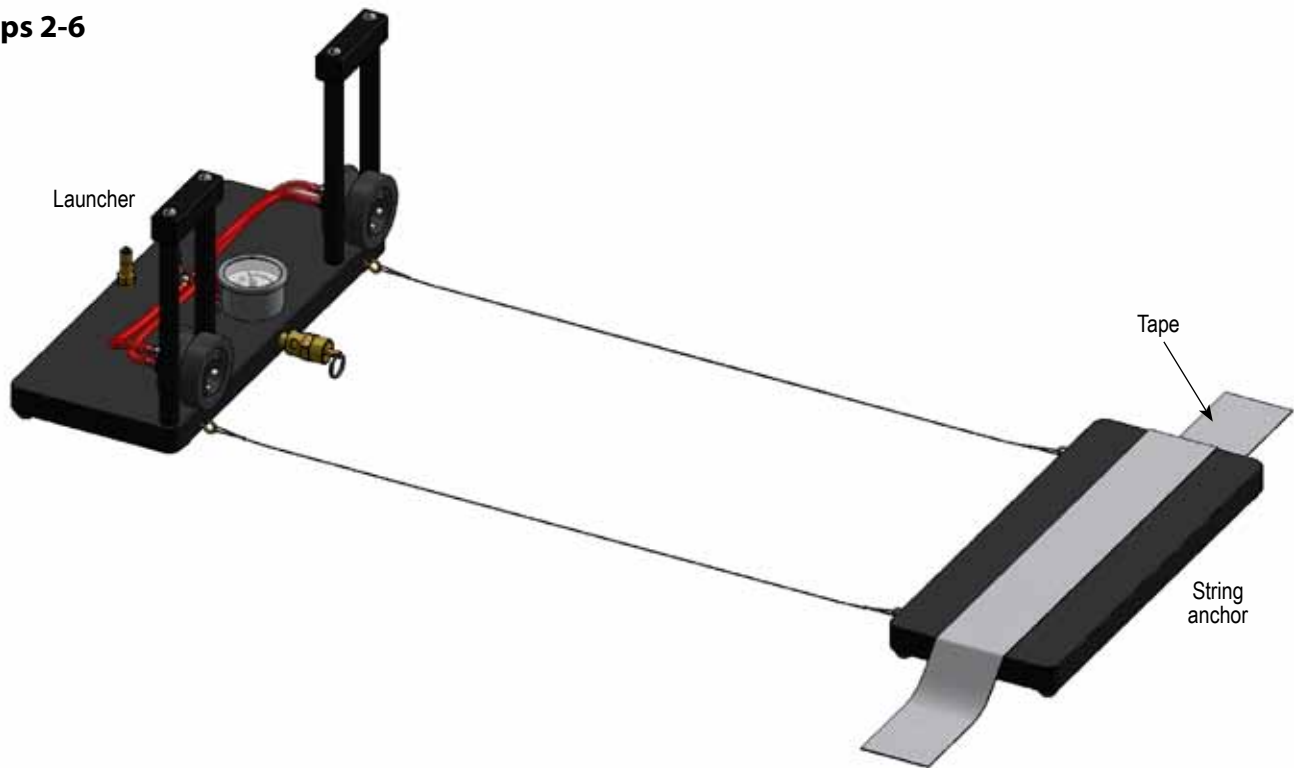
Setting Up the Launcher

1. Find a location suitable for racing: a smooth, level surface at least 30' (9.14 m) long.
2. At one end of the area, set down the launcher with the launch pods facing in toward the track lanes.
3. At the other end of the track area, set down the string anchor so the side with the hooks faces in toward the track lanes. Secure the string anchor to the floor with gaffer's tape or duct tape (gaffer's tape will leave less residue).
4. Take the monofilament line and tie in it a nonslip knot such as the perfection loop knot (see below).

Making a Perfection Loop Knot

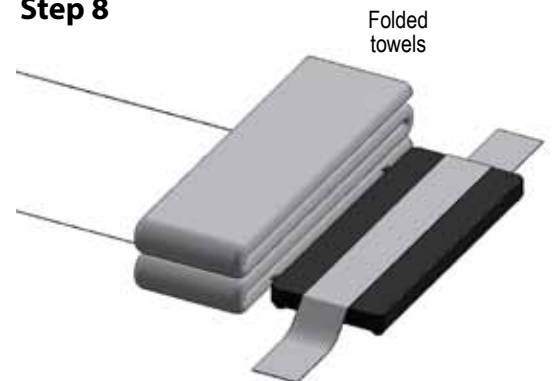


Steps 2-6



5. Loop the knot over one hook on the string anchor and run the line the length of the track and to the launcher. Cut the line, giving yourself several extra inches to tie the knot.
6. Tie another nonslip knot a little short of the track length and then pull the line tight and stretch the loop over the hook under the launch pod.
7. Repeat Steps 4-6 for the other lane.
8. Fold the towels in half lengthwise one time and then roll them up in lengths the width of a track lane. Place the towels across the two lanes in front of the string anchors on the finish end. This will cushion the cars when they stop and reduce any damage from the sudden stop.

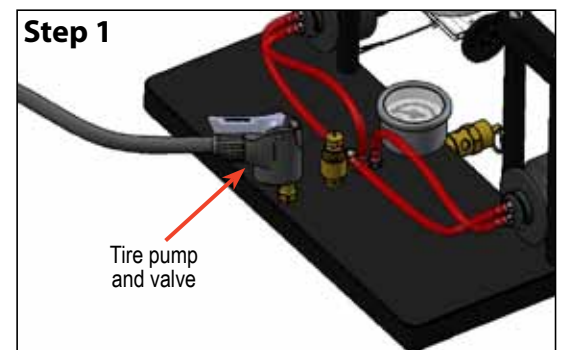
Step 8



Using the Launcher

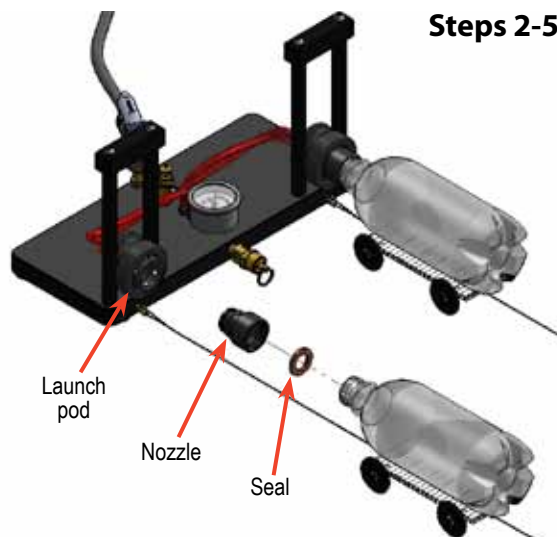
Note: Always use racers made with bottles for carbonated beverages. The bottle opening must be level with or behind the back edge of the back wheels of the racer in order to properly load onto the launch pod. Never use a racer that has been spray painted on the inside or has paint on the inside of the bottle opening.

1. Attach the tire pump to the valve on the back of the launcher.
2. First making sure that the seal is inside the nozzles, screw a nozzle onto two AP Bottle Racers. Make sure they are snug and all the way on.
3. Remove a monofilament line from a launcher hook and thread the end through the straw on the underside of the racer. Be sure to do this so the racer faces forward. Rehook the monofilament line. Repeat with the other racer and line – the two lines **must be** tied close to the same length. Pull back the launcher a bit to ensure the lines are taut.

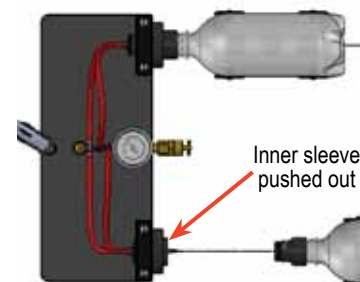


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4. Make sure the inner sleeve of the launch pods are pushed out – just press firmly on the back center of the pod.
5. Insert the nozzle end of one racer into a launch pod, making sure the inner sleeve snaps back into the launch pod. The seam in the nozzle should be flush with the face of the launch pod. Press the center button on the launcher to relieve the air pressure caused by inserting the first racer. Repeat this step with the other racer and launch pod.



Steps 2-5



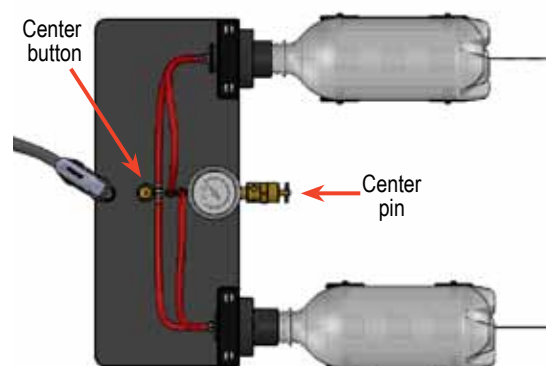
6. Make sure the track is clear and everyone is several feet back from the track. You may station one person wearing safety glasses near the end of the track to determine who wins the race. Watching the pressure gauge on the launcher, pressurize the launcher with 30 to 50 psi.

Note: There is a safety valve that will not let you go more than 50 psi.

7. When pressurized and ready to launch, press the center button on the launcher to launch the racers.

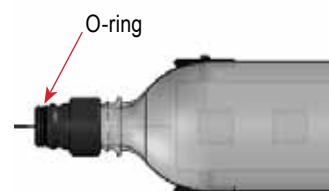
Caution: If you need to depressurize the launcher and remove the racers without launching them, pull out the center pin on the front of the launcher, and this will let out the air. **Do not** try to remove pressurized racers without doing this.

Step 7



Maintaining the Launcher

If the launch nozzles become difficult to insert into the launcher, it's time to lubricate the O-rings on the nozzles. To do this, simply spread a thin amount of a clear grease lubricant – such as Super Lube (Pitsco product 20821) – on the O-ring all the way around the nozzle.



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