

Then bend a paper clip so that one end forms a closed loop where it will touch the ground and the other end can be bent to pass through a bead and the bottle cap and then be bent again into a hook to hold one end of the rubber band.

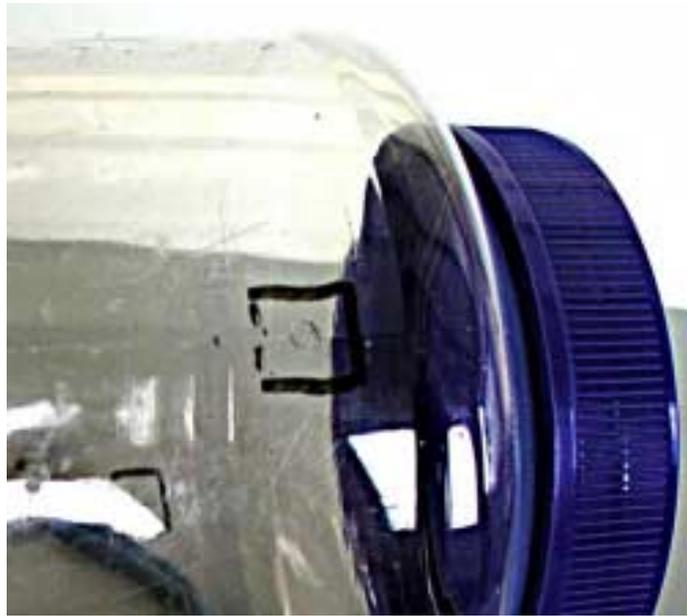


Straighten another paper clip and put a little hook in its end. This is the tool with which you can fish up through the bottom of the bottle, catch the free end of the rubber band, and pull it down through the bottom, where it can be anchored with a small nail or a little piece of skewer. You may wish to tape the skewer in place.

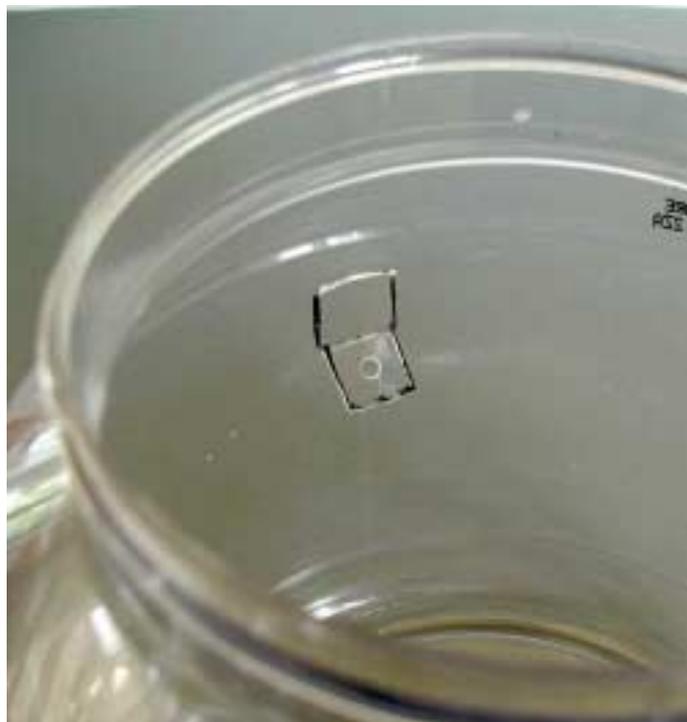


Wind 'er up and you are ready to roll!

The hardest of the herd to make has two spoons to act as sliders, which makes it run straighter than the others and capable of mowing down everything in its path. You start with a bottle with a wide mouth. If you look closely, you can see a faint cast mark running up each side of the bottle. Measure up half way from the bottom to the top of the cap on each side and make mark #1, go 1/4th of an inch above that mark and make mark #2, and then another 1/4th of an inch to make mark #3 and then yet one more 1/4th of an inch for mark #4. Drill a hole at mark #3 on each side of the bottle just wide enough to accept the end of a piece of skewer.



Cut horizontally along mark #4 on each side of the vertical cast mark for about 1/4th of an inch with an Xacto knife and then cut downward from each end of that cut, parallel to the cast mark, ending the cut level with mark #2. Bend the resulting 1/2 inch square flap inward and down, where it will make a springy support for each end of a piece of skewer cut just to fit inside the bottle.





Thread two rubber bands onto the skewer and fit its ends into the two flaps you have made.



Then straighten a paper clip except for a hook on the end. Fasten the hook securely around one of the rubber bands and drop the straight end down through the hole in the bottom of the bottle.



Next drill two small holes about 1/4th inch apart near the end of one spoon handle.

Run the end of the straightened paper clip you dropped through the bottle bottom through a bead and through the hole in the spoon nearest its bowl. With pliers, bend the end of the paper clip into a square U shape and run the end down through the second hole in the spoon handle, crimping it a little with the pliers.

Produce the same spoon-paper clip-bead assembly for the lid end of the bottle, drop the end of the straightened paper clip down through the hole in the lid, and bend a hook in it to crimp over the end of the other rubber band.



You can make robottles out of almost anything. Most will have just one spoon or paper clip end hanging down to press on the ground when the bot is rotating. This makes them go in anything but a straight line, which makes races challenging.

Here's one made from a granulated cheese container.

And here they are. All three of Pop Gander's Robottles ready to be decorated with permanent markers or hobby paints and wound up to race into battle!

