BristleBots

Make a Bristlebot

The guys over at evilmadscientist.com, who appear to have invented the bristlebot, call it “a tiny directional vibrobot.” They’re small, cheap, noisy, and fun. The bristlebots, that is. Not the scientists. Let’s make one!

Ingredients

1. A toothbrush! We’re gonna chop off its head for dem bristles. It should be a new one. Old ones with soft bristles won’t dance good.


3. A coin battery. Power!

4. Hot glue and a hot glue dispenser. (Caution: hot glue is hot.) Alternative: double sided foam tape.

5. Scotch tape. For making the final connection to the battery and turning the thing on.

6. A wire cutter, or some other means of decapitating your toothbrush.
Do This

1. Get the head off your toothbrush with your wire cutters or some other head chopper of your choosing. (Caution: head choppers chop heads.)

2. (Optional) Check the angle of your bristles by putting the head down on a hard surface, bristle side down. Press firmly with your finger a couple times. If it jumps forward a tiny bit with each press, then your bristles are at a good angle. If it doesn’t jump forward a tiny bit, you can increase your bristle angle by putting something like a heavy book on the head for a while. Or by trimming the bristles with scissors.

3. Get your battery and your motor. Touch the motor’s leads to either side of the battery to make sure it works. Good? Good.

4. Affix a strip of double sided tape to the top of the bristle head. Stick the motor on it.

5. Place one lead lengthwise along the tape, and place the battery down atop it.

6. Try touching the other lead to the top of the battery and see if it turns on. If it does, you’re done. You can turn your bot on by taping down the free lead to the top of the battery with scotch tape. Turn it off by removing the lead.

Idea for your new bristlebot

1. Have a race. Fold up the sides of a long piece of paper to make a track and see how fast your bot is. Can you make it faster somehow?

2. You could put a dixie cup on it and make the cup dance around. That’d be funny.

3. Sumobot Bristlewar! Draw a circle on a piece of paper. Get a couple bristlebots together, turn em on, put em in the cicle. Last bot still inside the circle wins!

Bonus tip: You might need to trim your bristles a little bit to get the behavior you want out of

This is one of the simplest “vibrobots” you can make. There are really a ton of directions you can go from here. A few ideas include—

- Do you have a switch? Try attaching it between the motor and the battery so you can turn the thing on and off.
- Add an LED. Now you have a cool dark-time vibrobot. I bet a video or long exposure picture of it would look neat.
- What if you got three or four heads, and attached them to something like an old gift card?
- Bristle art: instead of attaching bristles, make a platform supported by some magic markers. Add some vibro-motion to it, put it on some paper, and watch the random art happen.