HOW TO MAKE A CHEAP ELECTRIC DUSTER

Electric dusters are a great way to blow dust into wall voids. Professional electric dusters are expensive, so I recommend that you make one yourself out of a cheap air pump that is made for inflating air mattresses and pool toys, and an empty peanut butter jar.

Always wear a respirator when applying dust like this. You are always going to get dust coming out of the voids you treat, and some may also leak out of the duster. It is also a good idea to wear rubber gloves and eye protection.

Step-by-step procedure:

1. To make one, get any empty jar that has a plastic, screw-on lid. Any size will work, but it's best to use one that you can hold easily. Drill two holes in the lid that are 3/8 inches or 9.5 millimeters in diameter. The best way to do that, to avoid damaging the lid, is to purchase a step drill bit. See Figure 12. Wrap a small piece of duct tape around it… so that you will know when to stop drilling.

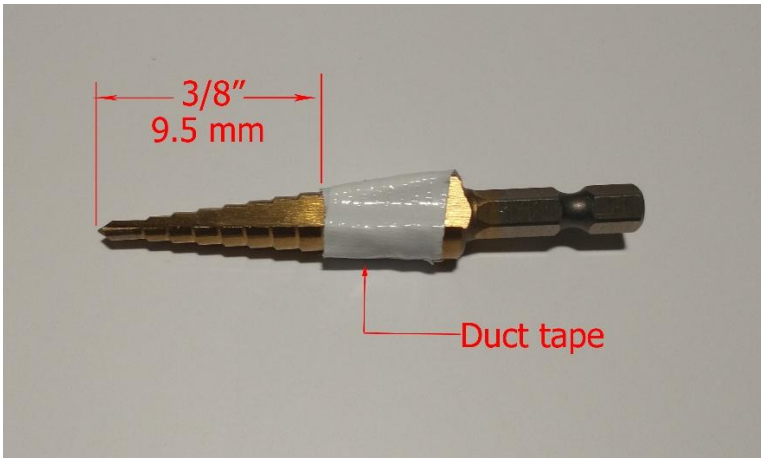


Figure 12 – Step drill bit

2. Make a mark about 3/4 of an inch (19 millimeters) from the side of the cap on opposite sides of the cap. It doesn't need to be exactly perfect. See figure 13.

Figure 13 – Location of holes in jar cap

3. Now, drill a hole on both sides of the cap down to where you placed the duct tape on the step drill. See Figure 14.

Figure 14 – Drilled holes in jar cap

4. Next, you need to get a straight, rigid object that you will use to straighten the longer hose that goes inside the jar.

   In this case, I just used an old pencil that I had lying around, but any straight, ridged object will do.

   Put the pencil into the jar and make a mark with sharpie that is even with the top of the jar. See Figure 15.

Figure 15 – Marking pencil at the top of the jar

5. Now, get a ruler and make a mark about 1/2 inch, or about 12 millimeters, down from the mark that you just made. See figure 16.

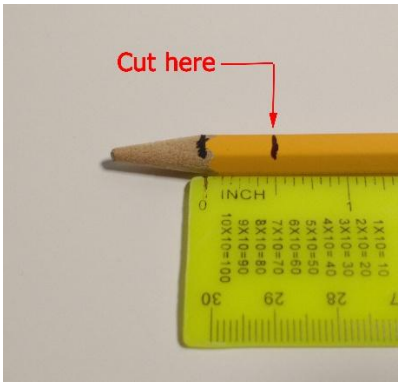


Figure 16 – Marking pencil cut point

6. Cut the pencil at the second mark that you made. I was able to do this with scissors. Well, Guy helped a little. I mean, I'm only a tiny roach, so the scissors are many times larger than I am.

7. You're going to need some clear plastic tubing that has an outside diameter of 3/8 of an inch, or about 9.5 millimeters. The inside diameter is not that important, but it will probably be 1/4 of an inch.
8. Make a mark on the tubing that is exactly the length of the pencil. See figure 17.

Figure 17 – Marking tubing

9. Get some duct tape and cut a piece that is about 3 inches, or about 8 centimeters long. I'm using white duct tape, but the color doesn't matter.

10. Next, you're going to need a small piece of waxed paper and a piece of cardboard. Put the wax paper over the cardboard to prevent the duct tape from losing its adhesive ability while you are cutting it.

11. Place the tape on top of the wax paper and use a sharpie to mark the center of the tape. See figure 18. Now cut the tape in half lengthwise with a utility knife. The edge of the tape that you did not cut is the factory edge.

Peel off the tape and you are ready for the next step. Do not discard the extra piece of tape because we will be using it later. In fact, you will need to make several of these short pieces.

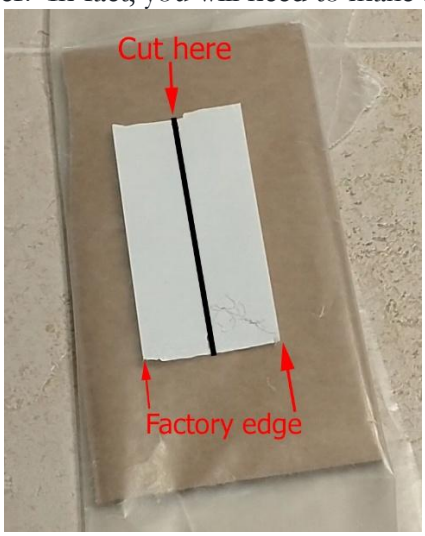


Figure 18 – Marking duct tape

12. Locate the mark on the tubing where you marked the length of the pencil. Measure about 3 inches (about 8 cm) from that mark and cut the tubing. The length is nominal. Make sure that you know the side of the tubing that is the same length as the pencil. See figure 19.

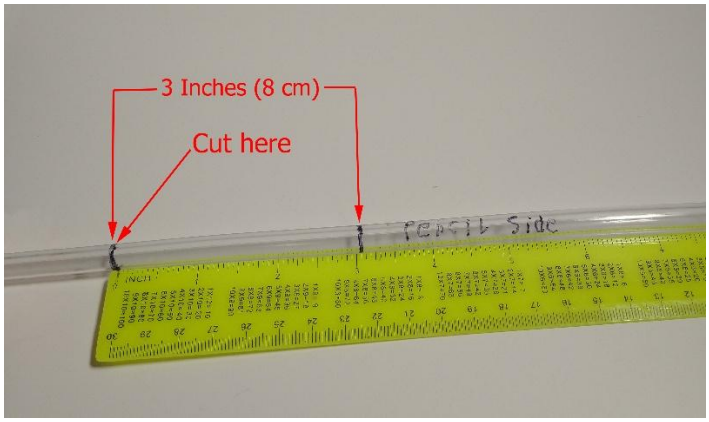


Figure 19 – Measuring tubing

13. Now, take a piece of the tape that you've cut and locate the factory edge. You need to use this side because you want the edge of the tape to be perfectly even when you wrap it around the tubing.

14. Carefully wrap the tape around the tubing right where the line is. You want the **UNEVEN** side of the tape facing the side of the tubing that is the same length as the pencil. See Figure 20. After you finish wrapping the first piece of tape around the tube, then wrap three more pieces over the top of it, again being careful so that the factory edge is perfectly even. We are using short pieces of tape because it makes wrapping the tape easier. The uneven side of the tape does not need to be perfect.

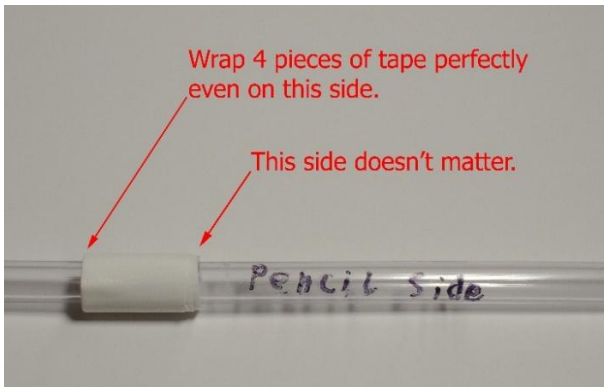


Figure 20 – Wrapping tube with duct tape

15. Attach the tube to the pencil with a piece of duct tape. You want the pencil to be about 1/4 of an inch, or about 6 millimeters, below the even edge of the tape. Use another piece of duct tape to attach the other end of the pencil to the tube. This should keep the tube reasonably straight. It doesn't need to be perfectly straight. You just don't want the hose bending a lot in the jar. See Figure 21.

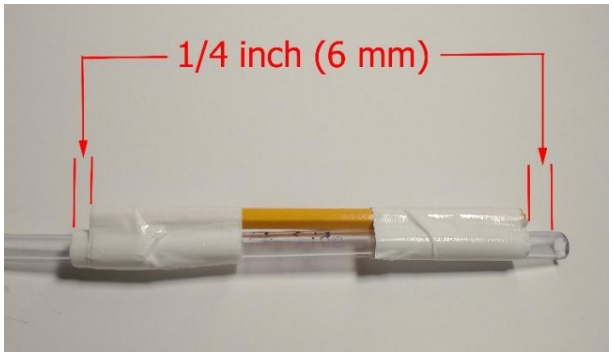


Figure 21 – Attaching the tube to the pencil

16. Insert the tubing from the bottom of the cap through one of the holes in the cap. It doesn't matter which hole you use. You want the pencil to extend into the jar when the lid is screwed on.

17. Use another narrow piece of duct tape that you cut and locate the factory edge. Wrap the tape around the tubing where it extends above the top of the cap, with the factory edge touching the top of the cap. Wrap the tape about 1/8 of an inch or about 4 millimeters too long, so that you know it's touching the cap. See figures 22 and 23. When you are wrapping the tape, make sure that you are pulling on the tube, so that it is tight up against the cap. The idea is that you want to create a seal on both sides of the cap. A little dust is probably going to still escape, but not that much. This is another reason why you need to wear a respirator when applying dusts.

Figure 22 – Sealing tube to cap


Figure 23 – Sealing tube to cap

18. Cut another piece of tubing that is about 12 inches long.

19. Just like before, you need another piece of tape that you cut, and you need to locate the factory edge. This time you want the **UNEVEN** edge of the tape touching the edge of the tubing where it was cut. The factory edge is going to contact the cap. Wrap the tubing so that the factory edge is nice and even. Again, just like before, you want to use four pieces of tape. See Figure 24.

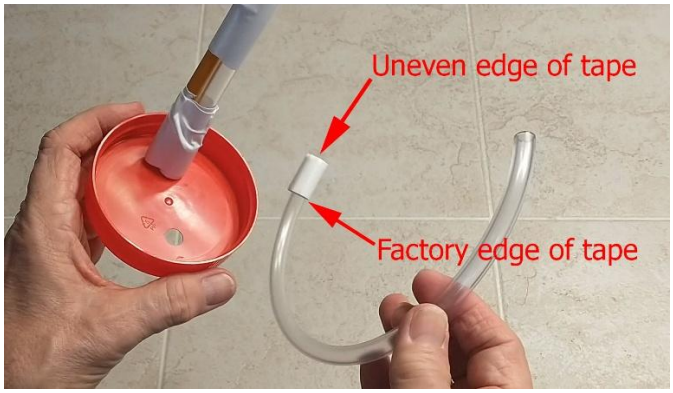
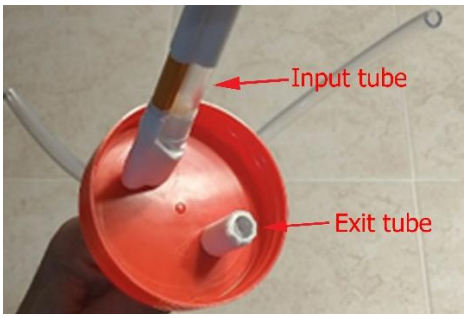


Figure 24 – Wrapping tape around exit tube

20. Now insert the tube from the bottom of the cap through the other hole in the cap. See Figure 25.

21. Just like with the other side, you want to make sure that you wrap a piece of tape tightly around the tubing where it comes out the top of the cap, to hold it in place to create a seal. See Figure 26.



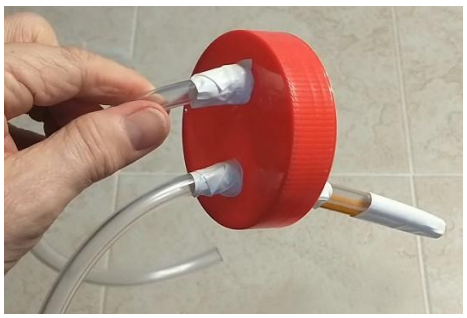


Figure 25 – Input and exit tubes Figure 26 – Sealing tubes to cap

22. Now, just screw the cap onto the jar. The hose with the pencil is the input. The hose with the short side inside the jar and the long side outside the jar is the exit tube.

23. All you need now is an air pump that is suitable for inflating air mattresses or large pool toys. Guy uses this tiny air pump in Figure 27, but for even more power and more dust coming out of the duster, you can invest in a bigger pump.

24. Locate the reducer tip like the one in Figure 27. If it is attached to the other reducer tips, simply cut it off. If the end of the reducer tip is not a straight opening, cut off the end so that the air will shoot straight out. Now attach the reducer tip to the air pump and insert the tip into the inlet hose on the duster. That would be the hose that leads to the pencil.

25. When you put the dust in the jar, make sure there are no lumps in it. You don't want lumps getting caught up in the tubing. The clear jar makes it easy to see lumps, and you can break them up by stirring the dust with a stick or a screwdriver. After you have all the lumps out, screw the jar onto the duster.

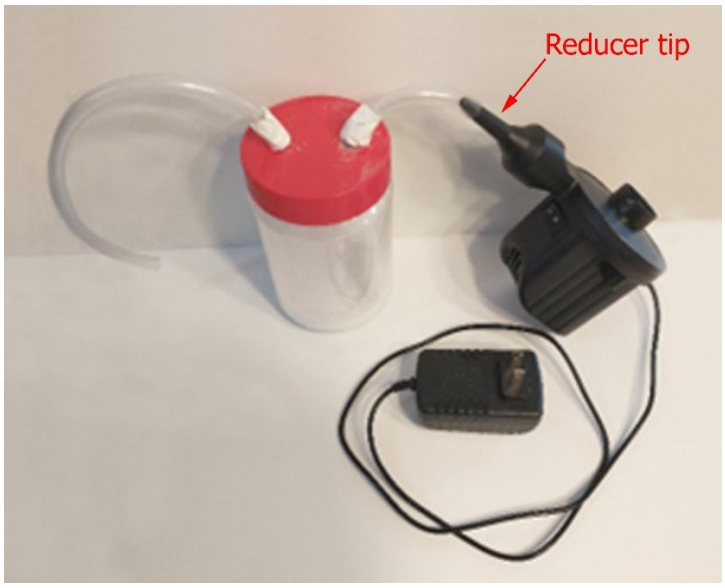


Figure 27 – Completed duster

26. The duster puts out a lot of dust, but it works even better if you lightly shake the jar while the duster is operating. This will cause a massive amount of dust to be released at the end of the duster tube.