

How to make a computer power supply usable with a breadboard

Step 0: Unplug the power supply!

Step 1: Cut the voltage output wire somewhere. Don't cut too close to the "brick" or to the jack. I would recommend about 6 inches from the jack. Save the separated jack somewhere.

Step 2: Inside, you'll see two wires. Probably one has black insulation, and one has red. These two wires are both surrounded by an outer insulating sheath. Carefully use a knife or wire cutters to remove about 2 inches of this sheath from the cut end. Don't hurt yourself. Don't cut either of the two interior wires (i.e., the red one or the black one).

Step 3: Besides the two wires, there are sometimes other stringy insulating materials packed in there. Trim them down so they don't get in the way. Then splay out the two wires so you can easily work on one without the other getting in the way. The remaining pictures don't show them splayed out.

Step 4: Use your wire strippers to remove about a half inch of both the insulation on each individual wire. If you damage the metal inside, go back to step 1 (i.e., shorten the wire and start over). You'll be happiest if both wires are very nearly the same length as each other.

Step 5: Each exposed metal wire is probably comprised of many smaller wires, all running in parallel. This is a nuisance for using with a breadboard. With your fingers, twist them together so the group is more likely to stay together as a group. The direction doesn't matter.

Step 6: If this twisted bundle separates when you push it into a breadboard, you might consider adding some solder to the wires to stiffen the bundle. Work on a flat surface that won't burn easily, and that you're not worried about damaging. Surprisingly, even a piece of wood is fine for this. Place a weight on the big wire so that your wire doesn't move around while soldering. Heat the soldering iron to maybe 700 °F (if it even has a temperature control). Without using the solder yet, push the tip of the iron onto the twisted wire, pushing it down with a medium amount of force onto your working surface. You're heating the strands first. After about 5 seconds, touch the tip of the solder itself onto the stranded wire, while still pushing the tip of the iron onto the stranded wire. Because of capillary action, the solder should flow and surround the stranded wire. If it only surrounds on side, flip the wire over and repeat on the other side. Do both wires. Don't add too much solder... you just want to make it strong enough that the strands stay together.

Step 7: You probably used way too much solder, so each wire is now too large to fit into a hole on your breadboard! Working over a sheet of newspaper, use a small file to thin the wire down. Be patient. If you go too fast, you can easily ruin everything. The filed solder contains lead, which is poisonous, so be careful that scraped off flakes are all captured in the newspaper, and wash your hands when done.

