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KEYBOARD KINDNESS

Voice commands will soon be the way we provide instructions to our computers, but at present, the keyboard is our main tool for this activity. Although we give them a lot of abuse, they are amazingly reliable. We pound on them, for that is the way they work. But we also drop food particles, hair and dust on them, then cement these into a stick mass with spilled coffee, coke and other yucky liquids. I have seen keyboards that would supply a family of mice with food for three days, including deserts.

Most often, keyboards continue to work on, undaunted, notwithstanding the mess between the keys. But now and then they act up, or rather, they refuse to act, when one or two specific keys are pressed. When that happens, most people throw them out and replace them with a new one. After all, they are not very expensive, ranging from about $20 to $90. On the other hand, if they can be repaired (and they can), this saves money and space in the landfill. The repair also saves you the trouble of getting used to a new keyboard, when that old one felt just right. So this article will tell you how to disassemble and clean one. If you are successful, it will save you the cost of this publication, at least. If not, you can always go ahead and buy a new one. Nothing ventured, nothing gained.

First, some background. Keyboards are not all the same. There are basically two kinds. Most original keyboards that came with XTs will only work with XTs. Most original keyboards that came with ATs (286 and higher) will only work with ATs. If you plug one of these AT keyboards into an XT, the computer will complain when you boot it up. Similarly, an XT keyboard plugged into an AT will invoke cuss words on the AT's screen (not really, but it will beep at you and send you error messages).

Having said that, there is a third type that will work with either an XT or AT. Some "smart" keyboards will simply autodetect the type of computer it is hooked to, and then it will configure itself appropriately. Others have dipswitches on the bottom (turn yours over and look). You flip the switches in one position for an XT, and the other position for an AT. Some of these have another position for autodetect, usually labeled AUTO near the switch. Unless a switch is present, it is hard to tell the difference between the AT and XT keyboard, unless you have a fair amount of experience. At a swapfest, you either have to ask, or guess.

On to the maintenance. The aim is to remove all the keycaps, or at least most of them, so that you can clean underneath. Now, there are at least 88 keycaps, and Murphy's Law of Keyboards says you will surely mix them up when putting them back. So, the first step is to make a map.

Draw your keyboard, using little squares for each character. Label each character. Note that the square for the letter E is above and slightly to the left of the letter D. Be sure to make the map reasonably accurate. Make that map on paper; do NOT make marks on the plastic around the keys. You are going to clean that plastic thoroughly, so any marks will disappear!

Next, carefully grasp the G key and pull straight up. Use a small screwdriver or other tool to help, but be sure that you don't pry sideways, or you may break off plastic tabs. The key or key cap will come off, and you might find a spring underneath. Lay these aside and go to the kitchen.
In the kitchen, find a large, deep bowl or similar container. A 2-liter plastic soda container or milk jug with the top cut off makes a perfect container. Also get a smaller bowl to hold the springs.

Go back to the computer and remove the rest of the regularly shaped keys. Don't remove the SHIFT, ALT, ENTER or other keys that are larger than the alphabetic keys, at least, not yet. Put the springs in the smaller dish, and the keys in the plastic container. DON'T LOOSE ANY SPRINGS. When you are all done, put a couple of generous squirts of dish soap in with the keys, and fill the container with hot water. Stir the mixture and let it soak. Make sure each key is fully submerged in the liquid.

Now, the real mess is exposed. See all that gunk on the tray under where the keys were? Get the vacuum cleaner and suck it all out, using a toothbrush or small, dry paintbrush to loosen all the dirt. Use Q-tips moistened with water to clean anything sticky. Get it all out.

If you are motivated to also remove the special keys, go ahead, but be careful. They have metal hinges in addition to plastic tabs. The hinges are simply stiff U-shaped wires, with inward-projecting points that engage in holes in the bottom surface of the key. The space bar is always hinged in this way. Examine these carefully, so you can put them back correctly.

Now, flip the keyboard over and remove the 4 to 8 screws on the bottom. Remove the bottom cover, and you will likely find another 4 to 6 screws that hold the keyboard to the top cover. Remove these and disassemble the top cover from the keyboard mechanism proper. Be sure to note the position of that grounding wire so you can get it back correctly later. Also note how the cable is routed, so you can put it back where it belongs. Make a sketch at each stage of disassembly; it will save you hours later. Spend a little time in study the circuit board, and how it is all arranged.

Take the top and bottom covers down to the basement. Using generous squirts of dish detergent, wash them both thoroughly. Scrub any marks or blemishes. An old toothbrush works great for this.

Dry the covers and reassemble them, putting the circuit board back exactly where it was. Then stir the "keycap soup" for a while, and rinse them thoroughly with lots of warm water. Spread them out on a towel to dry. When dry, pop each back in place, using your map to guide you. Plug the cable back into your computer, and test each key. They should be fine. Happy computing!