

Which way should the ground plug go on electrical outlets?

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Revised November 2, 2004 Should electrical outlets be installed with the ground pin up or down? There is a lot of debate and few regulations on this question. The first time I got asked this question, it came from Newfoundland. You can see my answer to that question by searching for ""Outlets"" in the keywords. For this TV segment we checked further. The Ontario electrical code for mobile homes still does have a requirement for the ground pin to be up, if the plugs are not installed horizontally. Actually the code recommends a horizontal installation for mobile homes. The justification for a horizontal installation was interesting: keep the cords from hanging over each other. CSA has a requirement for the ground pin up on outdoor power posts in mobile home parks. But the rest of the code right across the country is silent. People have responded to this database entry over the years and the story gets longer. Throughout Quebec the plugs are consistently installed with the ground pin up. Several electricians told me that this was a code requirement, but when I asked for a copy of the code that made such a requirement, there was none. There was however some confusion in translation about not having the surface (face) for an outlet up on a counter top. They thought that meant having the happy face look of the outlook reversed, whereas in fact it meant not putting a plug on a flat horizontal surface where liquids could be spilled into the outlet. Many inspectors argue that it is much safer with the ground pin on the top. One sent me a photo of a metal plate that had come loose and fallen down on the two live prongs creating a great short circuit. His argument is that with the ground pin up, this would not have been such a problem. However I have to ask, how many metal face plates do we have in residential construction. Others say that little kids can put a knife or fork down on the contacts and having the ground pin up would protect against this. That sounds like a noble idea, except almost all outlets that are within reach of such a small kid have only two prong plugs like lamps and sound systems -- which generally do not have a ground pin at all. Probably the biggest problem with this whole question comes from the flat cords that are designed to hang down, but only when the ground pin is on the bottom. This is common for microwave ovens. A reversed outlet will put stress on such a plug. Most small transformers have polarised plugs (one prong wider than the other) and they are all designed to hang properly on the wall when the grounding pin is on the bottom of the outlet. We discovered battery chargers whose batteries fall out with the ground pin up. Night lights also usually have polarised plugs which means on reversed outlets, they will light up the ceiling not the floor. We did find one water cooler which had a three-prong plug made for the ground pin to be up, but that was the only manufactured device that we could find at all that had the ground pin purposely up -- a result of Quebec's tendency to go the other way. There are no legal requirements, so personally I would insist in any contract -- and even write it into the specifications of the contract -- that the ground pin should go down so as to be in sync with the usual design of manufactured devices. Electricians may resist because of old habit, but all the electrical inspectors will support you. If you have problems with this, drop us an e-mail. Remember that all electrical work requires a permit: some provinces allow homeowners to do their own electrical work and some provinces require licensed electricians to carry out all such work. Click here for information on the LEGALITY OF DIY ELECTRICAL WORK.

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