

# Get a new life for those old dead battery-powered tools by converting them to 12 volts

By Kenneth J. Polman

Those battery-powered drills, drivers, and saws that we have around the 12-volt-powered homestead always seem to be dead when we need them, and charging them is another problem. What is even more frustrating is that the batteries die at an early age and leave the tools useless. Replacement batteries for the non-slip-in models are available, but who wants to wait weeks for their arrival?

For those of you that have a drawer full of these expired \$29.95 drills, take heart, for there is life after death. For the cost of a cigarette lighter plug and cord from Radio Shack, you can be back in business.

Further back than I care to remember, I was a slot car enthusiast. We would run six-volt (or rewind) motors on 12 volts for increased speed and power, so why not try this on a throw-away three- or six-volt drill? Needless to say it worked, and I haven't burned up any of them, even under heavy torque conditions. I haven't converted a Makita drop-in battery model yet, but wiring a gutted battery pack should do the trick without even opening up the drill body.

On the cheap models, you have to (shudder) get inside the plastic body. Go slowly, because there are gears and switches that will try to escape. Locate the battery pack and unplug and discard it. There may be a charging circuit of lighter gauge wire and diodes that can be clipped and saved for parts. If yours is a two-speed model, there will be another *plus* wire to a single battery. Clip that also, because this conversion will provide only a single speed without getting

into complicated voltage-reducing circuits. If yours is a reversible model, reverse will still work fine.

Locate the *plus* wire of the lighter cord and attach it to the wire from the *plus* side of the battery pack, usually red. The other wire goes to the *minus* side. If this is a non-reversible model, get it right or it will take four years to drill a hole in pine.



After you have hooked up the wires, locate a suitable place on the bottom of the grip and file a slot for the wire to exit the case. Tie a knot in the wire to keep it from pulling out, or use a dab of silicone seal if there isn't room for a knot. Most holes you need to drill will be two inches further away than the cord will reach, so to avoid damage, let the silicone set before using the converted tool on projects.

Radio Shack also sells extension cords for lighter plugs, so you can reach to the next hole, which of course will be two inches too far, and the extension cord connection will pull apart. This distance problem will continue into infinity with extension cords, but there are also female receptacles available that could be hooked to an automotive battery with a carry strap (this we know how to charge!) for portable power without tangles. Δ