

<http://www.halloweenforum.com/tutorials-step-step/77635-hack-power-strip-installation-fluorescent-starter-sockets.html>

Hack a Power Strip for Installation of Fluorescent Starter Sockets

Posted by: TK421

CAUTION: This hack involves altering an AC power strip. If you are not comfortable with working with AC circuits, please do not attempt this hack. If you choose to proceed, the responsibility is yours.

1. This hack will only work for power strips that have individual sockets. The strips that have molded-in sockets use copper frames to distribute power to the sockets, and won't work for this hack.
2. I used a Belkin 6 outlet strip that I got at Home Depot for about \$10. You'll need these

Parts:

- 3 starter sockets, available at most hardware or lighting supply stores
- 3 FS-2 starters
- 4-40 screws and nuts

Tools:

- Small screwdrivers
- Soldering iron
- Wire stripper
- Drill



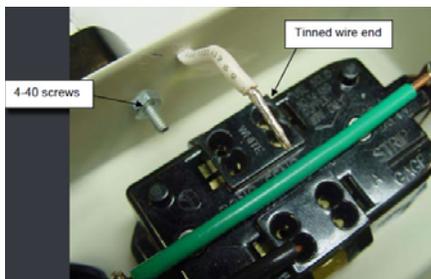
3. Open the back of the strip to expose the sockets. Using a small screwdriver press on the tabs to release the white wires. The picture shows a black wire, but you get the idea. The white wire in this pic is actually the wire from the starter socket.



4. The white wire called out in this pic is the line that goes into the first socket. Pull it out of the outlet tab but leave it connected to the surge protector board.



5. Drill some holes in the side of the strip housing where you want the sockets to be attached. You'll need two holes to mount the socket and holes for the wires to go through. You can see the ends of the screws in the pics in Step 3 and 6.



6. Mark the drilling locations for the sockets. After you have the holes drilled, install the socket furthest from the power cord using the 4-40 screws. Pull the socket wires through the holes. Cut the white wire to the length needed to reach the socket tab from which you removed the original jumper wire. It's better to have a little more wire than you need – don't cut it too short.

Strip about 3/4" of the end and tin the wire with solder. Leave the black wire as-is for now.



7. Repeat this process for the next two sockets. When all three are installed pull the three black starter socket wires along the inside of the strip as shown below. Trim and tin the white socket wires and insert them into the power outlets. Trim the white power

strip wire to about a 3" length. Strip and tin the end of the wire. Trim the black starter socket wires to a length that will reach the white wire. Again, a little extra wire is good – don't cut them too short. Strip the ends of these wires and tin with solder.



8. If you have some heat-shrink tubing, slide a piece over the white wire as shown. Solder the 3 black wires to the white wire. Slide the tubing over the wires and shrink it. If you don't have any tubing, use electrical tape to completely cover the junction. You don't want to energize the metal housing.



9. This is what you should have when you're done. Inspect the wiring to make sure that all connections are tight and that the soldered junction is insulated. Replace the cover on the strip.

10. CAUTION: If the strip is powered up without a starter in a socket, that socket has exposed AC terminals. Do not power up the strip without a starter in each socket. Do not hot-swap the starters.

Plug in the FS-2 starters and power up the strip. You'll see that each pair of sockets will have a unique flicker pattern. The starters are pretty cheap – get several and try them out to see how they behave. I've read that FS-4 starters will also work, as long as they're not rated above 30 watts. The max wattage that I've used with this type of circuit is 40 watts per starter.

Posted by: Otaku

It'll work with FS-5 starters if a higher wattage is needed, but the flicker rate is quite different. The FS-2's will handle up to about 40 watts, but after that the flicker falls off to a very slow rate. BTW, the hack is mine - many thanks to TK421 for ripping the PDF and getting this posted, ditto for the Boris hack. When Heresjohnny took down his site a few months ago, my flicker strip and Boris hacks went with it.