One Way[1] To Splice an Extension Cord, Version 3.0

By R. G. Sparber

There are a few critical things missing in this picture[3]. I have not soldered nor insulated the Western Union splices. The shrink tubing around the entire joint was not installed. Please do all three of these if you plan to follow my procedure.

There are a few advantages to this arrangement. By staggering the three splices, there is less build-up in thickness. Although the insulation should hold, if it doesn't, no two splices are adjacent so there is even less chance of a short. And, finally, I'm using Western Union splices where are the strongest you can get after they are soldered.

The first step is to remove 4-inches of sheath from one of the cables.

[1] Actually, the Western Union splice is the NASA approved method if I use clear heat shrink.
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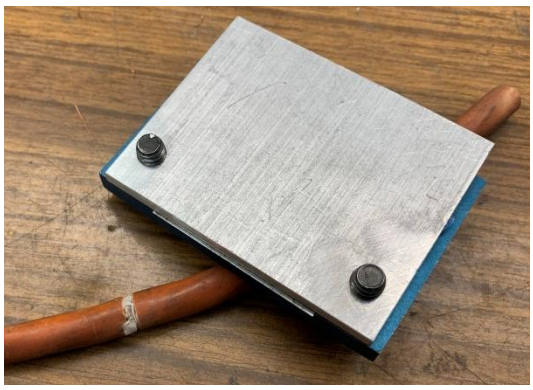
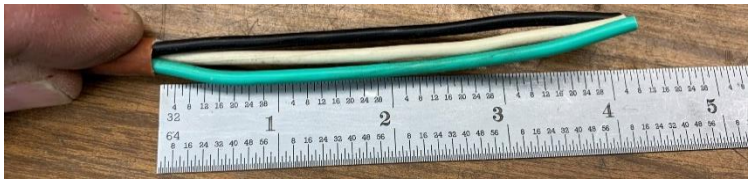
[3] In this blown up picture, I see a tiny piece bit of wire extending from the right side of the green wire's splice. Note to self: clean up any little wiskers of copper.



I am using my [sheath cutter]. This design continues to evolve.



Pulling off the sheath pulls some of the wire out of the cable so I had to trim the exposed wires back to 4-inches.

I then stripped 1-inch of insulation from the end of the black wire. The green wire was trimmed to 3-inches long and 1-inch of insulation was removed from it. And finally, the white wire was trimmed to 2-inches long and 1-inch of insulation from removed from it.

The mating cable first had 4-inches of the sheath removed and the wires trimmed to 4-inches.

I then took a bag tie and secured the two ends together with the ends of their sheaths lined up.

Using the black wire as a guide, I cut and stripped the white wire to match.

I repeated the process with the green wire.

And, finally, I cut and stripped the black wire to match the white wire. I just noticed that the white wire's conductor is a little longer than the black wire, but that is OK.

Now is the time to slide on the heat shrink tubing over each of the long wires plus a larger piece of shrink tubing over the entire cable.

Cross the black wires about ¼-inch from the insulation. Then wrap each wire around the other. This forms a Western Union.

Repeat for the white and green wires. If necessary, pull on the two cables to take up any slack.

Closely inspect each splice and trim away any loose wire.

Keeping the shrink tubing as far away as possible, solder each joint. Trim any sharp edges. Let it cool. Then slide the tubing over the joints and apply heat. Finish up by sliding the large piece of shrink over the entire assembly and heat it.

The resulting splice will be electrically and mechanically sound.

Suggestions from Collaborators

- I must say we do it the same. I hate to get a cord that kinks all the time and finally gets a break. I cut mine the same way but I use shrink tubing after I solder the wires. I try to keep the mend as small as possible so it will not bulge too largely. I also take the outer coating and slit it down one side after all the repair is complete I place it over the wires and slide a larger shrink tube over everything. Now the cord is as good as I can do. It is mighty expensive to buy a good cord anymore. My old leaf blower needed a new plug and the cord was not looking the best so I bought a very good grade extension cord and cut the plug from it and wired it in. That was a very nice fix and am old machine. (Nelson Collar)
- …add a second layer of outer shrink tubing longer than the first (inner) layer. (Jim Irwin) [for a total of 3 layers]

Thanks to homemadetools.net's "techcollect" for pointing out that this is the NASA approved way to splice wires.

I welcome your comments and questions.

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Rick Sparber
Rgsparber.ha@gmail.com
Rick.Sparber.org