

XJ4EVER
in association with
Schmuckatelli Heavy Industries

presents

**YOU'RE, LIKE,
CRIMPING MY STYLE,
MAN**

This writeup is rated



Ever try to take a connector apart on your wiring harness and have this happen to you?



You're not the first, and you definitely won't be the last. Simple fix, right? Strip some insulation off the wire, crimp on a new connector, and you're back in business. (If it's corroded like this, you'll want to clean that up with baking soda/water, or if you have enough slack, cut off the corroded section of wire.)

Crimping, however, can be a bit more complicated than it looks at first.

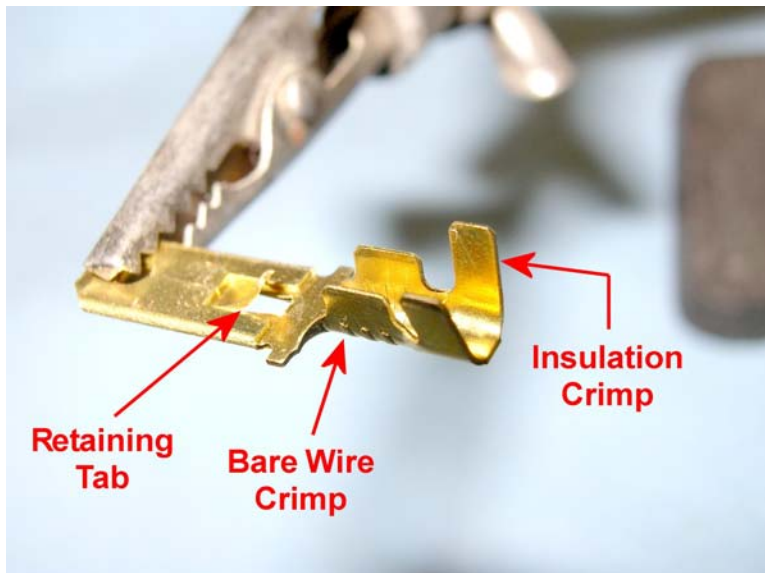


First, there's the type of connector you're installing – open barrel vs. closed barrel.

This is a closed barrel type terminal. You stick in the bare wire, squish it down flat, and away you go. These should **not** be used on our bikes, however, for two reasons – first, with all the vibration going on, that crimp doesn't always hold as well as one would like. Second... they won't fit properly (or at all) inside the plastic connector housing.



(Helpful picture of what a stripping/crimping tool for closed barrel terminals might look like)



Then there's the other kind; the open barrel terminal. The “open” section of the barrel consists of little flaps, or ears, or whatever you want to call them. They don't just wrap around the object you're installing them on – they bite into the item to grab onto it.

There are two sets of these “open” ears; one for the wire itself, and a second for the insulation (the better to keep the wire from pulling out of the terminal). Also note the little tab in the middle we've pointed out; that helps lock the terminal in place inside the plastic housing.

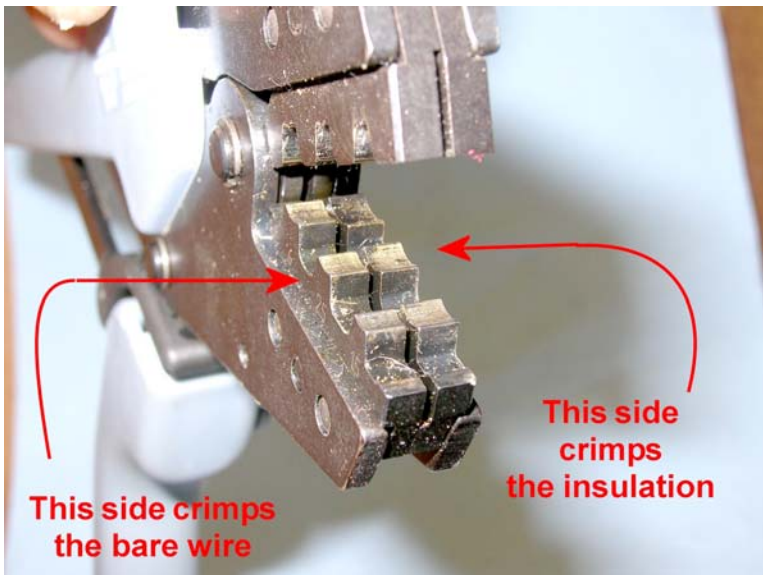


Since we're using open barrel type terminals here, let's start by looking at the crimping tool that they're meant to be used with.

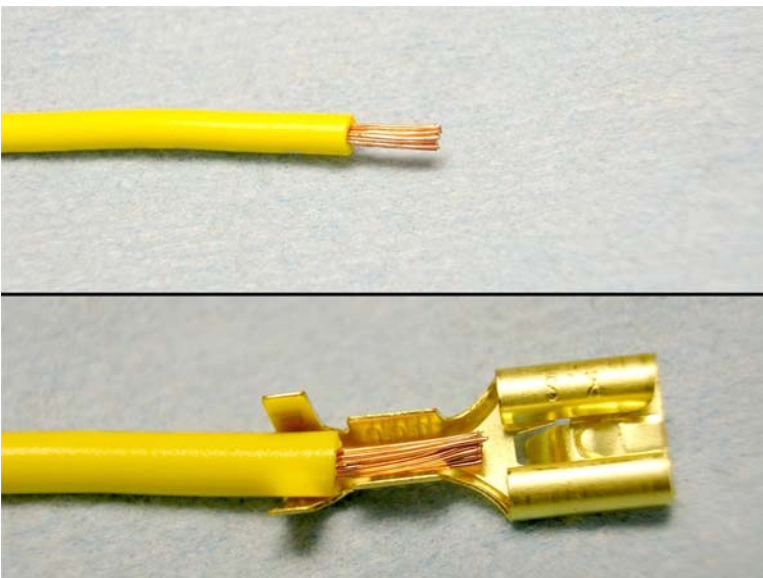
Pictured here is our top-of-the-line [HCP14583](#) professional grade ratcheting crimper. Other, more affordably priced versions are also available for infrequent, home-use purposes.



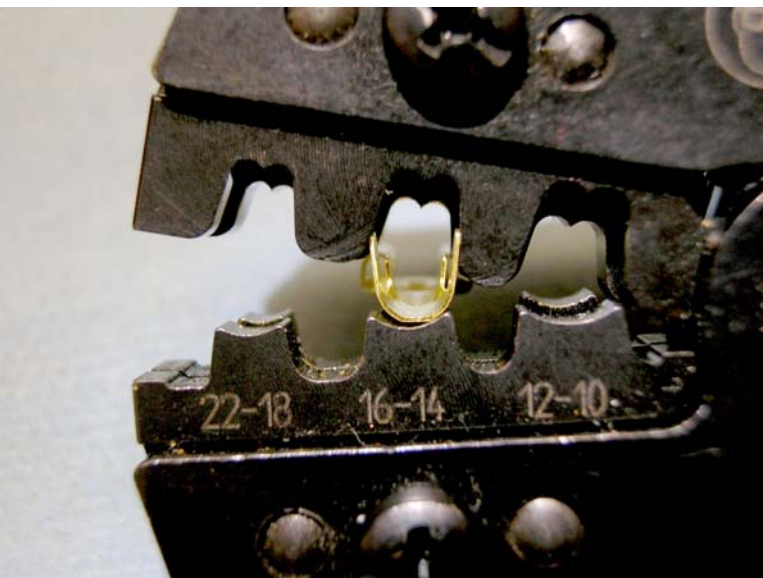
Here's a look at the dies that actually perform the crimp. One side has AWG (American Wire Gauge) markings, and the other metric. Yes, Virginia, there is more than one way to measure wire.



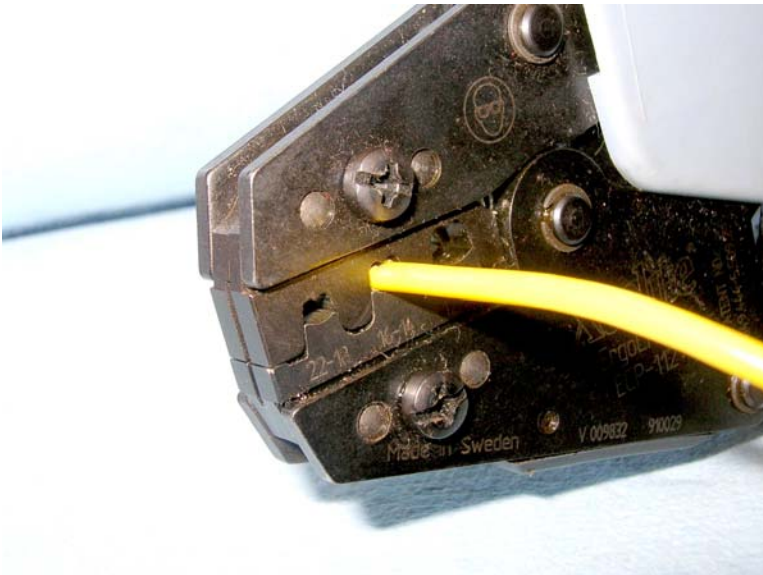
The neat thing about this setup is... instead of having to do two crimps (one for the wire and one for the insulation) we get to do both with one squeeze of the handle! The side with the AWG markings will actually be crimping the insulation, while the side with the metric markings will be crimping the bare wire. Ease and convenience in an easy to use package.



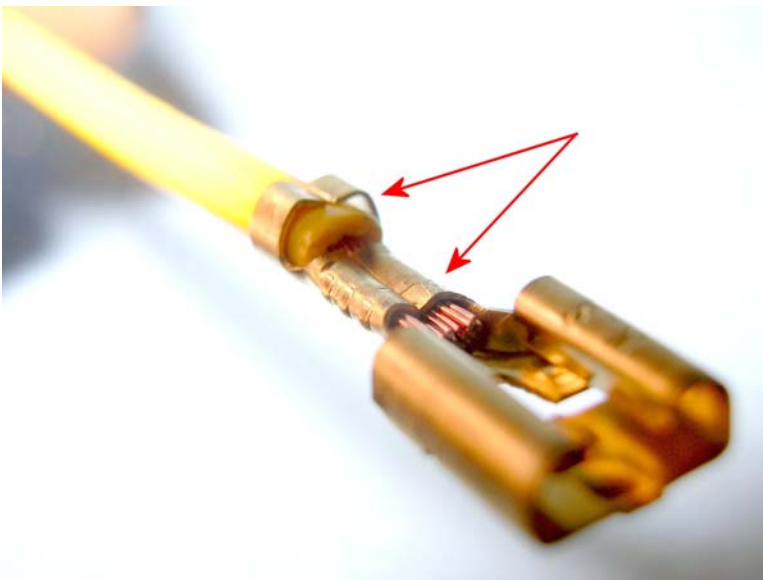
Here's how we go about it. For our example, we'll be using this 16 AWG size wire. First, grab your wire tool and strip off 5 or 6mm (1/4") of insulation – we don't want to take off more than that. Any more and you could find yourself unable to plug the male and female connectors all the way together because you have too much bare wire. Here you can see a good example of how it should look.



Next, we load our terminal into the crimper. (You DID buy extra terminals, right? Just on the off chance that something goes wonky... and spares are always good to have.) You see that "M" shaped section at the top? The ears point up toward that section. Hold the terminal in place; put the tall/narrow ears on the side with the AWG markings, and the short/wide ears on the other side. Squeeze until you hear **ONE** click – this will hold the terminal in place while you center the terminal on the die and insert the wire. The edge of the insulation should end up just past the first set of tall ears.

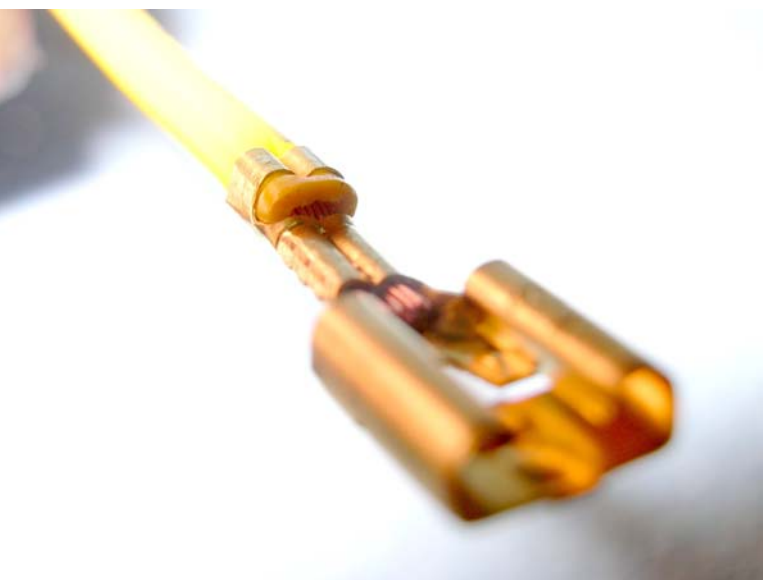


Now you can pretend like your ex-wife wants her alimony check; squeeze until the ratchet mechanism releases. Squeeze **HARD**. Don't Scrimp On The Crimp.



Now pull it out and inspect your handiwork. If all went well, you should have a trophy suitable for any mantelpiece. Or, the ends of the ears might look like they're laying flat instead of digging in, like we see here. You would **not** want this on your bike.

This is fixable. Move the piece down to the next smaller die (since we started with 16-14, we move to 22-18) and crimp again.

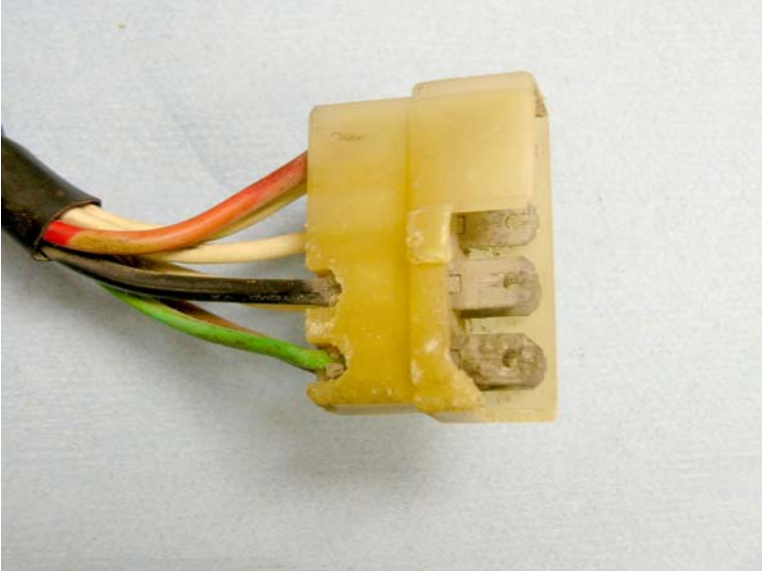


This is what you want to see. Ears/flaps are dug in nicely, and the wire strands don't extend too far past the end of the crimp.

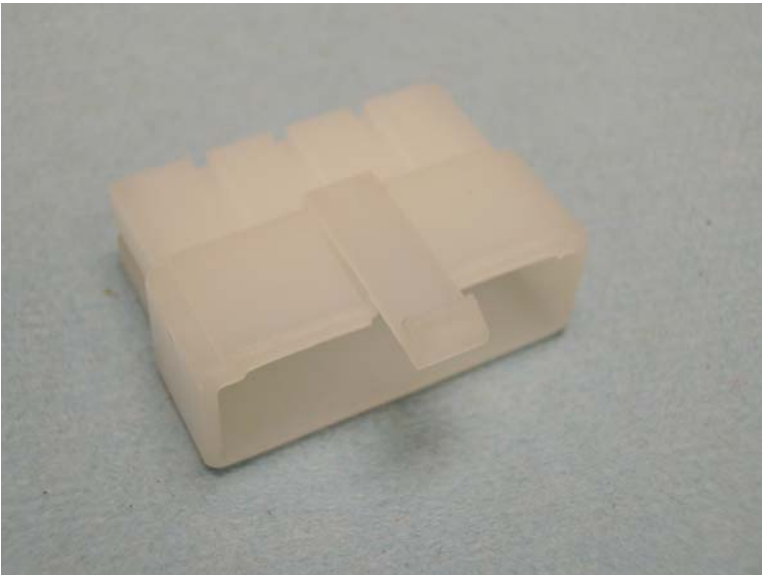
Last thing to do is cover the crimp area with a coating of dielectric grease, reinsert into your plastic connector (you should hear it click into place, and be unable to pull it back out), finish putting everything back together, and go riding.

PLAYING THE SHELL GAME

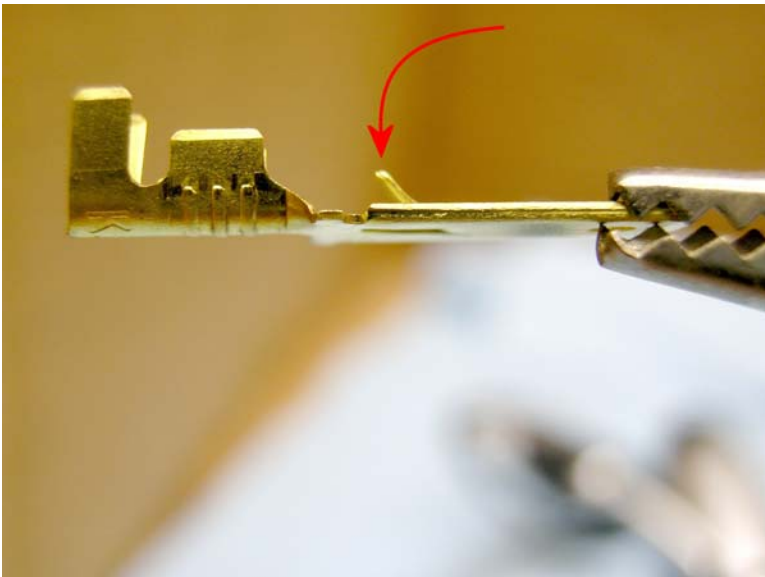
Way back on page 1, you saw a wire with a broken terminal. What can also happen is that a wire can pull out of a terminal (someone scrimped on the crimp, you see), leaving it stuck in the shell, or as we see here, the plastic on this connector shell (for a voltage regulator/rectifier) is just flat-out too old, and it's falling apart.



The terminals themselves are fine, but the shell is no good. We don't even have a retaining latch on it anymore. What to do?



Obviously, we need a new one. Our [HCP9336FMWHT](#), to be more precise.



But, that raises another question. How do we get the existing terminals out of the crumbling shell? Remember, those terminals have a little retaining tab that holds them in place.

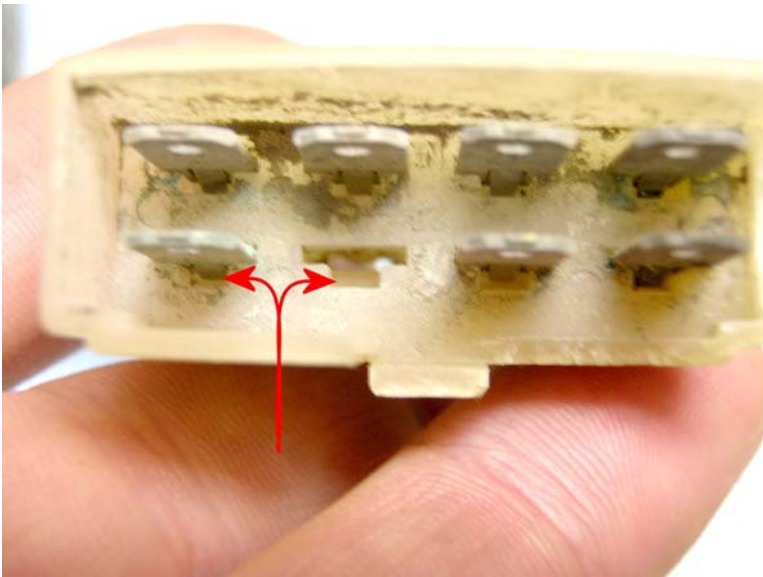


Fortunately, there are tools for this very purpose. We have our [HCP15686](#) terminal pick with the wide blade...



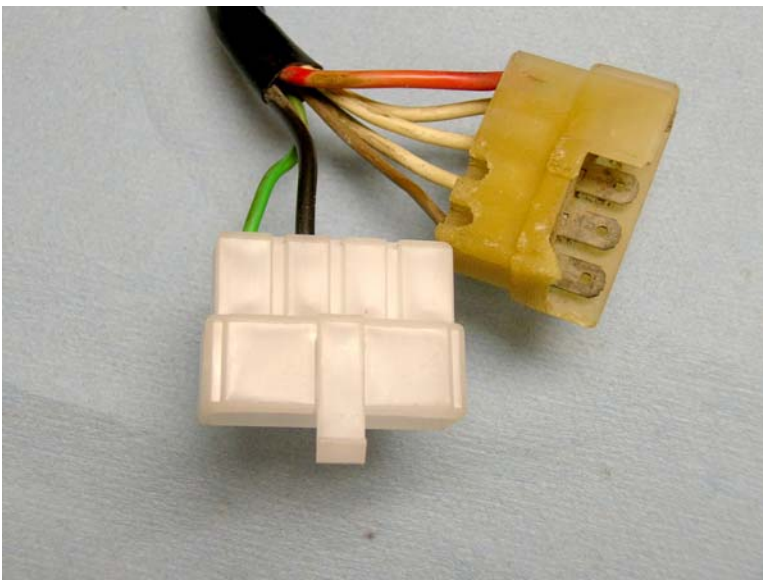
...and our [HCP15687](#) terminal pick with the narrow blade. They both come in stylish colors, to add that extra touch to your toolbox.





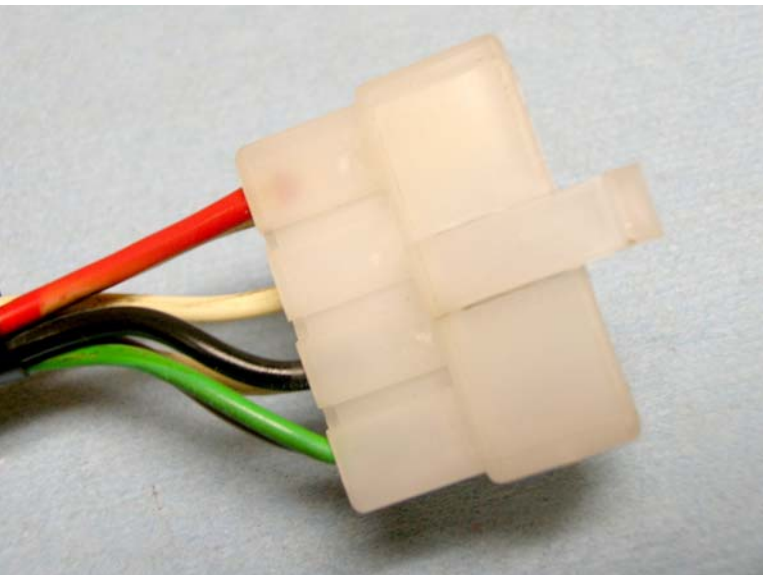
They're easy to use, too. Looking inside the shell, you'll notice the teensy slot below the terminal blade; that's where the retaining tab resides. Simply grab the appropriately-sized pick, push it into the slot, and if the wire is still attached, use it to gently pull the terminal out.

If it doesn't want to come out easily, press down on the retaining tab with the tool and push into the shell. Once the tab lets go, the terminal should start to come out of the shell.



If you're moving wires over to a new shell like we're doing here, we suggest doing one at a time. This way, there's less chance of forgetting just exactly which wire goes where.

Don't forget to inspect the retaining tab on the terminal before you reinsert it into the new shell – if it's bent flat, then the terminal won't stay in place. **GENTLY** bend it up slightly. You should hear it click when you insert the terminal.



A work of art, if I do say so myself.