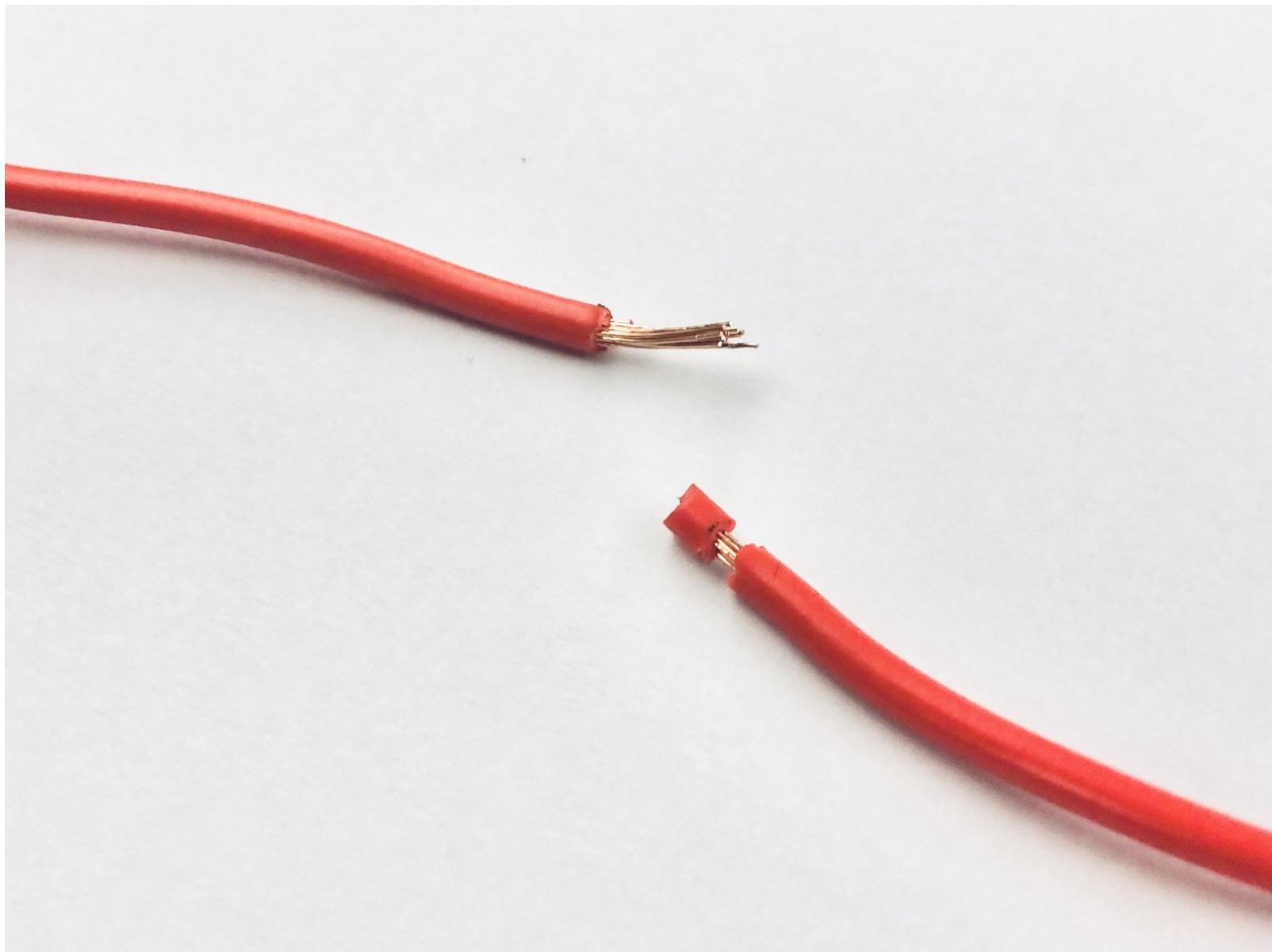




Damaged Wire Replacement

To restore a damaged portion of wire that may be disrupting the flow of electricity to a device.

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INTRODUCTION

If a damaged wire is causing electrical supply issues to a device, component or appliance, use this guide to replace the damaged section of the wire.

Many electronic devices use wires as a means of transferring electrical power to an appliance enabling it to work. However, wires can be worn down over time. A severed wire will cut off electrical supply to the wire itself. Exposed wires can cause injury due to electrical shock, fire or electricution.

Before using this guide, confirm that the damaged wire is the problem. Begin by determining if the device/appliance is receiving any power at all. After unplugging/disconnecting the wire, thoroughly inspect it for any inconsistencies or suspected problem areas that could be causing issues.

Step 3 involves the task of [stripping wires](#) while steps 4-7 also require the use of [heat shrink tubing](#). Be sure to familiarise yourself with these techniques beforehand.

Before starting, it is important to make sure that the wire you will be conducting the repair on is unplugged/unconnected so that no electrical current will be running through it.

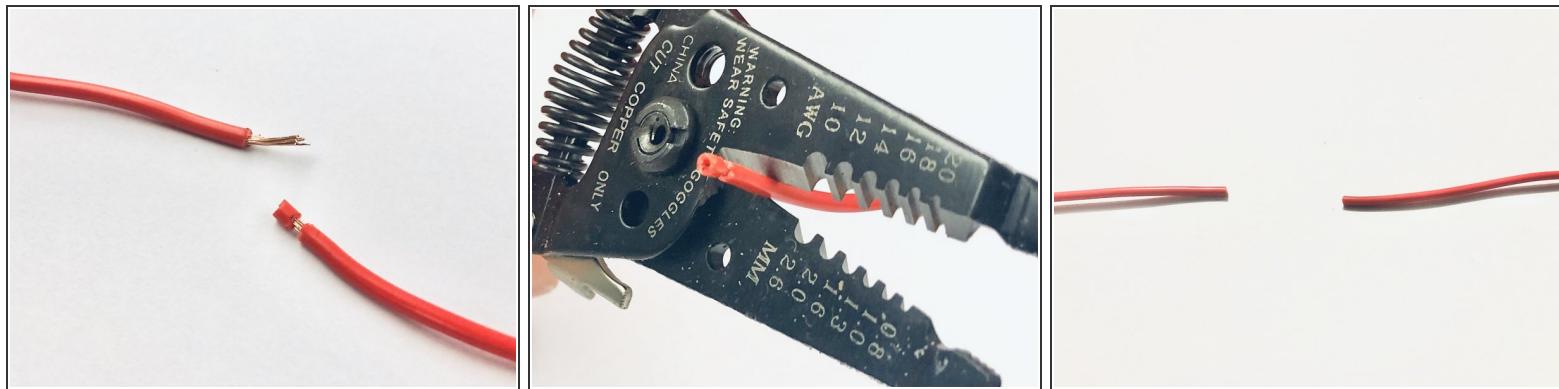
TOOLS:

- Heat Gun (1)
- Wire stripper/crimping tool (1)
- Heat Shrink Tubing Assortment (1)
- Large Needle Nose Pliers (1)

PARTS:

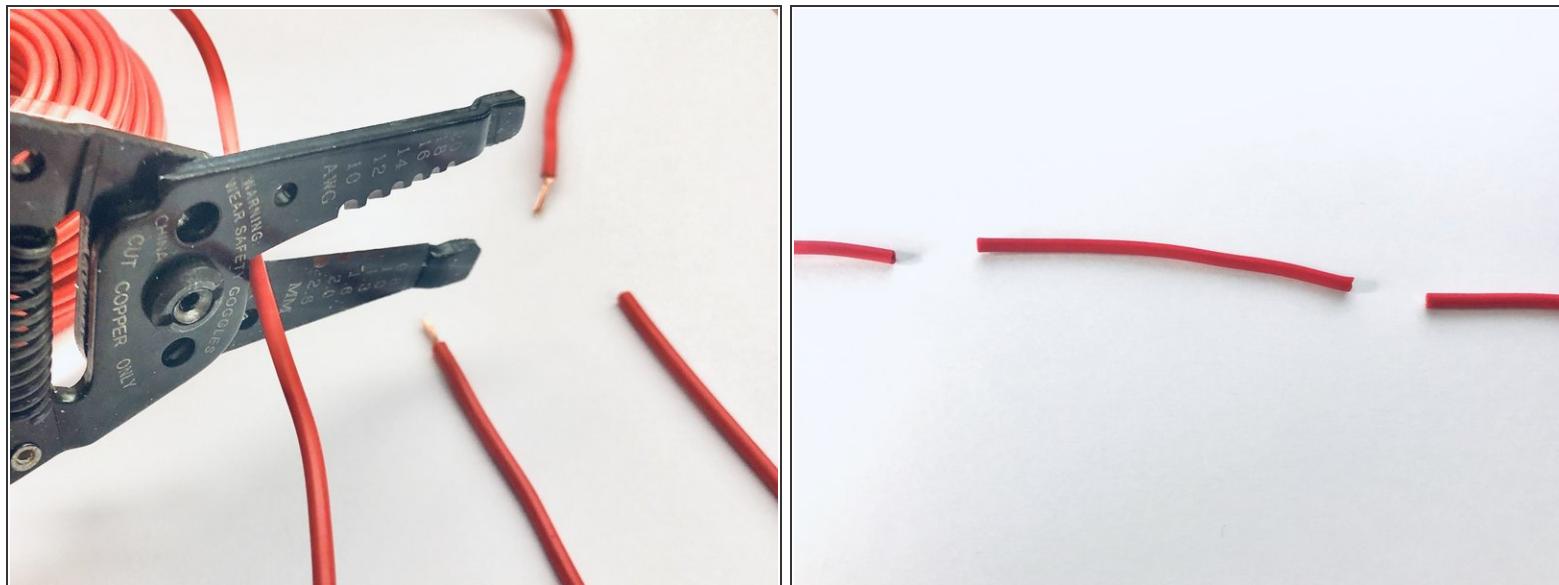
- Replacement Wire (1)

Step 1 — Trim Away Damaged Portion



- Using pliers, trim away the damaged portion of the wire.
- You should be left with two neatly trimmed wire ends.

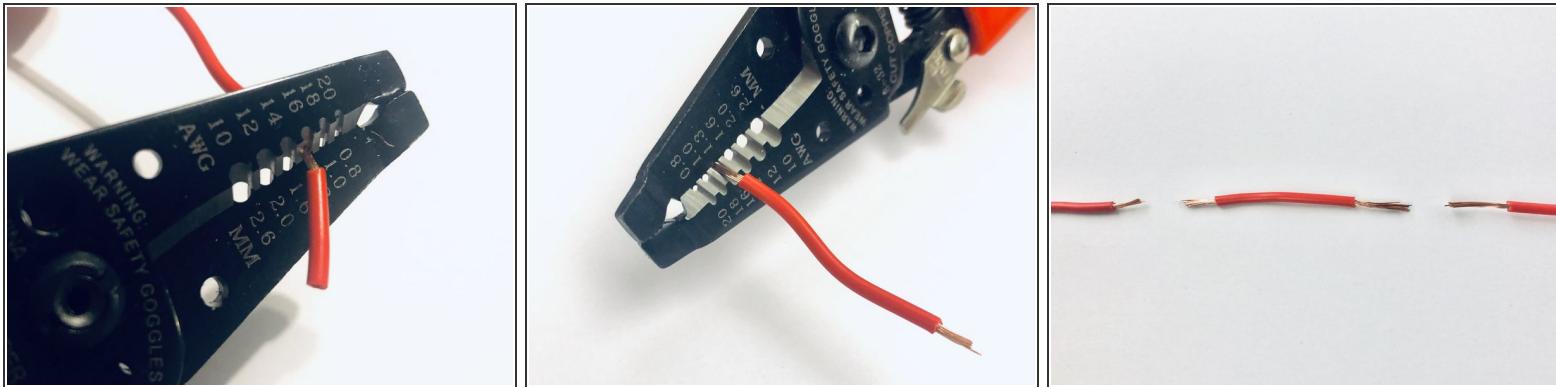
Step 2 — Cut Replacement Wire



- Cut a new replacement section of wire. This section will be connected between the two wires in the previous step.

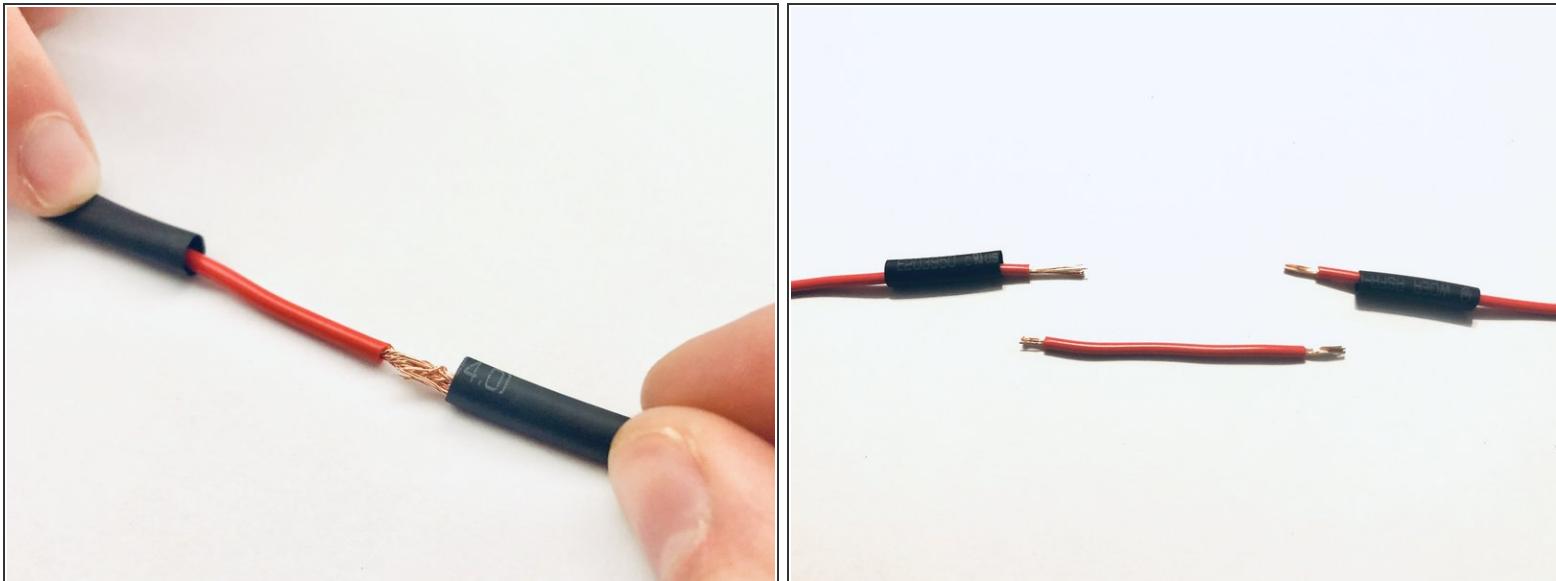
(i) The length of this new section varies for each repair. You decide what length is most suitable for your fix.

Step 3 — Strip Wire Ends



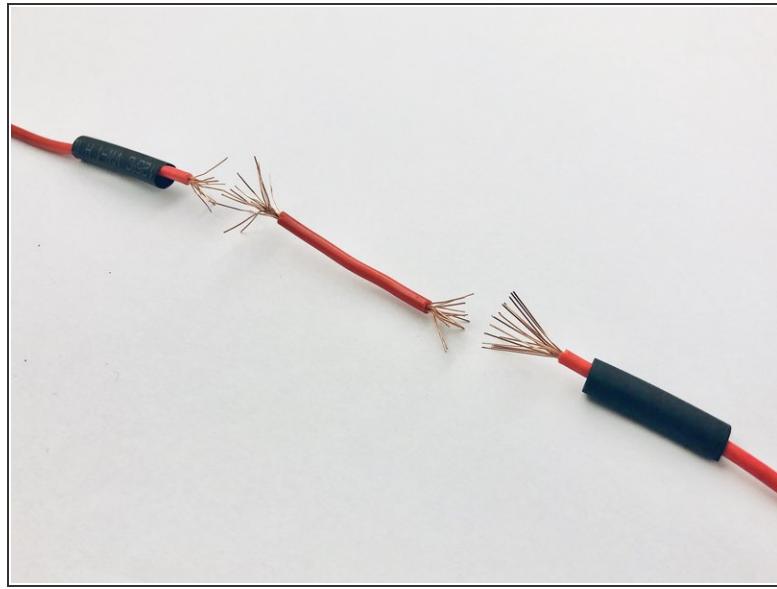
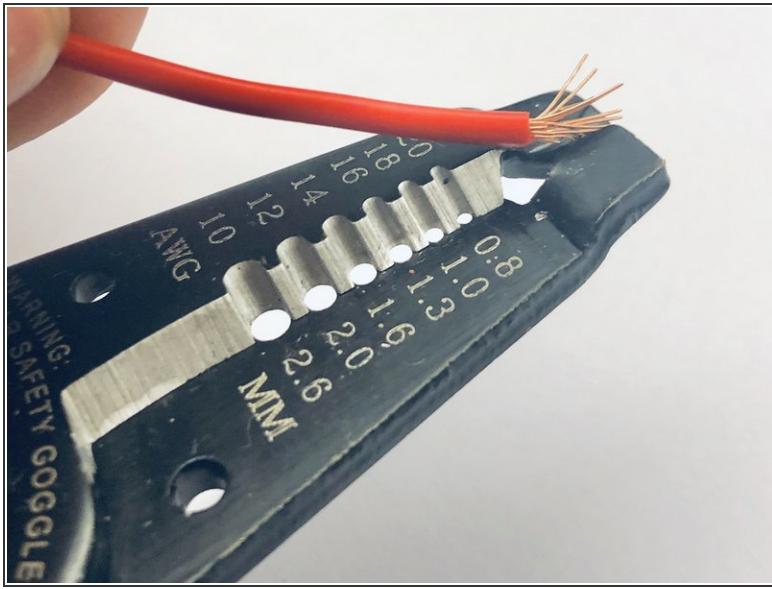
- Using the wire strippers, strip roughly the first 1-2cm of wire insulation on each end.
- The result should look as illustrated in the third picture.

Step 4 — Slide Heat Shrink On To Wire



- Slide a piece heat shrink tubing onto both ends of the main wires.

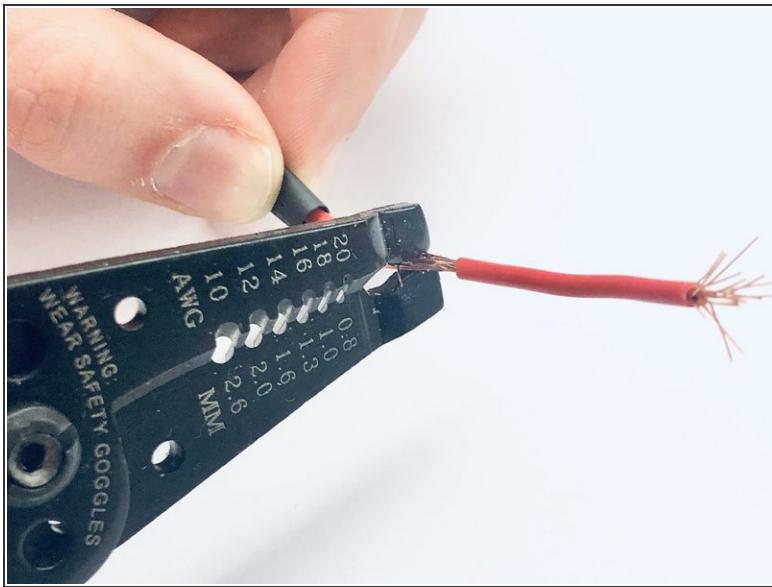
Step 5 — Fray Wire Ends



- Using pliers, slightly fray the ends of each of the exposed wires.

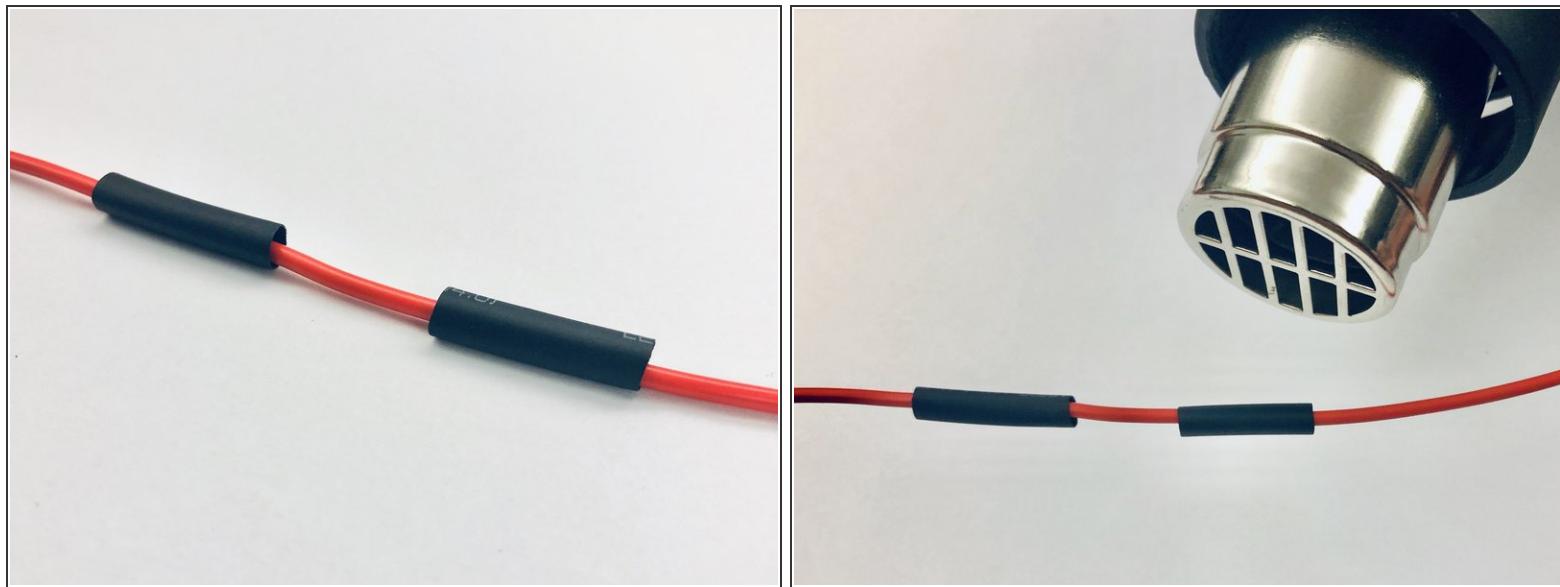
 Small exposed wires are extremely sharp and can cause injury to bare hands.

Step 6 — Crimp Wire Ends Together



- Using the pliers, connect each of the wire segments by intertwining and twisting them together.
- Once done, lightly crimp each of the connections with the pliers.

Step 7 — Use Heatgun



- Slide the heat shrink tubing over the exposed wires.
- Using the heat gun, slowly go back and forth over the shrink wrap, allowing for even heat distribution and the wrap to close.

(i) Depending on the heat gun setting, shrink wraps should take anywhere from 10-25 seconds to fully constrict around the wire.

⚠ Heat guns take little time to heat up and much longer to cool down. Use caution when setting this tool down and make sure it's cool when picking it up after use.

Step 8 — Repair Is Complete!



- Thoroughly check for any exposed wires and the heat shrink tubing is tight around the wire.

After inspecting the replaced section, the repair is complete and the wire is ready to be tested.