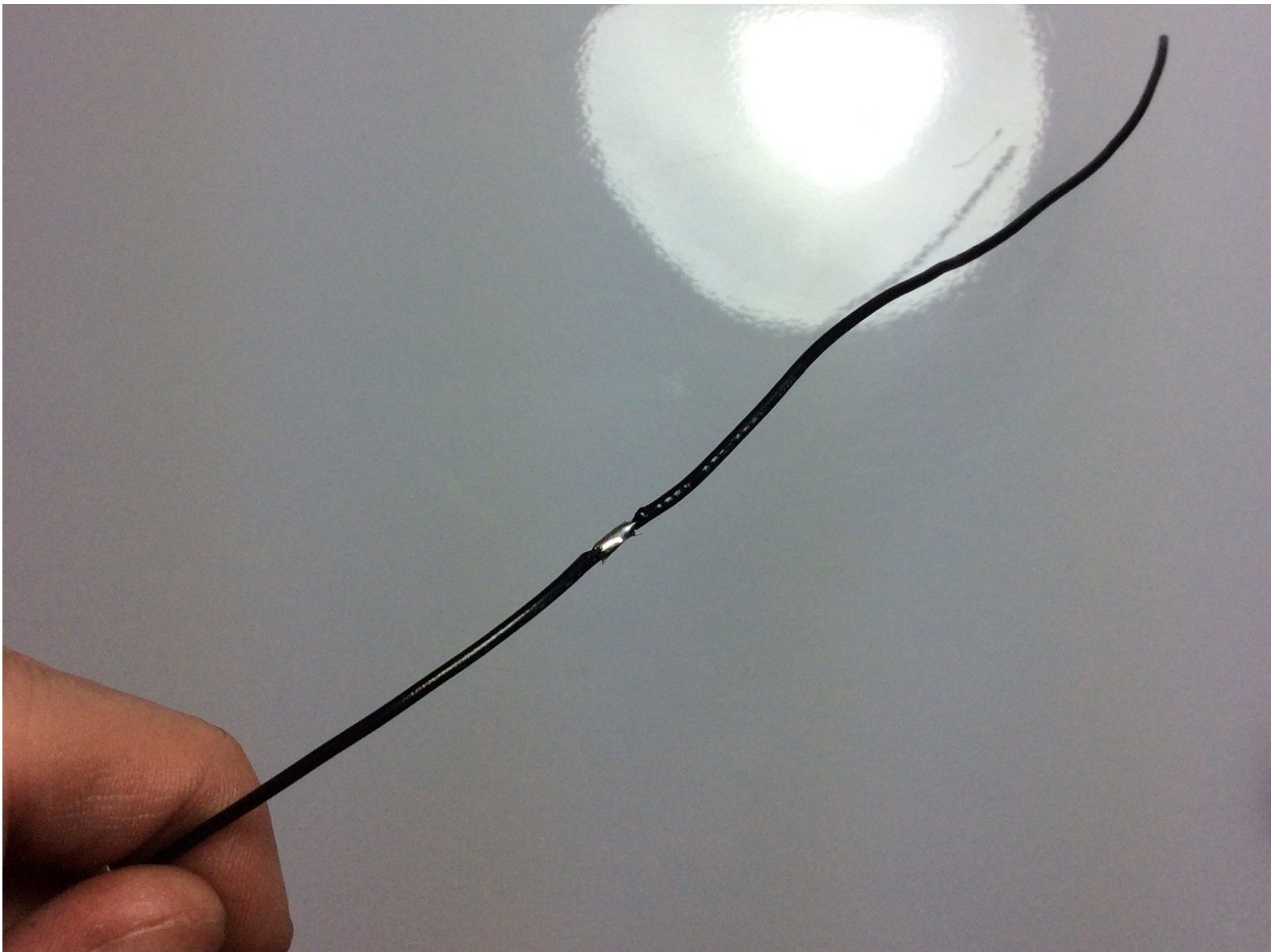




# How to join two wires with solder

Learn how to repair or combine two wires into one extended wire.

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## INTRODUCTION

**Before reading this guide, ensure you know how to strip wires and solder a connection. If not, please look at the following guides.**

Stripping Wire: [Wire Stripping](#)

Soldering: [How To Solder and Desolder Connections](#)



### TOOLS:

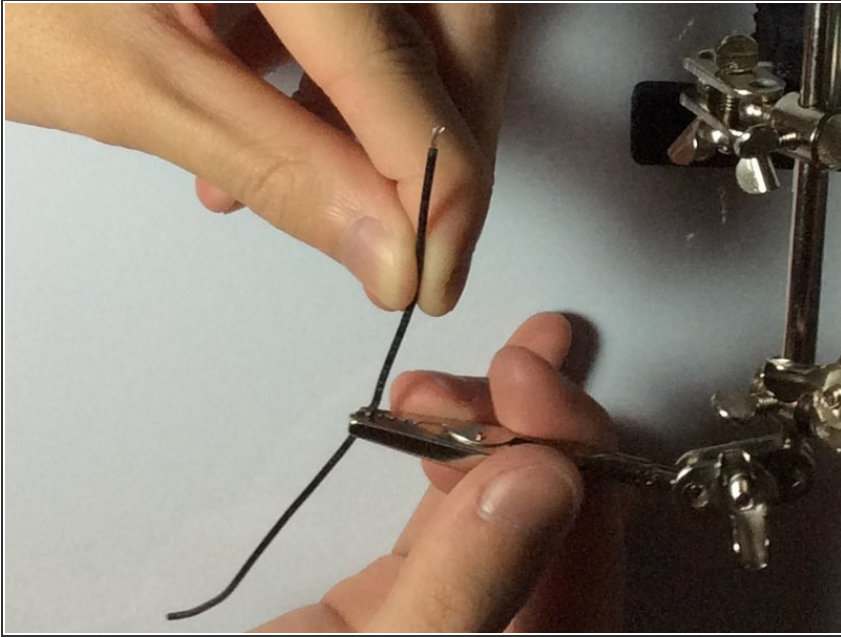
- [Solder](#) (1)
- [Soldering Iron](#) (1)
- [Heat Shrink Tubing Assortment](#) (1)
- [helping hands](#) (1)
- [Heat Gun](#) (1)
- [Wire Stripper](#) (1)
- [Desoldering Braid](#) (1)



### PARTS:

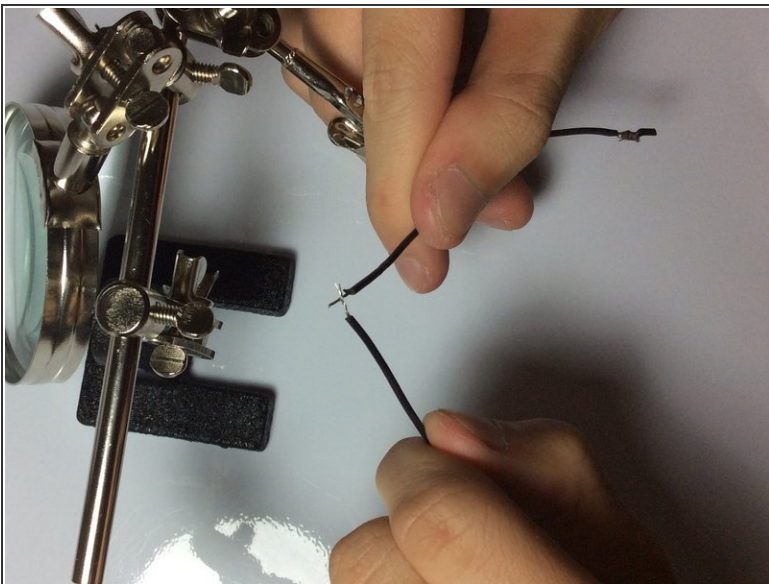
- [Any Pair of Gauge Wire](#) (1)

## Step 1 — How to join two wires with solder



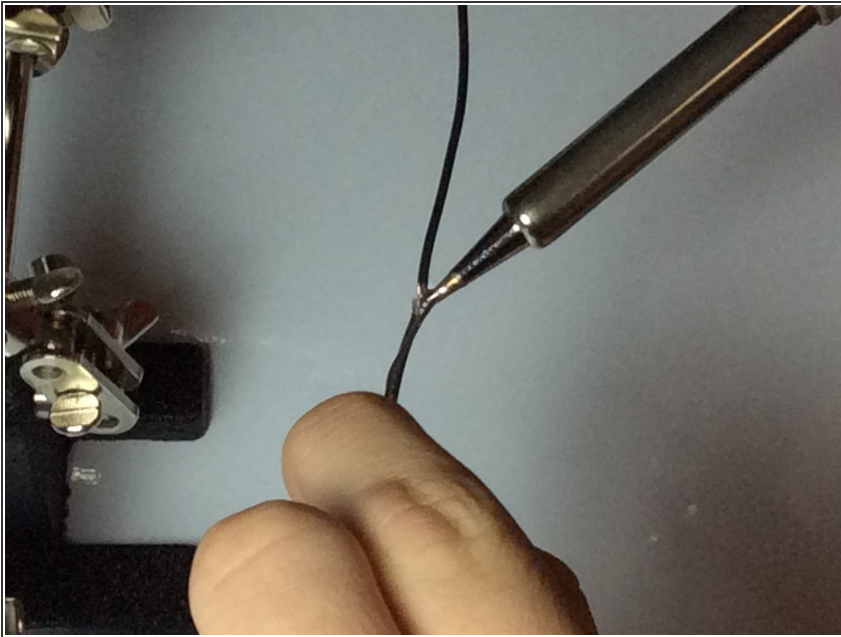
- Put one of the paired wires on one of the helping hand's clamp. Put the other pair of wires on the remaining clamp.
- ⓘ Make sure the wires' stripped ends are facing each other or are towards the center of the workplace. If not, orientate the wires accordingly.

## Step 2



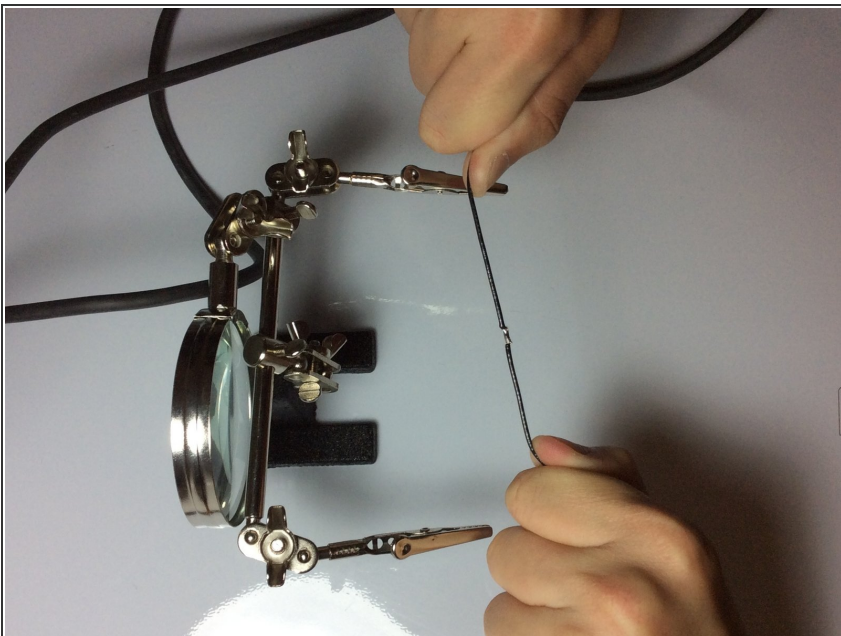
- Using both stripped wire ends, wrap and tie both of the ends together.

### Step 3



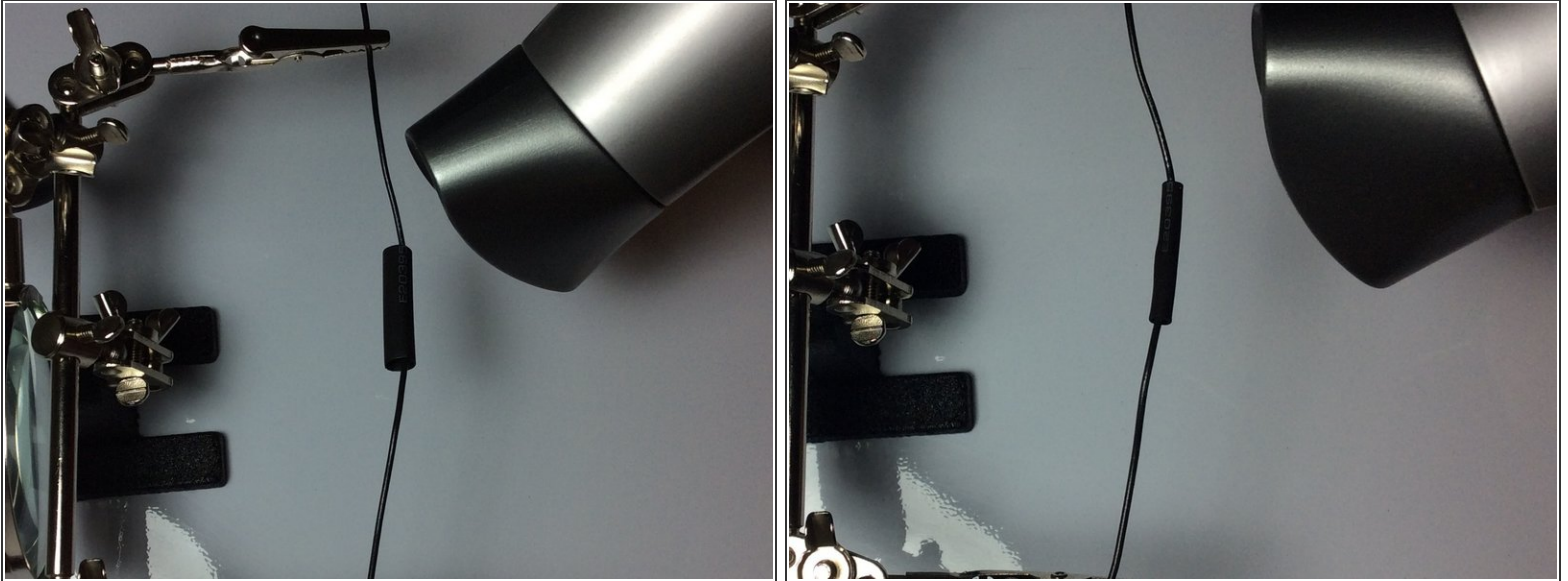
- Solder the tied ends of the filament.
- ⓘ Ensure to solder the connection completely, not just one area.
- ⚠ Try not to put too much solder on the connection, as it will add more resistance.

### Step 4



- Pull on the two wires firmly to ensure the solder does not separate.

## Step 5



- i** To properly protect the soldered wire connection, use heat shrink.
- Cut enough heat shrink to cover the soldered connection.
  - Slip the heat shrink onto the connection.
  - Using a heat generator, such as a heat gun or a hairdryer, heat the heat shrink around all of the angles until it securely covers the soldered connection.

This technique will allow wires to be extended both electrically and structurally without the need of longer wires.