Soldering workshop topics

What soldering is: primarily electric contact, not welding

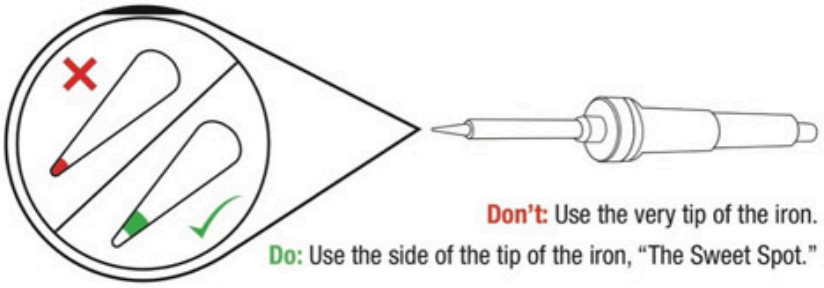
Equipment
- Soldering station vs iron
- Safety: hot & sharp, handling, cool down
- Fumes
- Correct temp by solder – leaded, unleaded, rosin core--flux
- cleaning & “tinning”

- flush cutters
- wire strippers
- helping hands / stick vise / panavise
- desoldering aids

Through hole process
- Concave sucked in
- keeping it on the pads
- don’t burn things out
- cold solder joint
- resoldering

Joining wires process
- Needs a mechanical connection
- Using heat shrink
- Solid core vs multi strand (tinning)
- Color choices
- Multiconductor options

Testing with multimeter: continuity and voltage



Don't: Use the very tip of the iron.

Do: Use the side of the tip of the iron, "The Sweet Spot."

Do: Touch the iron to the component leg and metal ring at the same time.

Do: While continuing to hold the iron in contact with the leg and metal ring, feed solder into the joint.

Don't: Glob the solder straight onto the iron and try to apply the solder with the iron.

Do: Use a sponge to clean your iron whenever black oxidization builds up on the tip.

A Solder flows around the leg and fills the hole - forming a volcano-shaped mound of solder.

B Error: Solder balls up on the leg, not connecting the leg to the metal ring.
Solution: Add flux, then touch up with iron.

C Error: Bad Connection (i.e. it doesn't look like a volcano)
Solution: Flux then add solder.

D Error: Bad Connection...and ugly...oh so ugly.
Solution: Flux then add solder.

E Error: Too much solder connecting adjacent legs (aka a solder jumper).
Solution: Wick off excess solder.