

GOOD SOLDERING TECHNIQUES

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Steps to achieving a good solder joint:

- Wear safety glasses
- Set up your solder joint to keep both hands free to do the work. A third hand device is helpful here (cheap and available at Harbor Freight).
- Bring soldering iron up to temperature
- Clean your soldering tip (wipe on damp sponge)
- Tin your soldering iron. If your iron is new, bring the iron to temperature and “flood” the tip with solder wiping excess on your sponge.
- Strip the wire, then slide your heat shrink tubing onto the wire, be sure it's far enough away so heat from soldering doesn't prematurely shrink the tubing
- Make a good mechanical connection before soldering. See note below.
- If needed, protect other areas from heat (aluminum foil shields)
- Apply flux to the joint
- Heat the joint and apply solder to the joint, do not apply solder to iron
- Let joint cool before moving
- A good joint will be shiny silver, not a dull gray
- Insulate the joint (heat shrink, electrical tape, etc.)

Tools/Materials:

- ❑ Safety glasses, safety shield (opti-visor if you need it for close work)
- ❑ Wire strippers appropriate for the job
- ❑ Soldering iron (30 to 40 Watts for general purpose soldering), or gun, or propane iron
- ❑ Cradle to hold soldering device
- ❑ Third hand or other holding device to hold work
- ❑ Solder 60/40 rosin core (never acid core for electronics)
 - 60% lead 40% tin mix
 - The thinner gauge the solder, the better. I use .032 and .025
- ❑ Rosin flux (paste or liquid)
- ❑ Sponge dampened to clean soldering tip, or Scotch Brite SS Scrubbing Pad in a can.
- ❑ Heat shrink tubing (various sizes depending on need)
 - Heat source to shrink the tubing
- ❑ Desoldering braid, or solder pump

Note: Generally you want a solid mechanical connection wherever there will be possible strain and movement on the joint such as wiring below a layout. There are cases where a solid mechanical connection may not be needed and a cosmetic joint is more desirable such as track joint power drops or electronic connections in an engine.