

I'll delve into the mystery of soldering now.

Tools Needed:

Safety Glasses

Soldering iron

Rosin Core Solder

Shrink Tubing (preferred) or *good* Electrical Tape (3M Super33)

Wire Stripper

Alligator Clips / Heat Sinks (optional)

**\*\*Wear the Safety Glasses!! A *pinhead dot* of 400+ degree molten lead flicked in your eye will ruin your day, and possibly your eyesight!\*\*\***

A 25 to 40 watt soldering pencil will work just fine for most work on automotive stuff (14ga. to 18ga. wire).

Keep Grandad's 400 GigaWatt solder gun/iron in the toolbox - it's just too hot for the job at hand.

This type of iron is just fine:

Soldering Pencil

(I also often use a Weller "Portasol". It's butane powered (cordless) and gets plenty hot for this type of work. Word of Caution - it's very easy to set other things on fire with this tool. It has an exhaust port on the side. Be aware of where it's pointing when you're using it.)

Butane Soldering Iron

***Rosin Core Solder ONLY***

Acid Core or Silver Solder are for other jobs, not wiring!

How to make a good solder joint = PRACTICE.... It's like welding - a delicate balance of heat/speed/solder feed:

- 1) Both items to be joined **MUST** be clean & free of corrosion. If the copper or brass isn't shiny-bright you'll run the risk of a "cold" joint or a poor connection. A few swipes with a small wire brush or pen-knife will clean it up adequately.
- 2) If you're using shrink tubing, cut a piece to fit the job, and slide it down the wire **NOW!** (I don't know how many times I've finished a job only to have to un-do it for this little step!)
- 3) Prepare the items to be connected. (Pictures are click-able)



Strip off about 3/8" insulation on both wires



Push the ends together and give them a slight roll/twist in the middle



Apply heat to the joint



Apply solder - The solder should just FLOW right into the joint - if it doesn't it's either not hot enough, or is dirty.



Slide shrink tube over joint, and heat - Done

This is a connection that *is as strong and conductive as the parent materials.*

For Doing Terminals:



Strip the wire - NOTICE, only enough copper is exposed that will fit into the terminal



Crimp the connector onto the wire



Apply heat, then solder. Again the solder should just FLOW right into the connector body.



Slide the shrink tube over the connection, and heat.

If you're doing 12Ga. or larger wire you'll probably need to step up to a 75W or bigger iron (soldering gun). 25 Watts won't be enough heat.

If you're doing work under the dash, lay an old towel or floormat down. Solder drips will burn carpet!

Radio Shack, or a local electronics hobbyist outfit should have all the materials needed.