

# How to properly Solder Wire / Components

Pat McMahon—12/8/2013

## Strip - Twist - Tin - Nip - Join

5 Simple Easy Steps for 100% Soldering Success.

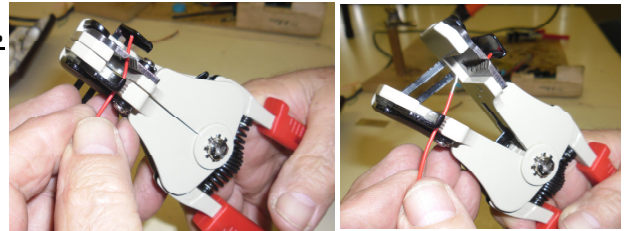
Using Pat's 2-2-5 Rule

**Important Note** – Solder will only stick to pre heated metal parts. Heat the Wire / Doughnut Pad with the soldering iron first, then only when hot, apply the resin core solder, let cool. Never heat the solder first as you will burn off the resin flux.

Use Pat's 2-2-5 Rule ( soldering Iron on both metal parts for 2 seconds, solder in for 2 seconds, leave for 5 seconds to cool )

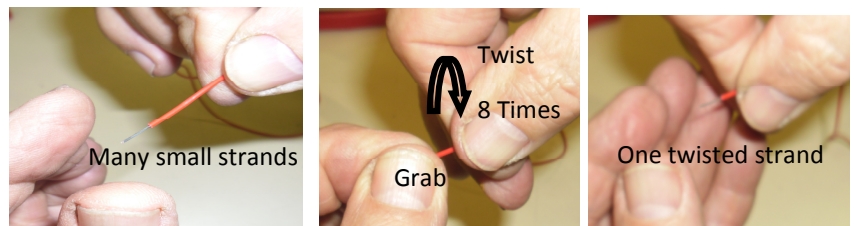
### 1—Carefully Strip off the Plastic Shielding.

Preferably use Wire Strippers (use 1.0mm gap) if you have them or carefully use Side Cutters. Be careful not to cut off the many small strands, as you remove the plastic outer insulation.



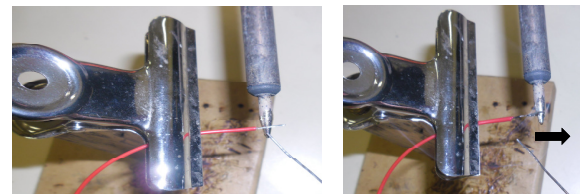
### 2—Twist the Strands 8 times.

Grab the Strands between your left fingers and hold, while twisting 8 times the Plastic Outer with your right. This should make one thick Strand, rather than many smaller ones.



### 3—Tin the Wire.

Use the 3rd Hand to hold the twisted wire. Using the soldering iron, heat the wire for 2 seconds, feed in solder for 2 seconds, dragging the soldering iron to the end, away from the plastic insulation and let it cool for 5 seconds. **Pat's 2-2-5 Rule**



### 4—Nip or Cut off the End Bulge.

When you drag the iron away, at the end of the wire, you get a solder bulge or bubble, which needs to be nipped or cut off. This helps insertion of the newly tinned wire into a small doughnut pad or drilled PCB.



### 5—Join the pre Tinned Wire to the other pre Tinned Wire or Doughnut Pad.

Heat both parts together with the soldering iron until they join. Usually no extra solder is required, if they are both pre tinned.

