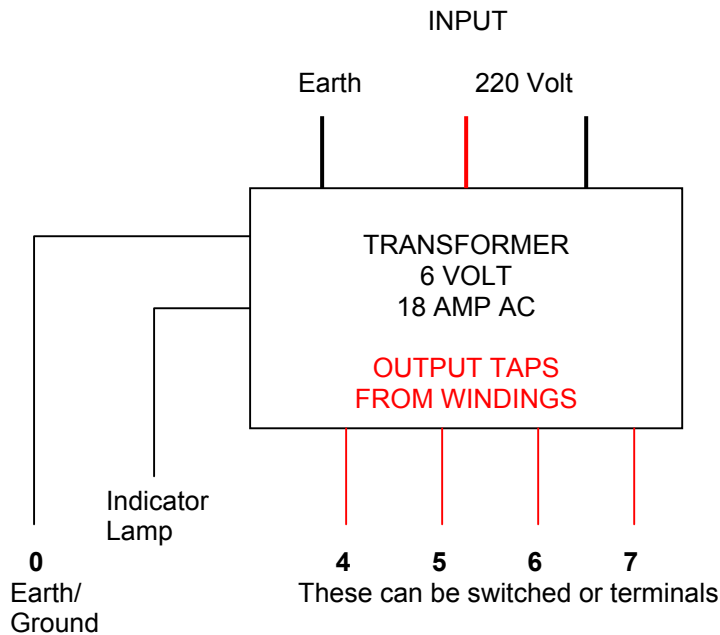


How to construct your own Resistance Soldering Kit

By Geoff Kingsburgh

This is a short brief description of how to construct your own resistance soldering kit. The output voltages were determined by trial and error and worked for me.

Diagram that I drew to construct my own Resistance Soldering Kit



There are several electrical workshops that will make up a transformer and tap off the separate outputs from the windings. I found the above values were the best for my application for building and repairing Brass Locomotives and Structures.

Indicator Lamp

This is to indicate that power is being provided to the transformer.

Earth or Ground

The earth which is tapped from the 0 output is attached to an alligator or crocodile clip with a screw.

Hand Piece

The hand piece I made from a very cheap suitable low voltage soldering iron.

To construct, disassemble the iron and remove the heating element and rewire with only **one** input lead. Attach this to the casing with a small screw to ensure conductivity.

You may have to adapt the front of the iron to accept the carbon rod. Again this must be secured with a screw to ensure conductivity. Failure will result in the rod arcing and burning through the case (ask me!).

Carbon Rod

The carbon rod is from the center core from a battery; again I found the best rods came from used batteries as they last longer.

Sizes of carbon rods and voltage:

- **A batteries: 4 Volts** : small delicate jobs
- **C batteries: 4/5 Volts** : medium jobs
- **D batteries: 6 Volts** : large jobs very large thick brass pieces
- **Any Size: 7 Volts** : **If you want to make holes**

Foot Switch

You will need a suitable foot switch. I found the best way to control the output was to only have power to the transformer when you need it; I used a sewing machine on-off foot switch which I found suited my purpose.

Solder

I use paint solder, yes *paint solder*, which is obtainable in various heat melting points and is from Fry's Metals in Alrode.

Use

First earth or ground the large piece using the alligator clip of the pieces to be soldered together, paint a small amount of solder to the joint or apply a small slither of fine rosin core solder. **Touch** the carbon rod to the work piece, close the power switch (foot switch) monetarily and voila the work is soldered.

Important Notes:

The end of the rod becomes **RED HOT** during use, and does burn away, and has to be replaced quite often.

The longer the heat and the higher the voltage the quicker the carbon rod burns away.

Applying too much heat by either to higher voltage or by holding the rod to the job for too long, you **will MELT** your Brass fitting, as the heat buildup is instantaneous.

You need both hands free hence the foot switch.

I also recommend the use of "helping hands".



Typical Brass Locomotive suitable to resistance soldering

If you have any queries please give me a call.

Happy Soldering!

Geoff Kingsburgh
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