



Soldering wires onto three connector tabs on a three position wall socket plug

Objective Soldering wires onto three connector tabs on a three position wall socket plug

Material Plastic plug receptacle with 3 connector tabs, 0.187" (4.7mm) wide, 0.05" (1.27mm) thick, copper wire 0.08" (2.03mm) diameter

Temperature 400 °F (204 °C)

Frequency 324 kHz

Equipment

- Ambrell 4.2 kW induction heating system, equipped with a remote workhead containing one 1.0µF capacitor.
- An induction heating coil designed and developed specifically for this application.

Process A two turn folded "U" shaped coil is used to individually heat each connector tab. Tab and wire are placed in the coil for 2 seconds to complete the soldering process. Total soldering time is approximately 6-9 seconds for the soldering of the 3 tabs.

Narrative

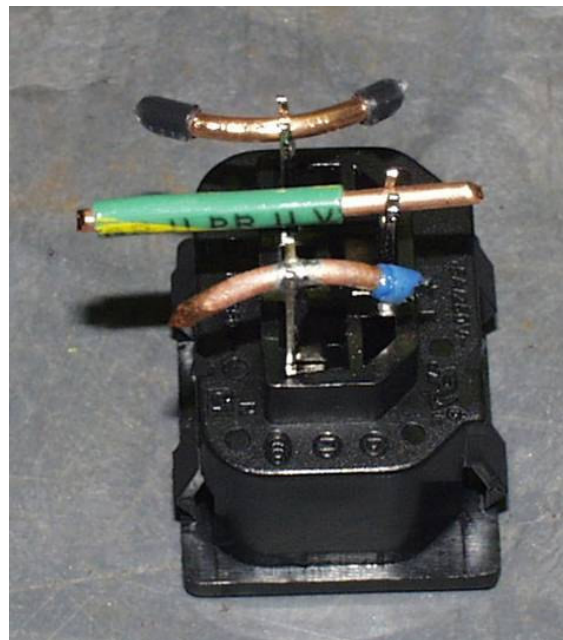
- Customer is currently using a soldering iron & individually touching each soldering point which is producing inconsistent results and quality issues. By using induction heating the customer produces consistent, repeatable clean joints.

Results/Benefits Induction heating provides:

- Rapid localized heat only where needed
- Repeatable, consistent results
- Neat, clean joints
- Hands-free heating that involves no operator skill for manufacturing
- Even distribution of heating



Coil in place for soldering copper wire to connector tab



Plug receptacle with copper wires soldered to the connector tabs