HOOK SOLDERING DEVICE

NEED

Manual placement of solder sticks for a lure hook required operators to work in close proximity to solder and flux fumes, handle liquid acid flux and manipulate small pieces of solder with small tweezers. As a result, workers suffered from shoulder, wrist and eyestrain with quality suffering as well. Although ventilation concerns were addressed, there was still a concern over long term exposure to the liquid flux and flux fumes during the heating process. A new process and method of application was needed to replace the flux and manual processes.

SOLUTION

A process utilizing solder paste combined the flux and solder into one component which was easily dispensed using a controlled metering system on a dial index machine with a programmable logic controller. The machine has 12 fixtures on the dial table which, after being loaded, travel through a solder pasting, heating, air blow-off and water cooling stations. The loading and unloading of spoon bodies and hooks remains manual.

BENEFIT

A pre (existing process) and post (new process) ergonomic assessment confirmed that ergonomic and safety/health risks had been eliminated or reduced. Replacing the solder sticks with dispensed solder paste has eliminated the manual process of placing flux-dipped solder sticks with small tweezers. Providing an enclosure for the process with only an opening to load/unload has dramatically improved ventilation and placing the flame away from the operator has improved safety as well.

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