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Triton PTH Soldering Tool Operating Guide

INTRODUCTION:

General Description

The Triton PTH soldering tool is an “electrical resistance” tool. Heating of the work to be soldered occurs when electric current passes between the tips of the tool through the work to be soldered. As the tips heat, there is also conduction of this heat on to the work.

The rate of heat rise and temperature reached in the work are dependent on the mass of material to be heated, the electrical and thermal conductivity of the material, and the degree of surface contact of the electrodes to the work.

The tool operates on low voltage only, obtained from the transformer power supply. Having the transformer separate from the tool contributes to the lightweight and versatility of the tool.

INSTALLATION:

Unpacking

Upon receipt of your shipment, inspect the container and contents for any signs of damage in transit. Report any apparent damage immediately to the shipping carrier. Save the packing material and carton in the event reshipment is necessary.

Mounting

Place the transformer in a location safe and convenient to the tool operator, and so the power cord won't interfere with soldering operations. It is desirable to fasten the transformer in place.

OPERATING INSTRUCTIONS:

General

Your PTH soldering tool is a precision tool, manufactured in the U.S.A. to high quality industrial standards. Give the tool reasonable care and it will provide many years of highly productive trouble-free service.

Caution

The Triton PTH resistance-soldering tool is designed for use **ONLY** with the transformer power supply furnished with the tool. The tool must be connected to the transformer 6.4V secondary circuit, or to the 3.2V center tap low power connection.

Primary power to the transformer is 115V 60HZ AC only. (Special transformers of overseas voltages can be ordered.)

NEVER ATTEMPT TO CONNECT THE TOOL HANDPIECE DIRECTLY TO A PRIMARY POWER SOURCE. ALWAYS USE THE TRANSFORMER BETWEEN THE SOURCE OF PRIMARY POWER AND THE TOOL.

Always disconnect external power to the transformer when the tool is not in use. Follow safety practices in using this tool that you would follow in using any electrically powered device.

Proceed as follows

- 1.) Connect one lead from the tool to the “CO”, common, binding post of the transformer. Connect the other lead to the “HI” 6V binding post (or to the “LO” 3V binding post) of the transformer. Proper power to the tool can be found by experimentation. The 6V connection is for heavier work and is almost always appropriate when using standard carbon formula electrodes. The 3V connection usually is best for fine and intricate work done with the chrome alloy wire electrodes. *Hand tighten* leads to binding posts.
- 2.) Grasp the tool handle, either in the palm of the hand or between the fingertips, so that the switch lever can be easily actuated. The switch lever action is designed so that as the lever moves, the PTH electrodes first close tightly on the object to be soldered, this avoids arcing.
- 3.) Further movement of the lever then closes the internal switch. Current flows between the two electrode tips, conducted through the work being soldered.
- 4.) Practice the cycle, first closing the electrodes across the work, then adding slightly more lever movement, or footswitch movement to feel, and hear, the “click” of the switch. *Heating now occurs very rapidly- “instantly” on light work.*
- 5.) Release the switch lever, or footswitch, just enough to open the circuit. Keep the tips holding to the work. Cooling begins.
- 6.) Release the lever and remove the tool from the work. Practice the cycle a few times. Avoid overheating the work. *CAUTION: HOT PARTS; avoid touching the electrodes or its metal holder once a heating cycle has begun. These parts become hot in use.*
- 7.) Now flux the work, or use a flux core solder. Repeat the cycle; flow solder on to the work as the proper melting temperature is reached. Use the solder sparingly. Switch off; allow the solder to cool before removing the tool from the work.
- 8.) Your actual time for one soldering cycle will be very quick—much less than the time required to

PRECAUTIONS

- 1.) Your tool operates only on a safe 6 volts. However, always observe normal electrical safety precautions and the good judgment required when using any electrically powered device.
- 2.) Hold the tool only by the heat resistant plastic handle. Electrode tips heat instantly, to temperatures in the extremely hot red heat range. The carbon formula electrodes are designed to heat quickly, and cool quickly. Under repeated cycling of the tool the electrodes will remain hot, as will the metal electrode holders. *Never touch the hot electrodes or electrode holders when using the tool.*
- 3.) Do not overheat your work. A little practice and you will be able to control the temperature to heavier connections by alternately opening and closing the switch without un-gripping the tool from the work.
- 4.) Observe the rating cycle of the transformer nameplate. Using the tool aggressively, beyond rating intervals may cause the body of the tool and transformer to overheat. Power should not be on more than 25% of the total time.

CLEANING ELECTRODES

Some solder fluxes will tend to coat or build up on the electrodes. These can effectively create an insulation layer inhibiting power flow from the tool through the work. When this occurs, clean the electrodes as follows:

- 1.) Disconnect the power supply.
- 2.) Close the electrode jaws over a folded piece of fine sandpaper.
- 3.) Draw the sandpaper between the jaws to clean and retain the parallel mating surfaces of the electrodes.

REPLACING ELECTRODES

The carbon electrodes are formulated to optimize important physical and electrical characteristics necessary for best tool operation. These carbon formula electrodes erode in normal use. Electrodes are easily replaced and are always readily available from your dealer, or from Esico Triton. Keep on hand a supply of replacement electrodes when you PTH tool are in constant daily production use. Replace them when approximately 1/2 inch is eroded. “Stubby” electrodes cause the tool to easily overheat, shortening the life of internal parts.

CAUTION: carbon formula electrodes can break if abused. Avoid accidentally dropping the tool. Protect the electrodes when the tool is not in use. A protective sleeve for the electrode is furnished with each tool.

When replacing electrodes, tighten the retaining screws only sufficiently to secure the electrodes and to keep the nuts in place. Excessive tightness is not necessary for good electrical contact. Severe pressure could cause the electrodes to break. Keep you tool clean and free of dirt, oil, grease, and chemicals which would hinder its operation

WIRE ELECTRODES

The chrome alloy wire electrodes are particularly useful for fine work, for getting into tight places in instruments, on printed circuits, for de-soldering repair work and the like. They are usually used on the lower 3.2V transformer connections.

Mount the tips, with the brass shanks furnished, in place of the carbon formula electrodes. The wire tips can be shaped to suit the task: pointed, flattened, and bent as desired. Adjust them so that the wire tips always lightly grip the work before the electrical circuit is closed.

PARTS & SERVICE

Your PTH tool is repairable if damaged. Economical factory service is available to restore tool to like-new condition. Send tool directly to Esico Triton, protectively packaged, with a request for repair. Tools will be returned promptly at a cost for parts required plus a service charge. If repair costs is determined to be greater than two thirds (66%) of the cost of a new tool, you will be notified before such repair is made.

SPECIFICATIONS

TOOL: 6.4V up to 30A @ no load resistance. Weight: 4 oz.

POWER SUPPLY: Primary: 115V 2A. 220V available.

Secondary: 6.4V 17A 102VA 3.2V center tap.

25% duty cycle.

Shipping weight complete: 6lbs.