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Weller
WLC100

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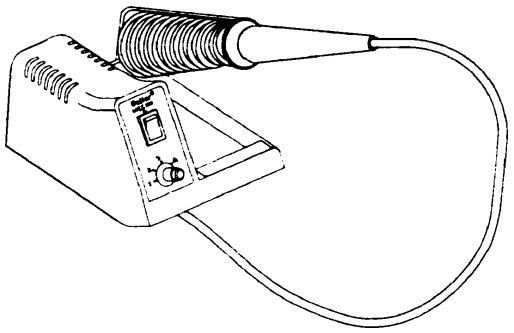
MODEL WLC100 SOLDERING STATION

PRODUCT DESCRIPTION

The Weller® WLC100 Soldering Station offers adjustable temperature hand soldering. The tip temperature can be adjusted by varying the power level of the heater. The power can be adjusted anywhere from 5 watts up to 40 watts with a knob on the base unit. The WLC100 also provides a built-in iron stand and tip cleaning sponge.

A selection of iron plated tips from a 1/32" conical to a 3/16" screw-driver tip are available. The WLC100 is supplied with an ST3 1/8" screwdriver tip. Refer to the tip table for other styles available. The WLC100 is U.L. listed.



WLC100 OPERATING INSTRUCTIONS

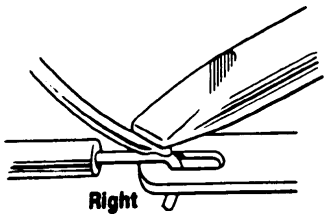
Unpack the unit carefully. Place tool holder in slot provided in top of unit. Wet sponge. Distilled water is preferred, especially in areas where tap water has a high mineral content. Insert tool into holder.

Insert line cord plug into 120 volt A.C. receptacle. Turn on unit with rocker switch. Set power control knob to “5” to heat tool up quickly. Wait 1 minute. Lower settings take longer to reach operating temperature. Adjust control to a lower setting. Remove tool from holder and tin tip with solder. Unit is now ready for use. Always use the lowest power setting that will handle the load you are soldering. By using lower settings and properly selecting tip styles, sensitive components will be protected from heat damage.

TIPS ON SOLDERING

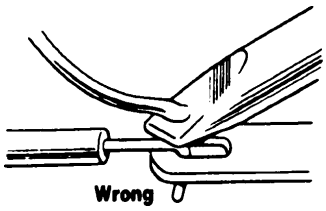
Soldering is the fastest and easiest way to join metals. The solder, usually an alloy of tin and lead, has a low melting point and is run into the joint, using the parts together. A soldered joint is stable and electrically efficient. However, it is not capable of taking a lot of stress or movement. To make a soldered joint, you need: 1) a source of heat, 2) CLEAN metal surfaces to be joined, 3) a suitable grade of solder, 4) flux - Rosin core solder is what you need for the majority of jobs. It means that you don’t have to bother about separate flux. Rosin core solder must be used for any electrical connection. Now here is what you have to do.

1. Ensure that items to be soldered are perfectly clean. This can be achieved with wire wood or fine emery cloth. Just because a piece of metal looks bright and clean it may not be.
2. Make a good mechanical connection by wrapping wires around each other or around a terminal.
3. When applying heat, do not apply it to the solder. Heat the base material, e.g. wires so they become sufficiently hot to melt the solder and flow it into the joint. A small amount of fresh solder on the tip when you begin soldering will help to carry heat from the iron to the joint.
4. When solder has been applied to a joint smoothly slide the iron away to leave the joint neat.
5. Avoid moving joint or wire after removing iron. Blowing on the joint will speed cooling.
6. On electrical and electronic components avoid too much heat. A heat sink can be used to dissipate heat away from the component.
7. Don’t apply more solder than needed. Excess solder can cause short circuits.
8. It is advisable to pre tin components before soldering, especially stranded wire. Twist the strands together, then heat and saturate with solder.
9. Sweating a joint is easy after tinning. Just twist wires together and apply heat.
10. To desolder a joint apply heat and use a soldering aid like solder wick to remove solder and separate joint. Be sure to use new solder when re-soldering.
11. Fumes from some fluxes can be unpleasant so be sure there is good ventilation in the work area.
12. Don’t use a file to clean soldering tip, wiping on a wet sponge when tip is hot should keep tip clean.



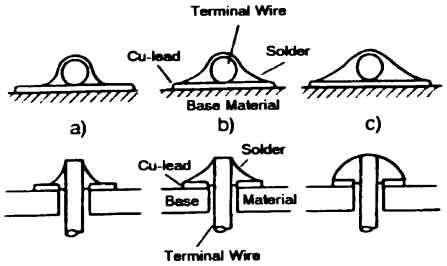
THE CORRECT WAY TO SOLDER

Always use the soldering iron to heat the joint, not the solder. A small amount of fresh solder on the tip will help conduct heat to the joint faster. The solder should be heated by the joint so it will flow into and around the connection resulting in a stronger joint.



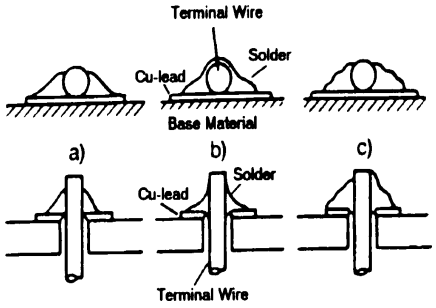
THE AMOUNT OF SOLDER AND QUALITY CONTROL

a) Minimum amount of solder.
b) Optimum amount of solder. The solder should cover the pad and wire. There should be some wicking action of the solder up onto the wire. The surface of the solder should be smooth and shiny.
c) Excessive solder, hides the connection from being checked. There is also the possibility that solder could bridge between traces and cause a short circuit.



DIFFERENT TYPES OF BAD SOLDER JOINTS

a) Bad soldering of terminal wire. The wire was not heated enough and the solder did not wet the top. This wire could pull away from the joint.
b) Bad soldering of PCB trace. The trace was not heated enough to let the solder wet and flow over the surface of the trace. The solder can pull away from the trace if strained. This can also occur if the trace was not cleaned or not enough flux was used.
c) Bad soldering of terminal wire and PCB trace. This is a “cold” solder joint where the soldering iron was not held on the joint long enough to heat the joint sufficiently and where some movement of the joint could have occurred before the solder cooled. It will appear to have a rough textured surface. This can be corrected by reheating the joint until the solder flows and adding a small amount of flux.

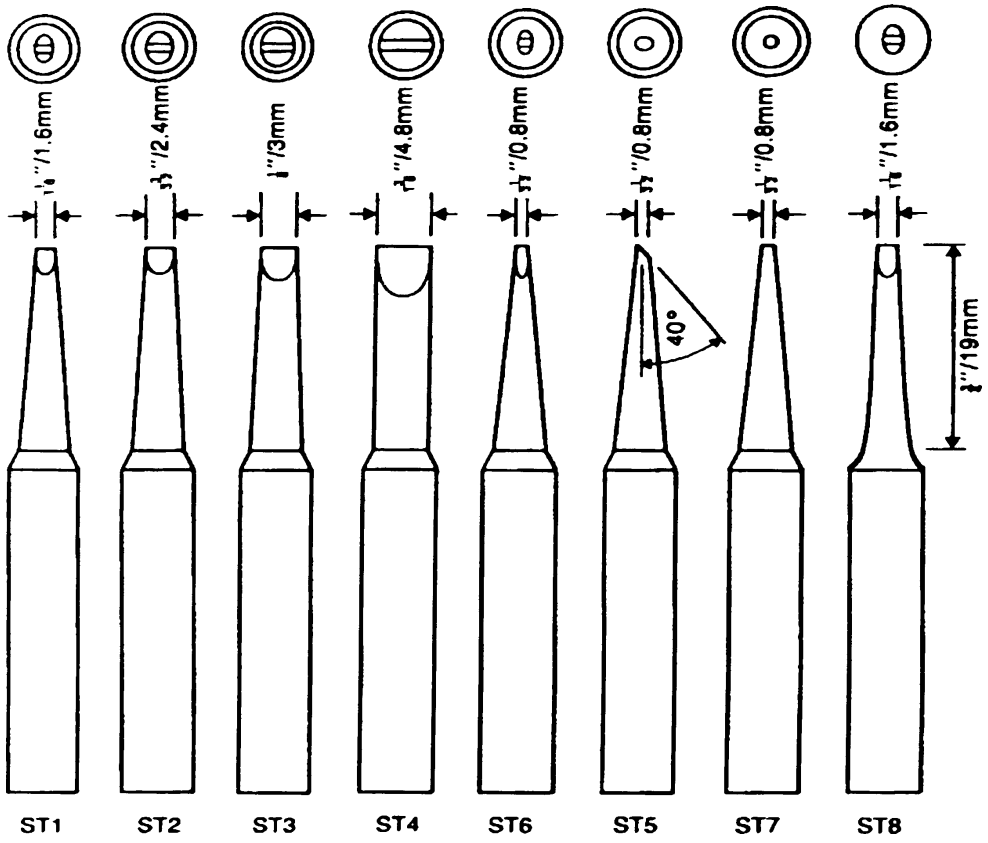


SELECTION OF WELLER® ST SERIES TIPS

Weller® tips are solid copper, plated with iron, nickel, and chromium. The chromium is eliminated from the working area and the tips are pre-tinned with tin/lead solder. The nickel and chromium protect the shank from corrosion and solder creep. The Weller® WLC100 uses the ST series tips.

CARE OF WELLER® SOLDERING TIPS

1. Keep tip tinned; wipe only before using.
2. Use rosin or activated rosin fluxes. Acid type fluxes will greatly reduce tip life.
3. Remove tip and clean with suitable cleaner for flux used. The frequency of cleaning will depend on the type of work and usage. Tips in constant use should be removed and cleaned at least once a week.
4. Don’t try to clean tip with abrasive materials and never file tip; to do so will greatly reduce tip life. Tip wettability is affected by contact with organics such as plastic rosins, silicone grease, and other chemicals. If the tip becomes unwettable it may be cleaned with a Weller® Polishing Bar Part Number WPB1. Do not overdo this or the iron plating will be removed and the tip will be ruined. Re-tin tip immediately to prevent oxidation.
5. Don’t remove excess solder from heated tip before storing. The excess solder will prevent oxidation of the wettable surface when the tip is reheated.



REPLACEMENT AND OPTIONAL PARTS FOR WLC100

Soldering Tips	See Tip Chart for part numbers
WCC104	Replacement Tip Cleaning Sponge
WPB1	Weller® Polishing Bar

OTHER QUALITY WELLER® SOLDERING PRODUCTS

SPG80	Stained Glass Soldering Iron
WLC200	Controllable Stained Glass Iron and Station

NO USER SERVICEABLE PARTS INSIDE - IF UNIT DOES NOT FUNCTION RETURN TO WELLER FOR REPAIR