

# Weller® Tech Sheet

## Model WCC100 Electronic Soldering Station

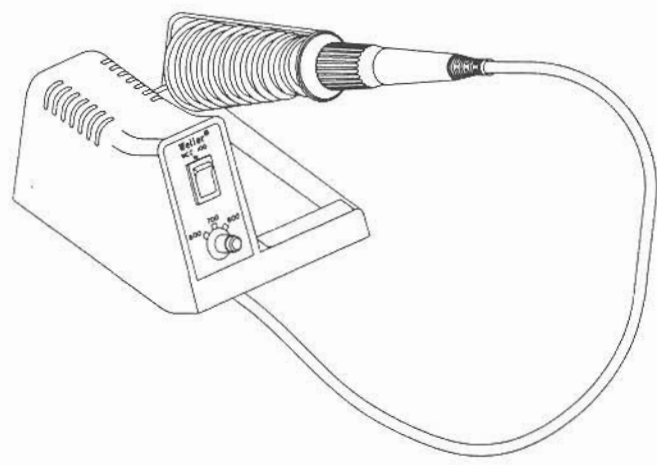
### PRODUCT DESCRIPTION

The WCC100 Soldering Station offers the ultimate in controlled temperature hand soldering. Tip temperature is electronically controlled throughout the temperature range of 350°F (177°C) to 850°F (454°C). Tip temperature is maintained to within ± 10°F (± 6°C) of a particular set point. Tip temperature control is maintained within specification over line voltage variations of ± 10% and ambient temperature ranges of 60°F (16°C) to 110°F (43°C).

Dynamic response to soldering load variation is insured by use of a thermocouple sensor and full proportional heater control. The sensor is positioned deep inside the iron plated solid copper tip to insure quick response.

The electronic system utilizes thyristor power control with zero voltage thyristor drive. This ensures that no voltage spikes will be present on the soldering tool tip. The soldering tip is also grounded through the power unit three wire line cord. These features combine to give the ultimate in safety for sensitive, expensive electronic circuit, hand soldering.

A selection of iron plated tips from 1/64" conical to 3/16" screwdriver are available. The WCC100 is supplied with an ETA tip. Refer to the tip table for other styles available. The WCC100 is U.L. listed and designed to meet mil-spec WS-6536, DOD-STD-2000, MIL-STD-2000, WS-45743, and WS-570.



### WCC100 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 properly grounded A.C. receptacle. Turn on unit with rocker switch. Set temperature control knob to desired tip temperature. Wait 30 seconds. Remove tool from holder and tin tip with solder. Unit is now ready for use.

Always use the lowest temperature that will handle the load you are soldering. The Weller® electronic control provides maximum power to the heated load even when set to the lowest temperature; therefore, there is no need to use high temperatures to handle heavy soldering loads. By using lower temperatures and properly selecting tip styles, sensitive components will be protected from heat damage.

### SPECIFICATIONS

#### POWER UNIT

1. Power input: 120 VAC ± 10%, 60Hz. 60 watts.
2. Size: 4-1/2" x 5-7/8" x 3-5/8".
3. Line cord: 3 wire, U.L. recognized.
4. Tip temperature control range: 350°F (177°C) to 850°F (454°C).
5. Control accuracy: ± 10°F (± 6°C) of setting at idling temperature.
6. On-off switch with indicator light.
7. Case: Flame retardant thermoplastic 94V-0, U.L. approved.

#### SOLDERING TOOL

1. Wattage: 40 watts at 120 VAC. *360 Ohms.*
2. Tip voltage to ground: Less than 2 mv RMS from tip to line cord ground pin.
3. Tool material: thermoplastic handle and stainless steel.
4. Heater type: nickel-chromium element.  
Encased in stainless steel.
5. Tip type: cooper with heavy iron, nickel, and chromium plating for long life. Many styles available, ETA standard.
6. Stainless steel encased thermocouple sensor. Fits deep inside tip. *less than 2 ohms*
7. Handle design: Heat insulated two piece design with cushion grip for low grip temperature and comfort.
8. Tool cord: Silicone rubber-burn resistant, 4 feet long.
9. Recovery time: (from 100°F drop with ETA tip at 700°F) = 11 sec.

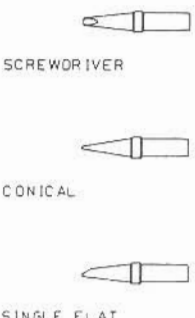

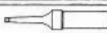
**WARNING: Do not remove ground prong from line cord plug. Removal may cause tip temperature control to be erratic.**

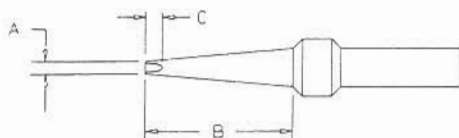
## SELECTION OF WELLER® ET SERIES TIPS

Weller® tips are solid copper, plated with iron, nickel, and chromium. The chromium is eliminated from the working area and the tips are pretinned with tin/lead solder. The nickel and chromium protect the shank from corrosion and solder creep. The Weller® WCC100 uses the ET series tips. These tips are designed to mate with the sensor probe.

**Use only original Weller® soldering tips, parts, and accessories for this product.**

### TIP TABLE

CATEGORY	GRAPHIC VIEW	CATALOG NUMBERS	DESCRIPTION	DIMENSIONS		
				-A-	-B-	-C-
STANDARD TIP		ETA	SCREWDRIVER	1/16	5/8	3/32
		ETAA	SINGLE FLAT	1/16	5/8	3/32
		ETB	SCREWDRIVER	3/32	5/8	3/32
		ETBB	SINGLE FLAT	3/32	5/8	3/32
		ETC	SCREWDRIVER	1/8	5/8	1/8
		ETCC	SINGLE FLAT	1/8	5/8	1/8
		ETD	SCREWDRIVER	3/16	3/4	3/16
		ETDD	SINGLE FLAT	3/16	3/4	3/16
		ETH	SCREWDRIVER	1/32	5/8	1/8
		ETP	CONICAL	1/32	5/8	--
		ETT	CONICAL	.025	5/8	--
		ETU	SINGLE FLAT	1/64	3/4	1/32
		ETV	SINGLE FLAT	.026	3/4	1/32
LONG REACH TIP		ETJ	LONG SCREWDRIVER	1/32	1	.069
		ETK	LONG SCREWDRIVER	3/64	1	7/16
		ETL	LONG SCREWDRIVER	5/64	1	1/2
		ETM	LONG SCREWDRIVER	1/8	1	3/4
		ETO	LONG CONICAL	1/32	1	--
		ETS	LONG CONICAL	1/64	1	--
MICRO TIPS	NARROW SCREWDRIVER 	ETR	NARROW SCREWDRIVER	1/16	5/8	1/8



### CARE OF WELLER® ET SERIES 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. Corrosion between tip and sensor can cause erratic temperature control.

**WARNING:**

- If tip does not remove easily do not force it. The sensor will be damaged. Try removing the tip while heated. If this does not work, return tool to Weller for service. When installing new tips, tips should slide freely over stainless steel probe.
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 resins, silicone grease, and other chemicals. If the tip becomes unwettable it may be cleaned with a Weller® Polishing Bar Part No. 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 tip is reheated.
  6. Do not use any compound or anti-seize material on Weller® tips or sensor probe. They will cause wettability problems and may cause seizing after long heated periods.

## WCC100 Troubleshooting Guide

**WARNING:** AC line voltage is present inside power unit even when power switch is off. Refer service to qualified personnel.  
**NOTE:** Access to internal parts may be gained by removing two rubber feet (near cords), four screws, and bottom cover. When reassembling, be sure to place cords in channel provided.

1. Tool does not heat
  - A. On-off switch not illuminated
    1. Check power line for correct voltage.
    2. Check continuity of power cord - replace if necessary.
    3. Check continuity of power switch - replace if necessary.
  - B. On-off switch illuminated
    1. With power disconnected, check continuity of iron (black to white leads) - replace if necessary.
    2. With power on, check for line voltage at iron connections (black to white leads) - if not present replace control board.
    3. If voltage present, check continuity of sensor — replace sensor if open.
2. Tool overheating - replace control board.

### CUSTOMER SERVICE

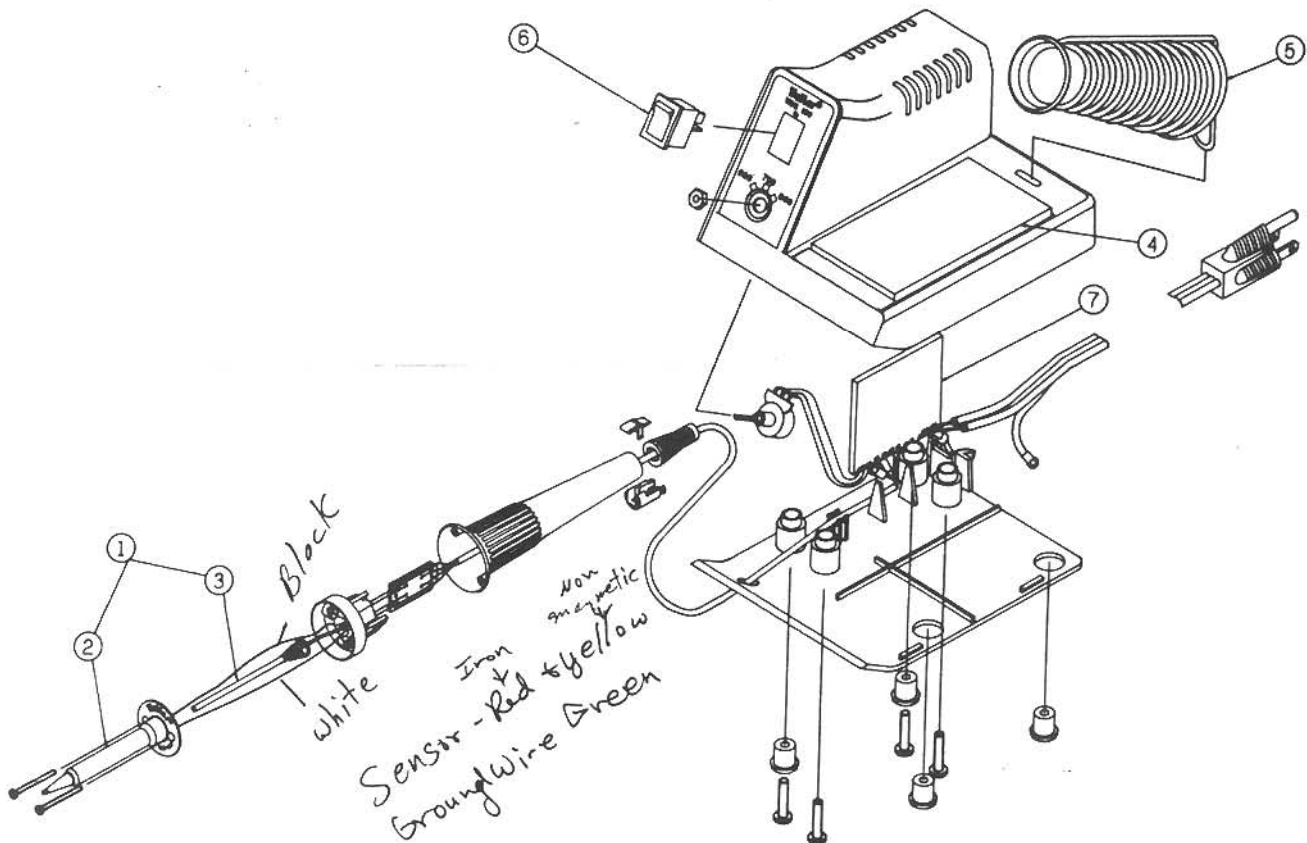
Should your WCC100 unit require repair or adjustment, it may be sent to the following address:

**COOPER TOOLS - WELLER/WIRE-WRAP PLANT**  
**815 State Road**  
**Cheraw, SC 29520**  
**Attn: Repair Dept.**

#### REPLACEMENT PARTS FOR WCC100

(Please state product model number when ordering these parts from your original supplier)

KEY NO.	PART NO.	DESCRIPTION
1	WCC101	Soldering tool w/ETA tip
2	WCC102	Heater
3	WCC103	Sensor
4	WCC104	Sponge
5	WCC105	Iron holder w/funnel
6	SW120	Switch
7	WCC106	Control Board w/pot
Not Shown	WCC108	Barrel/nut assembly



## WCC103 REPLACEMENT SENSOR

**CAUTION:** Disconnect from power supply before servicing unit.

1. Remove barrel nut and tip from soldering iron.
2. Remove two screws from heater flange.
3. Remove cord guard by twisting until tabs line up with notches and press to one side until it releases. Using a small screwdriver, release strain relief by inserting into rear of handle along side with flat. Slide handle down iron cord.
4. Unsolder five leads from terminal board at heater end and slide heater out of flange insulator (holder). Remove sensor.
5. Place spring end of sensor into large hole of flange insulator. Tab on spring should be placed in slot in flange insulator. Route sensor lead wires through center hole. (See diagram reverse side). Solder sensor iron lead (one attracted by magnet) to terminal board making sure it is connected through terminal board to red cord lead. Connect constantan sensor lead to terminal board pad connected to yellow cord lead. **WARNING:** Reversing these leads will cause soldering iron to stay on continuously and overheat.
6. Route ground lead and one white heater lead through large opening in one side of flange insulator and remaining white heater lead through large opening in other side of flange insulator.
7. Solder ground lead to center pad on terminal board and heater leads to remaining pads of terminal board.
8. Slide assembly back into handle aligning tapered end of strain relief with flat on handle. Pull strain relief into place until it snaps. Install cord guard on tabs of strain relief and twist to lock into place.
9. Replace screws in flange and replace tip and barrel.

