Weller®

OPERATING INSTRUCTIONS

WPSI12
Portable Soldering Station
&
TCP12
Soldering Tool

COOPER Hand Tools

Weller Tech Sheet Product Code: 060586 Issue A 24/05/05

WELLER® WPSI12 PORTABLE SOLDERING STATION AND TCP12 SOLDERING TOOL

DESCRIPTION

The Weller® WPSI12 Portable soldering station is a full power 42 watt temperature controlled soldering tool coupled to a portable 12 volt power source. This tool was developed for applications where a service person requires a seriously powerful soldering tool and where flammable gas powered tools present an unacceptable danger.

The minimum life of a fully charged battery on maximum duty is approximately 1.5 hours. In regular use the tool is not usually loaded to this degree and is expected to last for a full 8-hour shift between charges.

The battery fitted to the WPSI12 is of the Sealed Lead-acid type as this battery can be charged when only partially depleted without problems with battery memory. The recommended charge time is 12 hours. The charger will automatically switch to a holding charge when it detects that the battery is fully charged.

The soldering tool is a Weller® TCP12 and uses the Patented Magnastat system of temperature control. Tip temperature is determined by the tip selected and can be selected from the following - 315°C(600°F), 370°C(700°F) and 430°C(800°F).

SPECIFICATIONS OF WPSI12 PORTABLE SOLDERING TOOL

1.	Power Supply:	12 volt 7.2 AH Sealed Lead Acid battery
2.	Size:	115mm x 150mm x 91mm
3.	Tip temperatures	315°C(600°F), 370°C(700°F) and 430°C(800°F).
4.	Ambient temperature range:	16°C to 44°C (60°F to 110°F).
5.	WPSI12 meets Australian C-tick EMC requirements.	

SPECIFICATIONS OF TCP12 SOLDERING TOOL

1.	Wattage:	48 watts at 12 Volts.
2.	Tool weight:	50 grams without cord.
3.	Heater type:	Fibreglass and ceramic insulated heating element. Reverse wound for low leakage and magnetic field cancellation.
4.	Tip type:	Weller PT series Copper with heavy iron, nickel and chromium plated for long life.
5.	Connector:	Automotive cigarette lighter style.
6.	Recovery time:	11 seconds from 37°C drop with PTA7 tip.

OPERATING INSTRUCTIONS

To charge the battery, plug the charger into the receptacle on the side of the battery bag and also into a power point. Switch the charger on and leave for at least 16 hours for a full charge. It is acceptable to remove when only partly charged but the battery life will be reduced. It is also acceptable to leave the charger connected for extended periods.

To operate, plug the tool into the receptacle on the side of the battery bag. The tool will begin heating immediately and will be ready to solder in approximately 50 sec. To switch the tool off, remove the plug from the receptacle.

Always use the lowest temperature tip that will handle the load you are soldering. The Weller® magnastat control system delivers maximum power to the tip regardless of the tip temperature chosen therefore, there is no need to use high temperature tips to handle heavier soldering loads. Using lower temperature tips and properly selecting tip styles, will protect sensitive components from heat damage.

It is normal for the tip temperature to fluctuate slightly with the heating cycle of the heater and with the thermal load on the tip.

SAFETY INSTRUCTIONS

The manufacturer assumes no liability for uses other those described in the operating instructions, or for any unauthorised alterations to the tool. These operating instructions and warnings should be read carefully and kept in an easily accessible location close to the tool. Non-observance of these warnings may result in accidents, injury or risks to your health.

1. **Keep your work area in proper order.**
   Always return the soldering tool to it's stand when not in use. Do not place any materials near the hot soldering tools.
2. **Protect yourself against electrical shocks.**
   Avoid touching grounded parts with your body, eg. pipes, heating radiators, stoves or refrigerators.
3. **Keep children at a distance.**
   The Soldering Station is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with this soldering station.
4. **Store your soldering tool in an appropriate place.**
   When not in use the soldering tools should be stored in a dry location, out of the reach of children, preferably in a locked cabinet. Switch off soldering tools when not in use.
5. **Do not overload your soldering tool.**
   Use the soldering tool only with a 12 volt supply.
6. **Use the appropriate soldering tool.**
   Don't use a soldering tool whose performance is not adequate for your work. Never use the soldering tool for purposes other than those for which it was designed.
7. **Wear suitable work clothes.**
   There is a danger of burning yourself with HOT liquid solder. Wear the corresponding protective clothing in order to protect yourself against burns.
8. **Protect your eyes.**
   Wear safety glasses when working with solder and with bonding agents. It is particularly important to observe the warning notices of the bonding agent manufacturer. Protect yourself against solder spatter. There is a danger of burning yourself with HOT liquid solder.
9. **Use a soldering vapour suction device.**
   If devices for solder vapour suction are available, ensure that these are connected and correctly used.
10. **Do not use the cord for purposes for which it is not designed.**
    Never carry the soldering tool by the cord. Don't use the cord to pull the power plug from the socket. Protect the cord from heat, oil and sharp edges.

11. Protect the work place.

Use clamping devices to hold the work in place. This is more secure than using your hands, and leaves both hands free to work with the soldering tool.

12. Avoid abnormal posture.

Set up your work place with proper ergonomics. Avoid bad posture when working. Always use a suitable soldering tool.

13. Take care of the soldering tool.

Keep the soldering tool clean for better and safer work. Follow the maintenance instructions and the notices concerning changing the soldering tips. Regularly inspect all connected cords. Repairs should only be carried out by a qualified technician. Use only original Weller replacement parts.

14. Remove the power plug from the socket before opening the tool.

15. Remove all maintenance tools.

Before applying power to the tool, check that all maintenance tools have been removed from the tool.

16. Avoid unexpected operation.

Make sure that the power plug is removed from the receptacle when not in use. Never hold a soldering tool, which is connected to a power supply, while touching the power switch.

17. Pay attention.

Be careful of what you do. Work with caution. Don't use the soldering tool if you are not concentrating on your work.

18. Inspect the soldering tool for any damage.

Before using the soldering tool check that all parts and safety devices are functioning correctly. Inspect moving parts for error free operation and that they don't bind, or whether any parts are damaged. All parts must be properly mounted and requirements fulfilled for guaranteed error free operation of the soldering tool. Damaged safety devices and parts must be repaired or replaced by a qualified technician, so long as nothing is indicated in the Operation Manual.

19. Attention.

Use only accessories or attachments that are listed in the accessories list of the Operation Manual. Use only Weller accessories or attachments on original Weller equipment. Use of other tools and other accessories can lead to a danger of injury.

20. Do no work on electrically live parts.

21. Applications with other Weller equipment.

If the soldering tool is to be used together with other Weller equipment and attachments, also observe the warning notices given in the corresponding operation manual.

22. Observe the valid safety regulations for your workplace.

TROUBLESHOOTING GUIDE FOR THE WPSI12

1. **Tool does not heat. (NOTE: Tool will not heat if the tip is removed)**
   - Check for 12 volts at receptacle on the power supply, if faulty then;
   - Check that the battery is charged.
   - Check the wiring from the tool receptacle to the battery.
   - Repair or replace if defective.
   - Replace the soldering tool with a known good tool and recheck if the replacement tool is OK then
   - Troubleshoot the soldering tool using the guide in the soldering tool section.
2. **Tool overheating.**
   - Troubleshoot the soldering tool using the guide in the soldering tool section.

TROUBLESHOOTING GUIDE FOR THE TCP12 SOLDERING TOOL

CAUTION: Disconnect the tool from the power supply before attempting repairs.

1. **Tool does not heat. (NOTE: Tool will not heat if the tip is removed)**
   - Check heater resistance from pin of the power connector, should measure 12 - 13 ohms, if not then;
   - Remove heater assembly from handle and recheck resistance at heating element leads.
   - Repair or replace heater if defective.
   - Check the wiring from the heater to the power connector.
   - Repair or replace as required.
   - Check Magnastat switch operation. Switch will be closed circuit with the tip in place and will be open circuit with the tip removed.
   - Repair or replace switch if defective.
2. **Tool overheating.**
   - Check Magnastat switch operation. Switch will be closed circuit with the tip in place and will be open circuit with the tip removed.
   - Repair or replace switch if defective.
   - Remove the heater assembly and check for short circuits in the wiring inside the handle. Repair wiring as required, or replace the cord/handle assembly.

CARE OF WELLER® TIPS

Weller® PT series tips are solid copper, plated with iron, nickel and chromium. The nickel and chromium protect the shank from corrosion and solder creep. The tips are pre-tinned in the working area with pure Tin. Use only Weller® soldering tips. Use of non-Weller® components may void product warranty if the non-Weller component causes damage to the unit. Consult tip selection chart for available tip styles.

1. Keep tip well tinned; wipe only before using.

2. Use only rosin or activated rosin fluxes. Acid type fluxes will greatly reduce tip life.

3. Remove tip and clean with a suitable cleaner for flux being 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 the tip and switch will cause erratic temperature control. WARNING: If the tip does not come out easily, do not force it, the switch will be damaged. Try removing the tip while heated. If this does not work, return the tool to the address on the last page for repair or service. When installing new tips, they should slide freely into the heater.

4. Don't try to clean the tip with abrasive materials other then the Weller® WPB1 polishing bar. Never file the tip, to do so will greatly reduce tip life. Tip wettability is affected by contact with organic materials such as plastic resins, silicone grease, and other chemicals. If the tip becomes unwettable, it may be cleaned while hot with a soft steel or brass brush using solder flux as a solvent; or with a Weller® WPB1 polishing bar. Re-tin tip immediately after cleaning to prevent oxidation. Note: Frequent cleaning in this manner can damage tip plating.

NOTE: Tip temperature testing must be done using 30-gauge thermocouple wire, resistance welded to the centre of the wetted area on the tip. Tinning should be removed before welding. Other methods, or heavier thermocouple wire, will cause errors.

WPSI12 AND TCP-12 SOLDERING PENCIL REPLACEMENT PARTS AND ACCESSORIES

REPLACEMENT PARTS

KEY NO.	PART NO.	DESCRIPTION
1		HE60-12
2		SW60D
4		HO60A
5		BA60

OPTIONAL PARTS

PART NO,	DESCRIPTION
Not shown	TC205 Sponge
PH1201	Stand, includes Iron holder and sponge
WPB1	Weller Polishing bar
Not shown	12 volt SLA battery
Not shown	12 volt SLA battery charger

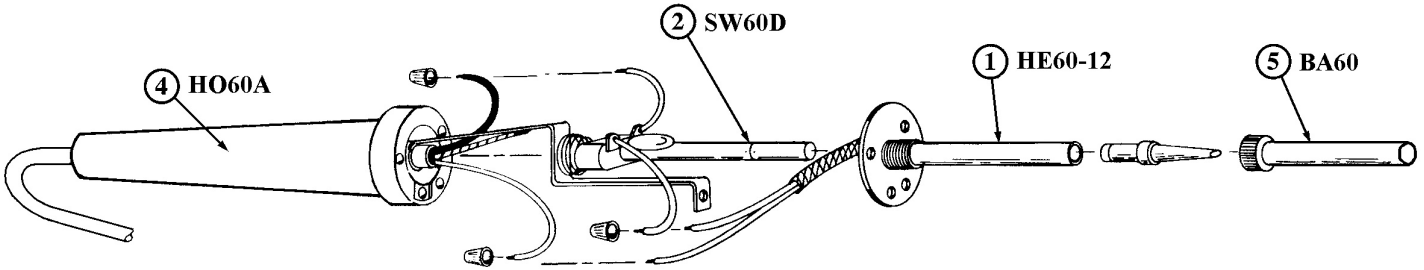

Figure 2

Weller® Electronic **REPLACEMENT SOLDERING TIPS**

PT Series

To Suit WTCPS/T/D & WES 50/51 Stations, TC / PES series soldering tools

	Catalogue No./ Product Code			Description	Tip Size mm	Reach mm
	600°F (315°C)	700°F (371)C)	800°F (427)C)			
	PTA6 **332547**	PTA7 **332549**	PTA8 **332551**	Screwdriver	1.6	15.9
	PTAA6 **332555**	PTAA7 **332557**	PTAA8 **332559**	Single flat	1.6	15.9
	PTB6 **332563**	PTB7 **332565**	PTB8 **332567**	Screwdriver	2.4	15.9
	PTBB6 **332571**	PTBB7 **332573**	PTBB8 **332575**	Single flat	2.4	15.9
	PTC6 **332579**	PTC7 **332581**	PTC8 **332583**	Screwdriver	3.2	15.9
	PTCC6 **332587**	PTCC7 **332589**	PTCC8 **332591**	Single flat	3.2	15.9
	PTD6 **332595**	PTD7 **332597**	PTD8 **332599**	Screwdriver	4.7	15.9
	PTDD6 **332603**	PTDD7 **332605**	PTDD8 **332607**	Single flat	4.7	15.9
	PTE6 **332635**	PTE7 **332637**	PTE8 **332639**	Screwdriver	6.0	15.9
	PTF6 **332627**	PTF7 **332629**	PTF8 **332631**	Conical flat	1.2	15.9
	PTH6 **332611**	PTH7 **332613**	PTH8 **332615**	Screwdriver	0.8	15.9
	PTK6 **332643**	PTK7 **332645**	PTK8 **332647**	Long Screwdriver	1.2	25.4
	PTL6 **332651**	PTL7 **332653**	PTL8 **332655**	Long Screwdriver	2.0	25.4
	PTM6 **332659**	PTM7 **332661**	PTM8 **332663**	Long Screwdriver	3.2	25.4
	PT06 **332668**	PT07 **332669**	PT08 **332670**	Long conical	0.8	25.4
	PTP6 **332619**	PTP7 **332621**	PTP8 **332623**	Conical	0.8	15.9
	PTR6 **332677**	PTR7 **332678**	PTR8 **332680**	Narrow Screwdriver	1.6	15.9
	PTS6 **332688**	PTS7 **332689**	PTS8 **332690**	Long conical	0.4	25.4

CUSTOMER SERVICE

Should your WPSI12 require repair or adjustment it may be sent to the following address:

Cooper Tools (Australia)
519 Nurigong St
Albury NSW 2640
AUSTRALIA
Attn. Repair Department
Ph. (02) 6058-0300 Fax (02) 6021-7403

Cooper Tools Pty. Limited
519 Nurigong Street
Albury, N.S.W. 2640
Australia
Tel: 61-2-60580300
Fax: 61-2-60217403

COOPER Hand Tools

www.cooperhandtools.com