



DIVISION OF COOPER INDUSTRIES, INC.

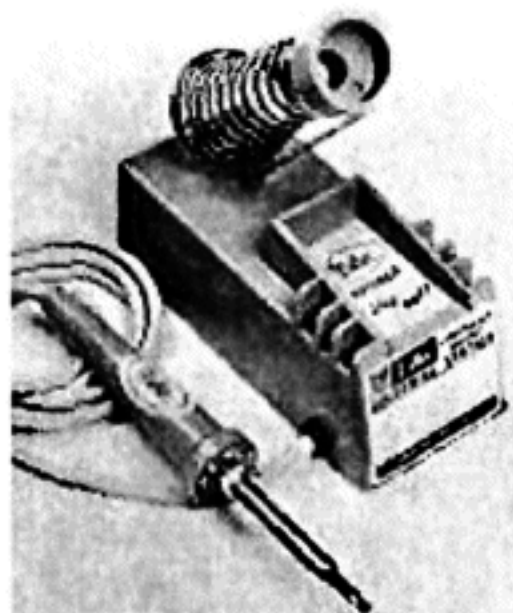
100 WELLCO ROAD • EASTON, PA. 18042 • PHONE 215 258-5371

Series 4, No. 3B
MAINTENANCE, REPAIR
AND OPERATING BULLETIN

Models W-TCP, W-TCP-L

INDUSTRIAL BULLETIN

5/21/69k



W-TCP



W-TCP-L

MODEL W-TCP LOW VOLTAGE SOLDERING STATION

Comprised of TCP-1 Pencil Iron w/PT series tips, 24V., 48W.; PU-1 Power Unit, 3-wire cord. 60W. 120V. 50/60C. (Tip #PTD7, 3/16", 700°F. Screwdriver normally supplied with tool.)

MODEL W-TCP-L LOW VOLTAGE SOLDERING STATION

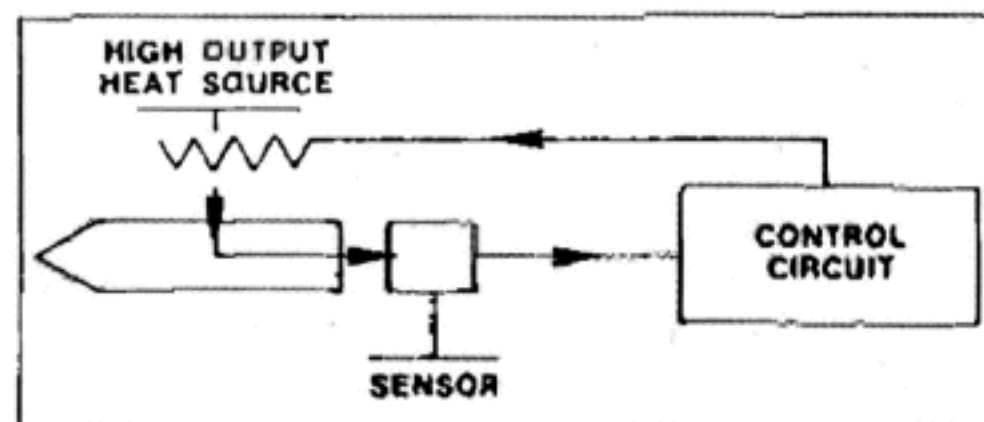
As above, with switch and indicator light.

General

Weller controlled output tools are designed to operate under industrial working conditions with a minimum of maintenance. In order that the using people will achieve the best results with this tool, they should be familiar with its operation and care.

Theory of Operation

When the soldering tool is cold, a ferromagnetic sensor at the tip attracts a permanent magnet activating the control circuit. When the tip reaches its controlled temperature, the sensor becomes non-magnetic, thereby releasing the permanent magnet and turning off the control circuit. This accomplishes a "Closed Loop" Control System for automatically regulating both wattage and temperature during the soldering process.



WELLERCOTE Soldering Tool Tips

All Wellercote tips are premium plated by an exclusive process that selectively deposits a double protective coating. The high conductivity copper tips are first iron plated and then aluminized in the non-working area, the iron tip is then pre-tinned. Weller's aluminizing prevents oxidation of the iron plating, scaling, solder "creep-up" and freezing of the tip in the tool, eliminating the most common difficulties associated with soldering tool tips. Wellercote "Temperature-Sensing" tips contain a small ferromagnetic sensing element on the shank. The sensing element is coded by number to indicate idle temperature in hundreds of degrees F. Thus a simple change of tips is all that is necessary to adapt the tool to an entirely different temperature range. Idle temperatures of 500°, 600°, 700°, 800°F. and 900°F. are available.

WARRANTY

Weller Industrial Soldering Tools are constructed of the finest materials available. Each tool is thoroughly inspected and tested before leaving the factory. Tools suffering from defective workmanship or materials will be repaired or replaced free of charge F.O.B. factory. Tools that have been used and returned to the factory for repair, will be repaired at a nominal service charge plus cost of parts, F.O.B. factory. Dealers and distributors are not authorized to make repairs or replacements.

Maintenance and Operation

As with any tool operating under conditions existing in modern soldering lines, a few necessary procedures have to be followed to insure that you receive maximum value from your tools. The following list has been compiled for your use.

DO	DON'T
Provide a suitable stand which will prevent barrel and/or tip from touching metal parts thereby resulting in a heat sink.	Drop iron as this may do permanent damage.
Keep tip tinned; wipe only before using. Use rosin or activated rosin fluxes.	Clean tip with abrasive materials.
Remove tips and clean tips and sockets on a regular basis. The frequency should be determined by the type of work and usage. Tips in constant production use should be cleaned at least once a week as noted above.	Use chloride or acid containing fluxes as this will reduce tip life.
Use a suitable cleaner for rosin based fluxes, such as, isopropyl alcohol or equivalent.	Remove excess solder before storing heated tool.
Use small amount of anti-seize compound to coat threads on tip nuts on irons so equipped. But do not use on tip shank or in tip receptacle.	File or attempt to reshape tip, as this will destroy tip coating.
	Use anti-seize on tip or socket, as these parts are already protected from oxidation.

Trouble Shooting Guide For W-TCP and W-TCP-L

1. Check power.
 - a. If power exists, check iron.
 - b. If no power exists, check power unit (PU1, PU1A or PU2).
 - c. Lighted lamp indicates power unit is working.
2. Check iron.
 - a. If iron does not heat, check iron switch and element.
 - b. If element and switch are OK, check wiring.
3. Check iron switch.
 - a. Measure continuity across contact with butt of tip against blunt end of switch. If none, replace switch. With tip removed, there should be no continuity.
4. Check element.
 - a. If iron switch is OK, check continuity of element.
 - b. Check element to frame, no continuity should exist.
5. Check power.
 - a. If no voltage across secondary, check transformer cord set and power source.
 - b. If fuse is blown, replace. Check iron and iron cord set for shorts. Flex while checking, to look for intermittent faults.
 - c. With Model W-TCP-L only: If lamp is out, check fuse, switch, neon lamp. If OK, check power source.
6. Check wiring.
 - a. Check cord set for continuity and possible grounded cord set.
 - b. Check connection to iron switch and element for opens and shorts.

Replacement Parts For Model W-TCP & W-TCP-L "Low Voltage" Soldering Station

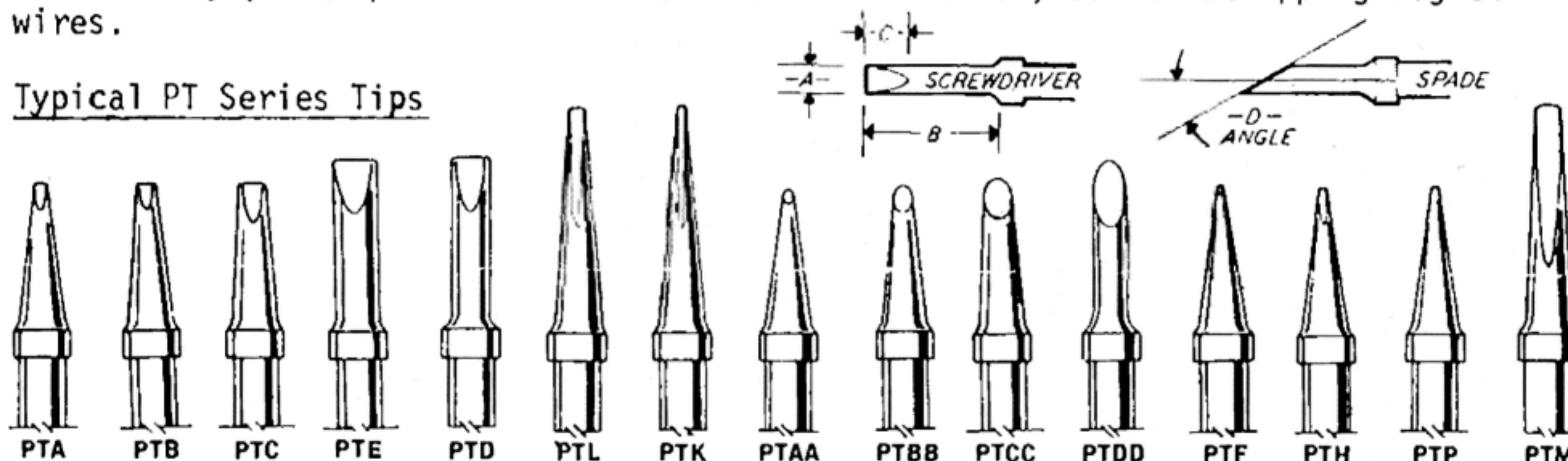
Key #	Part #	Description	Key #	Part #	Description
-	WA3	Three Wire Adapter	1	BA60	Barrel Nut Assembly
4	SW60	Switch Assembly	-	SP60	Sponge (10 per pkg.)
3	HE60	Heating Element	-	FW60	Fuse Wire (Replaced by FP1)
5	CS100	Cord Set (Power Unit to Pencil)	-	FP1	Fuse line for PU1, PU1A, PU2
			-		

Key #	Part #	Description	Key #	Part #	Description
6	HA1	Handle	8	GS60	Ground Strap & Strain Relief
-	LN2	Lamp (PU2)	-	SH60	Iron Stand (Spring & Funnel)
-	TCP1	Soldering pencil w/cord	-	SF60	Funnel Only (5 per pkg.)
-	PU1A	Power Unit only, 60W. 120V. 50/60Hz.	-	PU2	Power Unit only w/switch and pilot, 60W. 120V. 50/60Hz.

Some Tips About Tip Selection And Care

1. First choose configuration. Pick maximum working surface physically compatible with size of solder joint. Also, pick shortest tip with thickest cross section compatible with accessibility and visual requirements.
2. Then within the chosen configuration, select the idle temperature. This should be done empirically. Optimum selection is the lowest temperature that will give satisfactory production rate. Tip life is directly related to tip temperature. The lower the temperature, the longer the life. Where heat sensitive components are involved, the heat rating of the component will govern.
3. Generally speaking, larger joints to be soldered at higher production rates will require higher temperatures. For small printed circuit work, be sure to try 600°F.
4. Remember performance is determined by both temperature and configuration. As an example, check configuration chart below. Work done satisfactorily with a PTB at 600°F. might require 700°F. if a PTP is used.
5. 800°F. tips are recommended only for applications with relatively high production rates, (which provide sufficient heat sink action) or for stripping magnet wires.

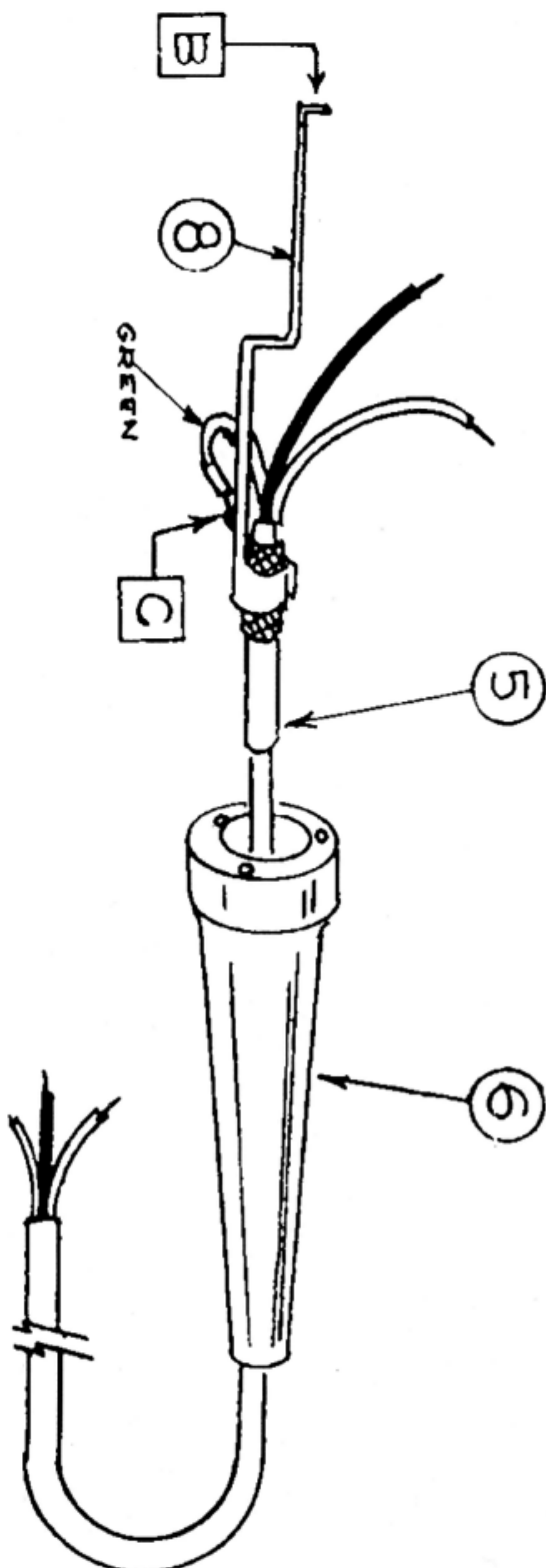
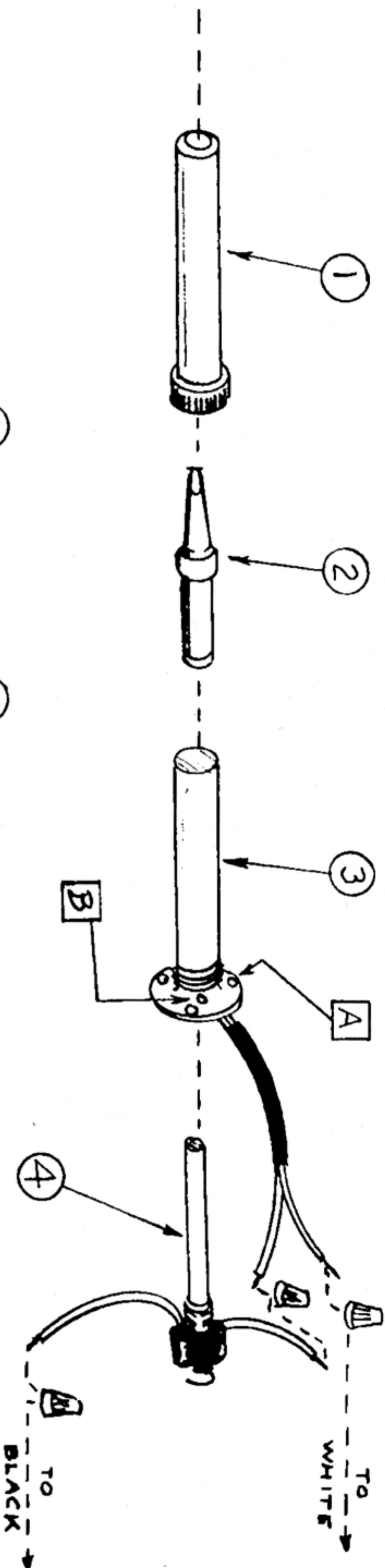
Typical PT Series Tips



Weller Temperature Sensing Tips (Premium Plated)

Dimen. -A-	Description	Dimen. -B-	Dimen. -C-	Angle -D-	Part Numbers		
					600°F.	700°F.	800°F.
1/16"	Screwdriver	5/8"	3/32"	15°	PTA6	PTA7	PTA8
1/16"	Spade	5/8"	3/32"	60°	PTAA6	PTAA7	PTAA8
3/32"	Screwdriver	5/8"	3/32"	22°	PTB6	PTB7	PTB8
3/32"	Spade	5/8"	3/32"	60°	PTBB6	PTBB7	PTBB8
1/8"	Screwdriver	5/8"	1/8"	22°	PTC6	PTC7	PTC8
1/8"	Spade	5/8"	1/8"	60°	PTCC6	PTCC7	PTCC8
3/16"	Screwdriver	3/4"	3/16"	22°	PTD6	PTD7	PTD8
3/16"	Spade	3/4"	3/16"	60°	PTDD6	PTDD7	PTDD8
1/32"	Screwdriver	5/8"	1/8"	10°	PTH6	PTH7	PTH8
1/32"	Conical	5/8"	-	-	PTP6	PTP7	PTP8
1/32"	Conical Flat	5/8"	1/32"	45°	PTF6	PTF7	PTF8
15/64"	Screwdriver	3/4"	1/4"	22°	PTE6	PTE7	PTE8
3/64"	Long Screwdriver	1"	7/16"	5°	PTK6	PTK7	PTK8
5/64"	Long Screwdriver	1"	1/2"	6°	PTL6	PTL7	PTL8
1/8"	Long Screwdriver	1"	3/4"	6°	PTM6	PTM7	PTM8

NOTE: 800°F tips in shaded areas should be used only when application actually forces their use. Life will not approach that of other types. SPECIAL TIP CONFIGURATIONS and temperatures can be furnished upon special order. Above tips are packaged 5 per card. Also available in bulk pack of 100 of a kind.



ASSEMBLY AND DISASSEMBLY NOTES:

To trouble shoot system, disassemble element 3 and disconnect switch 4 to iron lead and follow trouble shooting guide.

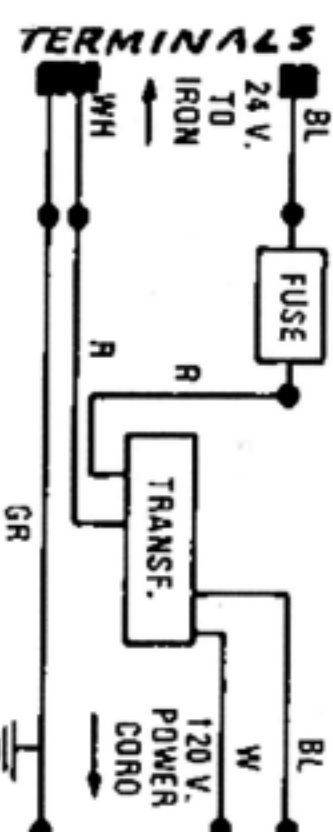
To disassemble, remove 3 outer perimeter screws at location A, and pull complete assembly from handle. Inner screw (closest to barrel) at position B need not be removed unless the Ground Strap/Strain Relief 8 is being replaced.

Green (ground) wire must always be soldered to ground strap, at position C. Black wire connects to switch 4 and white wire connects to heating element 3.

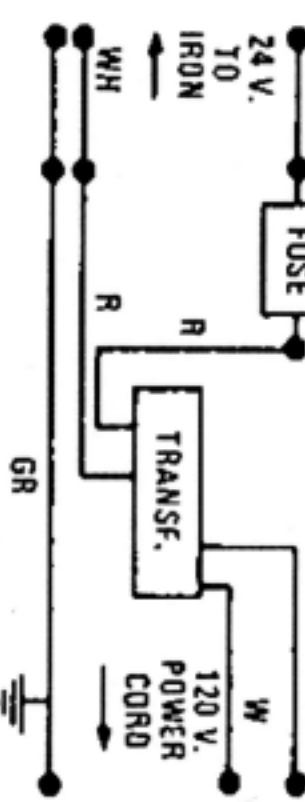
Fuse is reached by removing base cover plate of power unit.

INTERNALLY FUSED

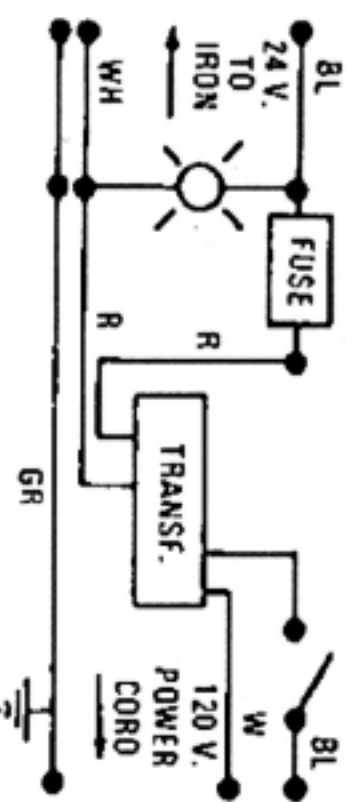
Model PU-1's with external binding posts.



Model PU-1A and PU-1 without external terminals



Model PU-2



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