



## TO INFORM YOU

PRODUCT  
SUPPORT  
BULLETIN # 167

**TO:** Authorized Service Stations  
Branch Office/Service Centers  
Branch/Service Center Managers  
Regional Managers  
District Sales Managers

**DATE** June, 1987

**FROM:** Corbert A. Garb - National Service Manager

**TOOL(S)/PRODUCT(S) AFFECTED:** 8977 VARIABLE TEMPERATURE HEAT GUN

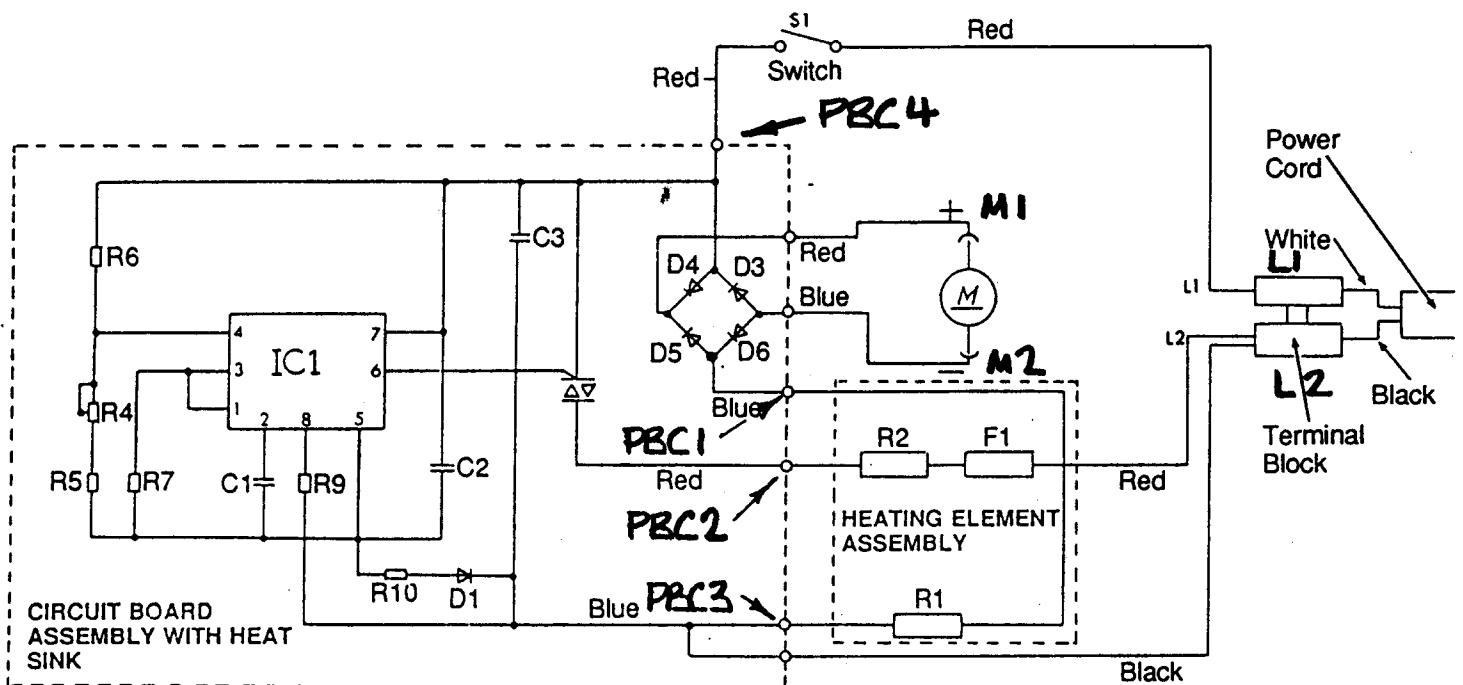
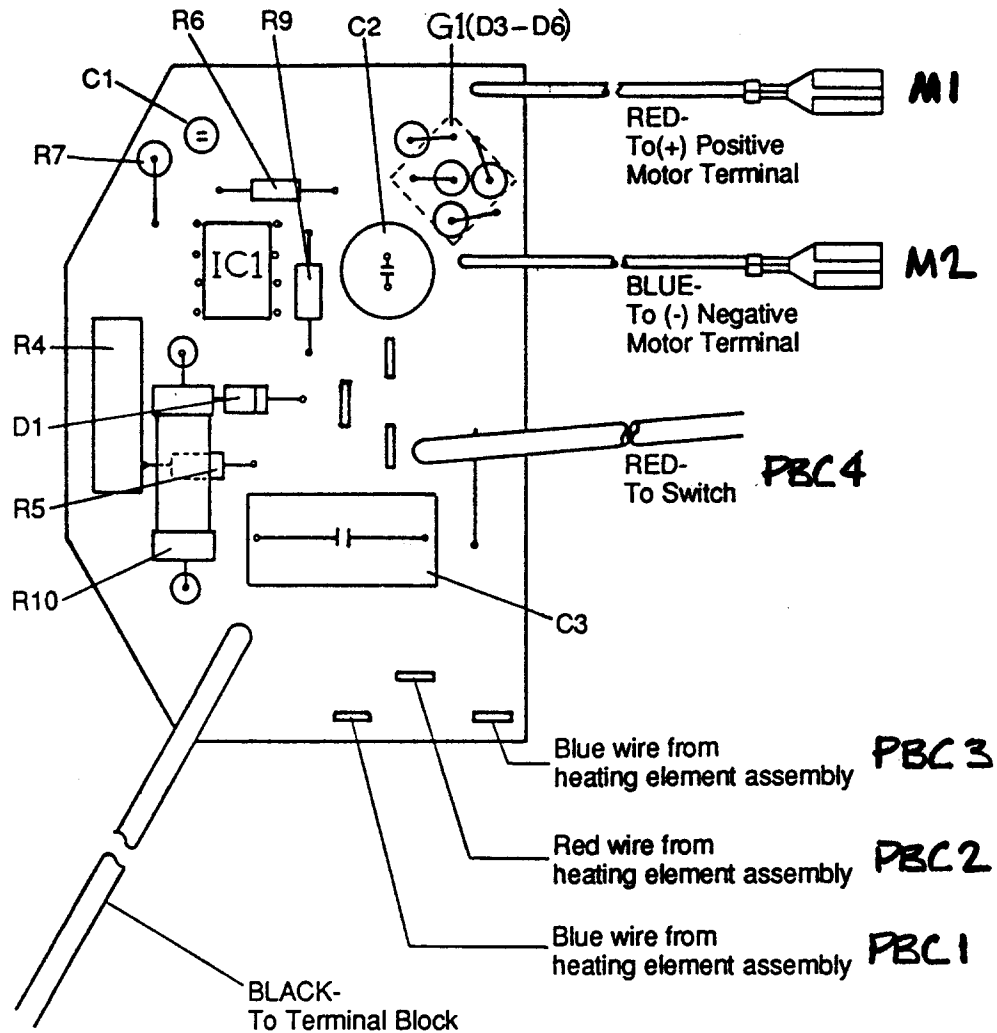
**SUBJECT:** Testing Procedures - Service Notes

### TROUBLE SHOOTING CHART...

SYMPTOM	POSSIBLE CAUSE(S)	TESTS	CORRECTIVE ACTION
No Output (DEAD)	1. open cord set	A	replace
	2. faulty switch	B	replace
	3. loose/broken wire	C	repair
	4. open fuse F1	D	replace heating element assembly
No Air Flow	1. restricted front nozzle or rear air vents	D	clear restrictions
	2. motor	E	replace
	3. printed circuit board	F	replace
	4. loose or broken wire	C	repair
Reduced or No Heat Output	1. faulty R1 heating element	G	replace heating element assembly
	2. faulty R2 heating element	G	replace heating element assembly
	3. open fuse F1	G	replace heating element assembly
	4. loose or broken wire	C	repair

This bulletin is for informational purposes; please note on Service Parts List 54-05-0650

# WIRING INSTRUCTIONS



TESTING PROCEDURES FOR 8977 HEAT GUN... Tests can be performed without removal of components from housing or un-soldering/removing wire leads.

... See WIRING DIAGRAM attached for terminal(s) position specified. ...

[A] CORD SET

Check cord set leads L1 & L2, from terminal block to blades of plug, for continuity using an OHMmeter. A low resistance reading or zero (0) ohm reading indicates a good cord set.

[B] SWITCH

Check S1 switch in "on" position for continuity using an OHMmeter. Connect OHMmeter across red lead wire L1 at terminal block & terminal PCB-4 at printed circuit board; a zero (0) reading should be obtained. With the switch in the "off" position the OHMmeter should show (00) an infinity ohm reading.

[C] LOOSE/BROKEN WIRE

Check all internal wiring, especially terminal block, switch and circuit board connections and crimp terminals.

[D] NO AIR FLOW

Check nozzle of heat gun and also air vents slots in cap at rear of tool to assure that no paper, packing material or construction scraps are blocking the air flow. Reduced or blocked air flow will damage heating elements and can trip the temperature fuse.

[E] MOTOR

Check motor/fan assembly function using 6VDC dry cell battery or similar *low* voltage DC power source, applying DC voltage directly to motor terminals M1 & M2 (maximum motor voltage 15VDC).

Note - Motor POLARITY = M1 positive / M2 negative; reversing polarity (red & blue leads from printed circuit board to motor/fan assembly) allows motor to run backwards, reducing air flow across heating elements (see statement in test [D]).

[F] PRINTED CIRCUIT BOARD

Test diode circuitry of printed circuit board by applying *low* voltage AC power across terminals PCB-1 & PCB-4 (10-20VAC maximum) and measure for DC power output across red & blue motor leads (M1-M2) from printed circuit board; a DC voltage of approximately 90% of the input voltage should be obtained (9-18VDC).

Test individual diodes. Using OHMmeter, connect one lead of meter to each end of *each* diode and observe resistance reading. Reverse OHMmeter leads & observe readings. A good diode will have a high resistance reading in one direction and a low reading when OHMmeter leads are reversed. If both readings are high, or low, diode is faulty.

[G] HEAT ELEMENT ASSEMBLY

The quantity of heat output will be affected by the loss of heating elements R1 or R2 because the heat element burned out of the loss of heat element R2 due to opening of the temperature sensing fuse F1 because of overheating.

Replace heating element assembly if the following conditions are *not* met:

R1 - connect an OHMmeter across the blue wires connected to the printed circuit board at PCB-1 and PCB-3. A resistance of  $143 \pm 3$  ohms should be obtained.

R2 - connect an OHMmeter across the red wires connected to printed circuit board at PCB-2 and terminal block at L2. A resistance reading of  $10 \pm 1$  ohms should be obtained.

F1 - the fuse F1 is a temperature sensing *single* action, *one time* fuse. If fuse has been overheated and it opened up, connecting the OHMmeter as described for testing R2 above will show an infinity resistance reading.