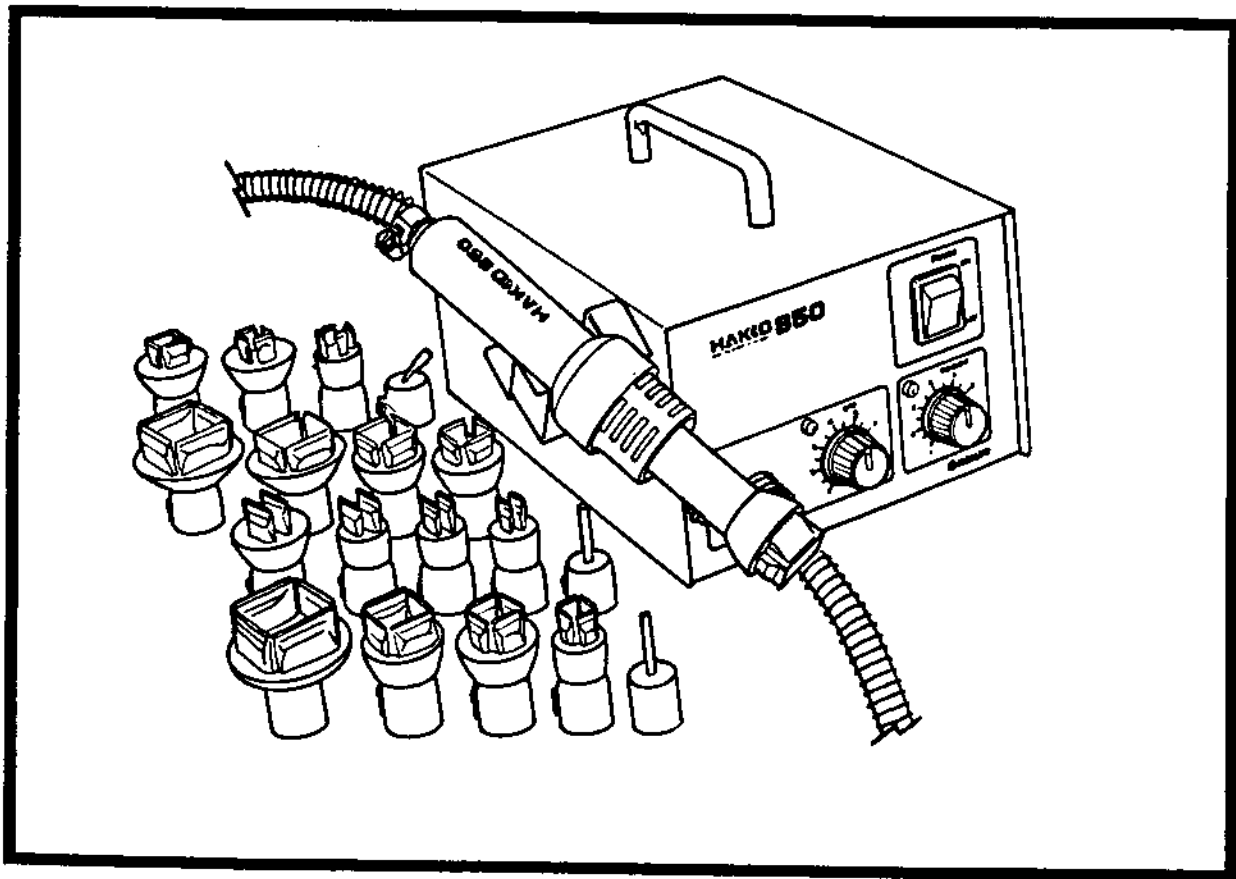


TROUBLE SHOOTING GUIDE

FOR

THE HAKKO 850 STATION



AMERICAN HAKKO PRODUCTS, INC.

TROUBLE SHOOTING GUIDE FOR THE HAKKO 850 STATION

TROUBLE	POSSIBLE CAUSE
When the unit is initially plugged in the cut-off timer is not activated OR when the power switch is on, the pump pumps air, but when the unit is turned off, the cut off timer does not work.	Bad relay switch or bad cut-off timer IC.
The power switch is on, the pump pumps air, but the air control knob does not control the air flow.	Bad air control potentiometer or bad air control triac.
The power switch is on, but the pump does not pump air.	Blown fuse, bad switch, bad air control potentiometer, or bad pump.
The power switch is on, but the unit does not heat.	Bad heater or bad heat control potentiometer.
The power switch is on, the L.E.D. lamp is on, but does not turn on and off.	Bad heat control triac or bad heat control IC.

Bad relay switch: See figures 1 & 2. Check the relay switch (RL1) on the PCB. Check the resistances between pins 1 and 4. The resistance should be about 6K Ω . If it is not, the relay switch should be replaced.

Bad cut-off timer IC: See figure 1. Change the cut-off timer IC (IC2) on the PCB.

Bad air control potentiometer: See figure 1. Remove the air control potentiometer connector VH3 on the PCB and check the resistance between sockets 1 and 3 in the connector.

Air control potentiometer:	With knob on "1" resistance should be 300K Ω
	With knob on "8" resistance should be 0 Ω

If these resistances are different, then the air control potentiometer should be replaced.

Bad air control triac: See figures 1 & 6. Remove the air control triac (TH2) from the PCB. Check the resistances between all of the legs of the triac. The values should be as follows:

T1 and T2 = ∞
T2 and G = ∞
T1 and G = 150 to 250 Ω

If any of the values are different than the above, then the air control triac should be replaced.

Blown fuse: See figure 1. Inspect the fuse (F2) on the PCB and if it is blown, it should be replaced.

Bad switch: See figure 3. Check the continuity on the switch terminals.

With switch "on", the continuity should be:
1-2 closed 2-3 open 5-6 open

With switch "off", the continuity should be:
1-2 open 2-3 closed 5-6 closed

If the continuity for the switch is not as above then the switch should be replaced.

Bad pump: See figure 1. Check the voltage between pins 1 and 4 on the pins on the PCB at VH4C. With the switch on and the control potentiometer on maximum, this should be about 120V. If it is 120V, then the pump should be replaced.

Bad heater: See figures 4 & 5. Check the heater in the handle. The resistance between the two sockets in the connector should be about 30 ohms. If it is not the heater should be replaced.

Bad heat control potentiometer: See figure 1. Remove the heat control potentiometer connector from VH2 on the P.C.B. and check the resistance between the two sockets in the connector.

Heat control potentiometer:	With knob on "1" resistance should be 100K Ω
	With knob on "8" resistance should be 0 Ω

If these resistances are different, then the heat control potentiometer should be replaced.

Bad heat control triac: See figures 1 & 6. Remove the heat control triac (TH1) from the PCB. Check the resistances between all of the legs of the triac. The values should be as follows:

T1 and T2 = ∞
T2 and G = ∞
T1 and G = 150 to 250 Ω

If any of the values are different than the above, then the heat control triac should be replaced.

Bad heat control IC : See fig. 1. Change heat control IC (IC1) on the PCB.

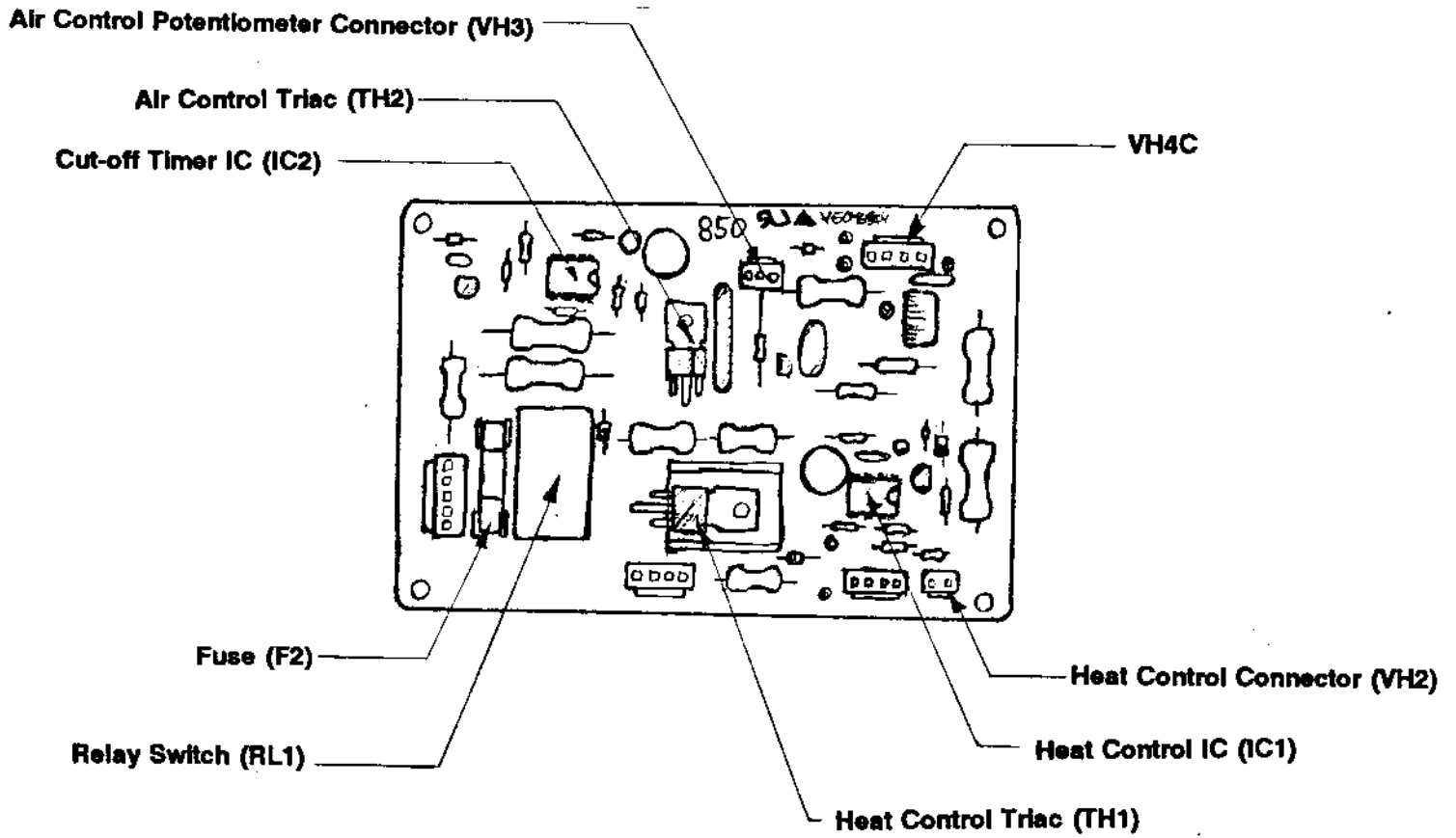


Figure 1

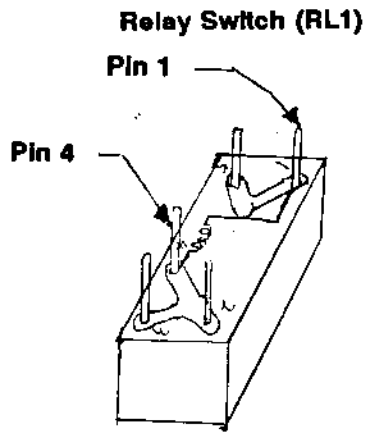


Figure 2

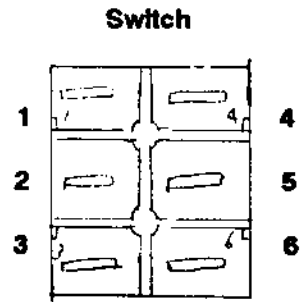


Figure 3

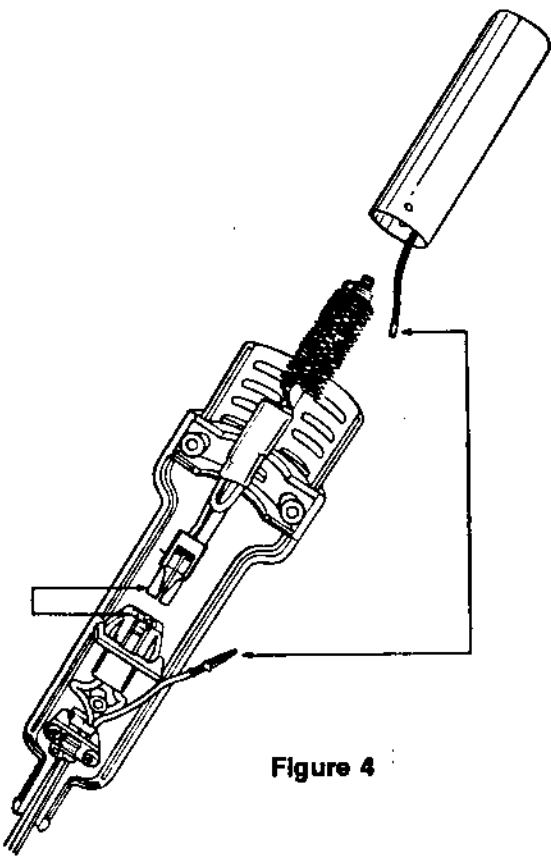


Figure 4

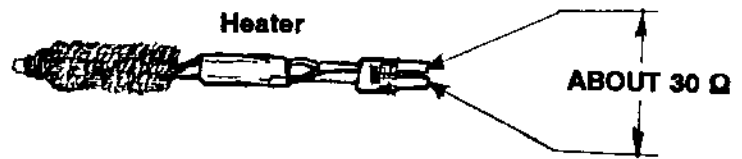


Figure 5

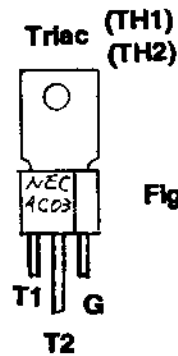


Figure 6

T1 and T2 = ∞

T2 and G = ∞

T1 and G = 150 to 250 Ω

850 SPARE PARTS

OLD PART NUMBERS

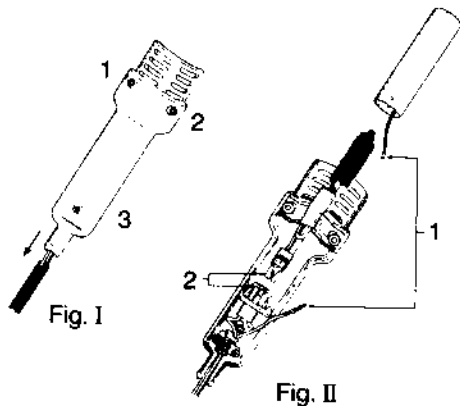
CURRENT PART NUMBERS

PCB	850-011-V12	B1448
HEATER	850-H-V12	A1145
PUMP	850-241-V12	B1451
SWITCH	850-213	B1443
HEAT CONTROL TRIAC		888-037
HEAT CONTROL IC		926-435
AIR CONTROL TRIAC	CALL FOR PART NUMBER	
CUT-OFF TIMER IC	CALL FOR PART NUMBER	
HEAT CONTROL POTENTIOMETER	CALL FOR PART NUMBER	
AIR CONTROL POTENTIOMETER	CALL FOR PART NUMBER	
FUSE FOR PCB	CALL FOR PART NUMBER	
RELAY SWITCH	CALL FOR PART NUMBER	

HAKKO 850

SMD REWORK STATION

► Replacing the Heating Element



► Replacement Parts

850-H	Heating Element for No.850
850-001	FP Pick-up (with (S)(L) wire)
850-002	FP Pick-up Wire (S)
850-003	FP Pick-up Wire (L)

■ Replacing the Heating Element ■

1. Remove the screws, slide the tube.

Remove the 3 screws(Fig. I-1, 2, 3)which secure the Handle and slide the cord tube.

2. Open the Handle.

Disconnect the ground wire sleeve (Fig. II-1) and remove the pipe. In the pipe, the quartz glass and heat insulation is installed. Do not drop or miss it.

3. Remove the Heating Element.

Disconnect the terminal (Fig. II-2) and remove the Heating Element.

4. Insert a new Heating Element.

Handle it with care. Never rub the Heating Element wire. Insert a new Heating Element and reconnect the terminal. Assemble the Handle in the reverse order of disassembly. Insert the Handle's projection into the hole in the pipe.

お願い

ハッコー 850 の下記部品は新仕様になっております。交換部品をご注文の際には旧部品と区別のため以下の品番をご連絡頂けるようお願い申し上げます。

LED ランプ (送風・ヒーター通電ランプ)	NO.B1854
ロックング スペース	NO.B1114 (基板を留めているスペース)
エアノズル	NO.B1856

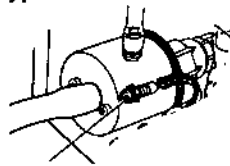
Notes to Users

The following parts has been modified to the new one. When you order the replacement parts, please inform the part no. to distinguish from the former one.

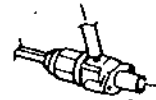
LED Lamp (Air Flow/Heater Lamp)	No. B 1 8 5 4
Locking Spacer	No. B 1 1 1 4 (Securing the P.W.B.)
Air Nozzle	No. B 1 8 5 6

エアノズル・Air Nozzle

Former Type



New Type



HAKKO PART NUMBER CHANGES

(In catalog rev. March 1992.)

(Changes become effective for order desk August 1, 1992.)

<u>NEW PART #</u>	<u>OLD PART #</u>	<u>DESCRIPTION</u>
B1438	850-001	KIT, FP PICK-UP, SM/LG, 850
B1439	850-002	WIRE, FP PICK-UP, SMALL, 850
B1440	850-003	WIRE, FP PICK-UP, LARGE, 850
B1448	850-011-V12	PCB, 850
B1441	850-202	PIPE, HEATER, W/QUARTZ, 850
B1442	850-210	HANDLE, ESD, 850
B1443	850-213	SWITCH, POWER, 850
B1445	850-224	LED, 850
B1188	850-230	HOSE, IRON, ESD, 850
B1371	850-240	SCREW, PUMP SECURING, 850
B1451	850-241-V12	PUMP, 850
A1145	850-H-V12	HEATER, 850
A1124	850-N-01	NOZZLE, SINGLE, 2.5MM, 850
A1125	850-N-02	NOZZLE, QFP, 10 x 10MM, 850
A1126	850-N-03	NOZZLE, QFP, 14 x 14MM, 850
A1127	850-N-04	NOZZLE, QFP, 17.5 x 17.5MM, 850
A1128	850-N-05	NOZZLE, QFP, 14 x 20MM, 850
A1129	850-N-06	NOZZLE, QFP, 28 x 28MM, 850
A1130	850-N-07	NOZZLE, SINGLE, 4.4MM, 850
A1131	850-N-08	NOZZLE, SOP, 4.4 x 10MM, 850
A1132	850-N-09	NOZZLE, SOP, 5.6 x 13MM, 850
A1133	850-N-10	NOZZLE, SOP, 7.5 x 15MM, 850
A1134	850-N-11	NOZZLE, SOP, 7.5 x 18MM, 850
A1135	850-N-12	NOZZLE, PLCC 44, 17.5 x 17.5MM, 850
A1136	850-N-13	NOZZLE, PLCC 52, 20 x 20MM, 850
A1137	850-N-14	NOZZLE, PLCC 68, 25 x 25MM, 850
A1138	850-N-15	NOZZLE, PLCC 84, 30 x 30MM, 850
A1139	850-N-16	NOZZLE, PLCC 18, 12.5 x 7.3MM, 850
A1140	850-N-17	NOZZLE, PLCC 28, 11.5 x 11.5MM, 850
A1141	850-N-18	NOZZLE, PLCC 32, 11.5 x 14MM, 850
A1142	850-N-19	NOZZLE, BENT, SINGLE, 1.5 x 3MM, 850