

 **HAKKO**

HAKKO 700

REPAIR SYSTEM

INSTRUCTION MANUAL

700B

Please read this Instruction Manual thoroughly before operating the HAKKO 700.

SPECIFICATION 700B

■ CONTROL STATION

Part Number	700B-2
Power Consumption	AC100—120, 220, 240V 150W
Output Voltage	24V
Outer Dimensions	260 (W) × 145 (H) × 255 (D) mm (10.2 × 5.7 × 10")
Weight	7.2 kg (15.84 lb) approx.
Soldering Side	
Temperature	200—480°C (392—896°F)
Desoldering Side	
Temperature	300—400°C (572—752°F)
Vacuum Power	600 mmHg max.

■ SOLDERING IRON

Part Number	900M
Power Consumption	AC24V 50W
Temperature Control	Control Accuracy of setting at idling temperature ±0.5°C (±0.9°F)
Insulation Resistance	Over 300M ohm at 400°C (752°F) by DC500V tester
Leak Voltage	under 0.6mV
Heating Element	Ceramic Heater 3ohm at 20°C
Cord	5 wired burn-proof silicon cord, 1.2m (4') long
Connector	5 pin inter-lock system
Length	190 mm (7.5")
Weight	45g (0.10 lb)
Grip Material	Heat resisting plastic

■ DESOLDERING IRON

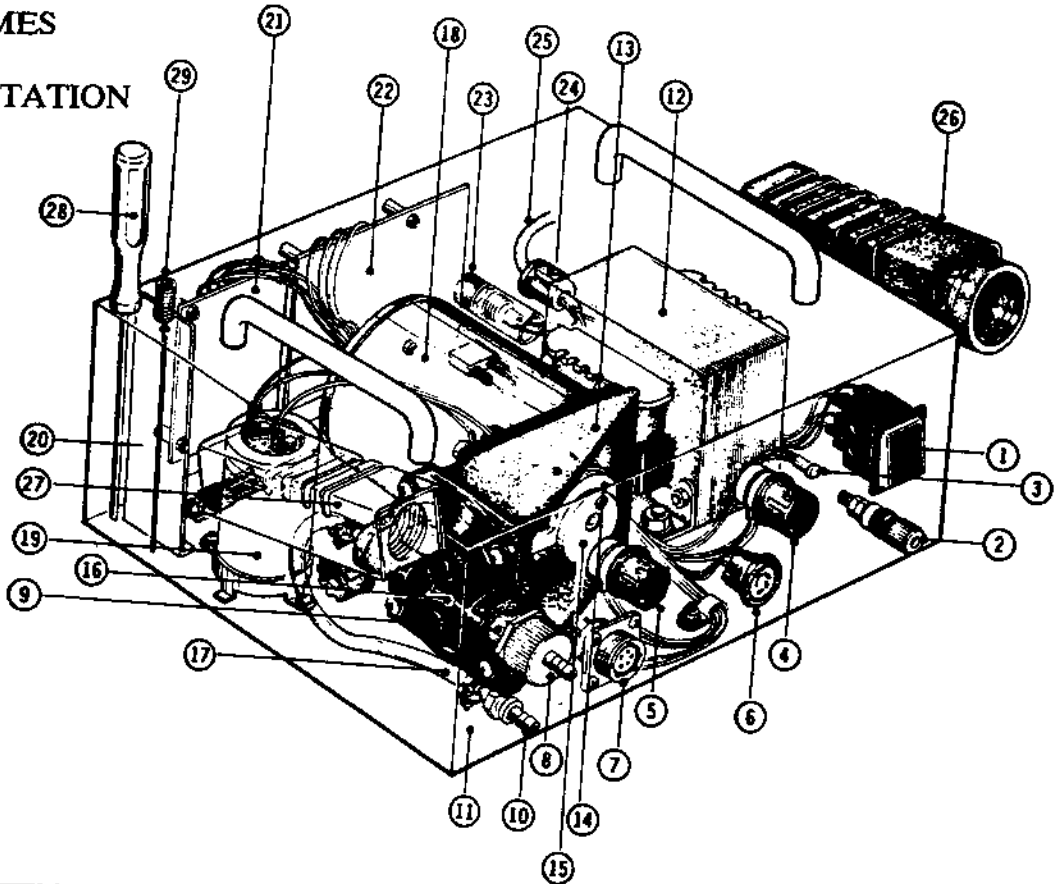
Part Number	800M
Power Consumption	AC24V 40W
Heating Element	Ceramic Heater
Filter Pipe	Pyrex Heat Resistant Glass
Cord/Suction Tube	1.5 m (5') long each
Connector	5 pin inter-lock system
Nozzle Inside Diam.	1.0 mm (0.039")—standard 0.8 mm (0.031"), 1.3 mm (0.051") & 1.6 mm (0.064")—optional
Weight	230g (0.51 lb) approx. w/o Cord & Suction Tube

ACCESSORIES

HOLDER PART FOR SOLDERING IRON	1	LARGE CLEANING PIN (FOR HEATING CORE)	1
HOLDER PART FOR DESOLDERING GUN	1	CLEANING WRENCH	1
CLEANING SPONGE	1	FILTER SET (STEEL WOOL & WHITE FELT FILTERS)	5
TIP & SPONGE TRAY	1	ANTI SEIZURE	1
MAGNETIC TRAY HOLDER	1	CHECK VALVE	1
SMALL CLEANING PIN (FOR NOZZLE & HEATING CORE)	1		

PART NAMES

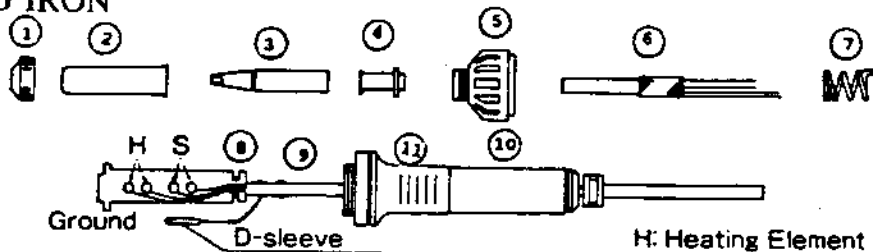
CONTROL STATION



(Fig. 1)

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
1	700-272 POWER SWITCH	11	CHASSIS	21	700B-243 TEMP. CONTROL PCB FOR DESOLDERING
2	EARTH TERMINAL	12	888-025 TRANSFORMER	22	TEMP. CONTROL PCB FOR SOLDERING
3	L.E.D. HEATER LAMP	13	PUMP FRAME	23	B1041 FUSE HOLDER
4	B1028 TEMP. CONTROL KNOB FOR SOLDERING	14	481-206 CRANK	24	STRAIN RELIEF BUSHING
5	B1028 TEMP CONTROL KNOB FOR DESOLDERING	15	BALANCE WEIGHT	25	POWER SUPPLY CORD
6	926-209 RECEPTACLE FOR SOLDERING IRON	16	481-203 PUMP HEAD	26	926-022 HOLDER PART FOR SOLDERING
7	700-274 RECEPTACLE FOR DESOLDERING GUN	17	INSIDE HOSE	27	707-022 HOLDER PART FOR DESOLDERING
8	700-213 VACUUM OUTLET CAP	18	SEE BELOW MOTOR	28	B1085 LARGE CLEANING PIN
9	VACUUM OUTLET RETAINER	19	SEE BELOW CAPACITOR	29	B1087 SMALL CLEANING PIN
10	AIR NOZZLE	20	PARTITION PLATE		

900M SOLDERING IRON



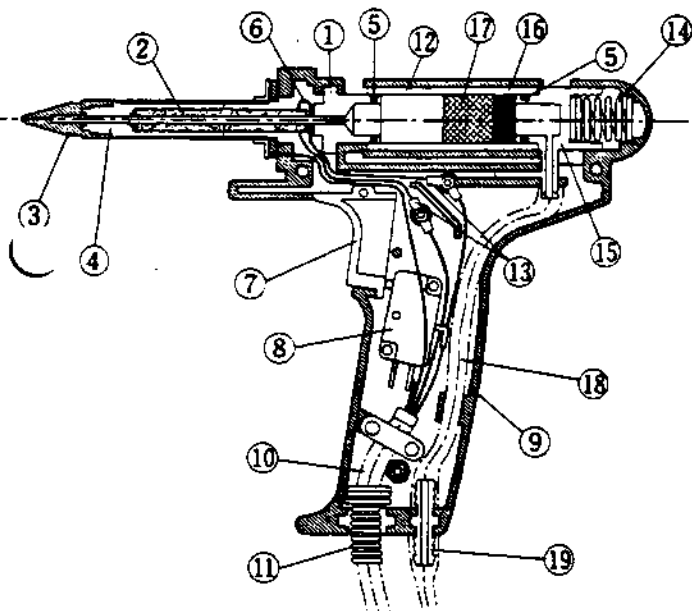
(Fig. 2)

H: Heating Element
S: Sensor

PART NO.	DESCRIPTIONS	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
1	B1784 900M-006 NUT	4	WITH #5 SUPPORT PIPE	8	900M-101 TERMINAL BOARD
2	B1780 900M-002 TIP ENCLOSURE	5	B1021 900M-044 NIPPLE	9	900-039(S) CORD ASSEMBLY
3	900M-T-() TIP	6	A1321 900M-H HEATING ELEMENT	10	900-001(S) HANDLE
		7	900M-036 GROUND SPRING	11	900-034 GRIP

IF THE IRON IS ESD INCLUDE THE (S)

800M DESOLDERING IRON



(Fig. 3)

PART NO.	DESCRIPTIONS
1	707-101 FRONT HOLDER
2	800M-H HEATING ELEMENT
3	483-T-() NOZZLE
4	483-012 HEATING CORE
5	A1012 O-RING
6	COMES W #2 ELEMENT LEAD LINE
7	707-014 TRIGGER
8	B1026 MICRO SWITCH
9	707-016 HOUSING (HANDLE)
10	800-039 CORD ASSEMBLY
11	888-036 STRAIN RELIEF
12	481-002 FILTER PIPE ITSELF
13	CRIMPED CONNECTOR
14	888-004 HOLDER SPRING
15	707-102 BACK HOLDER
16	SEE BELOW FELT FILTER
17	SEE BELOW STEEL WOOL FILTER
18	481-011 GUIDE HOSE
19	481-113 HOSE JOINT
20	700-999 IRON CONNECTOR PLUG (NOT SHOWN)

#16 & #17 COME TOGETHER AS ON PART - THE PART NUMBER IS 481-021

OPERATING INSTRUCTION

(1) Remove the packing cover from Vacuum Outlet Retainer (Fig.1, No.9), screw Vacuum Outlet Cap (Fig.1, No.8) with White Felt Filter onto Vacuum Outlet Retainer (Fig.1, No.9).

(2) Set Holder Parts (Fig.1, Nos.26/27) to both sides of Control Station with supplied Thumb Screws and adjust the angle by fixing Screws.

REMARKS: Holder Parts (Fig.1, no.27) shall be set on left side of Control Station with non-slip washer, and another Holder (Fig.1, No.26) shall be attached to right side.

(3) Put Desoldering Iron into leftside and Soldering Iron into the right side Holder Parts respectively.

- (4) Connect the Cord Asse'ys of both Irons to Plug Receptacle (Fig.1, Nos.6/7), and also connect Guide Hose of Desoldering Iron to Vacuum Outlet Cap (Fig.1, No.8).
- (5) Put two Cleaning Pins (Fig.1, Nos.28/29) into the holes of Station top.
- (6) Dampen Cleaning Sponge with water. And set it on Station top with Tip & Sponge Tray and Tray Holder.
WARNING: Special coated Tips/Nozzle may be damaged if cleaned in dry condition.
- (7) Confirming Power Switch (Fig.1, No.1) is set at 'OFF' position, connect Main Plug to power supply source.
 Set the temperatures by turning Temp Control Knobs (Fig.1, Nos.4/5), and turn Power Switch (Fig.1, No.1) on.
WARNING: Always connect or disconnect Plugs of Irons and Mains after Power Switch off, or Control Printed Circuit Boards inside of Station may be damaged.
- (8) Soldering Iron can be operated when L.E.D. Heater Lamp (Fig.1, No.3) starts to come on and off.
 Exceptionally high thermal recovery allows a lower temperature setting thereby protecting sensitive components and extending Tip life.
WARNING: Ceramic Heating Element cannot stand excessive force. Never strike Soldering Iron against work-bench or solid surface.
 Always remove excess solder from Tip prior to soldering.
- (9) For Desoldering Iron, wait approx. 10 minutes for heating-up after switch on.
WARNING: Never attempt to use Iron before it has sufficiently heated-up as Nozzle hole and/or Heating Core inside may become clogged with cold solder and/or flux.
- (10) To remove any materials that may clog Nozzle (Fig.3, No.3) and Heating Core (Fig.3, No.4), insert Small Cleaning Pin (Fig.1, No.29) from Nozzle top and clean it's inside.
- (11) Place Nozzle (Fig.3, No.3) on the lead of the component to be removed and gently move Desoldering Iron back and forth for 2 or 3 seconds. When the lead begins to move freely, the solder is sufficiently melted.
 Then, pull Trigger (Fig.3, No.7) of Iron, and Vacuum Pump will absorb the melted solder.
REMARKS: If the solder is not sufficiently melted, the component will not be properly desoldered due to insufficient suction.
 Should this occur, resolder the component and repeat desoldering process from step item (11) above mentioned.
- (12) Air Nozzle (Fig.1, No.10) is to give optional usage for air blowing. Use it connecting to Air Tube or Hot Air Tool for dust cleaning or tube shrinking.
REMARKS: Air suction and air blow functions can not be used at the same time.
WARNING: If Desoldering Iron is used as a Hot Air Tool, be sure to clean Nozzle (Fig.3, No.3) and Heating Core (Fig.3 No.4) inside and remove solder in Filter Pipe (Fig.3, No.12). Or hot melted solder or flux may blow out from Nozzle top.

MAINTENANCE

■ FOR SOLDERING SIDE

a. Replacing Heating Element

- (1) Turn Nut (Fig.2, No.1) counterclockwise and remove Tip Enclosure (Fig.2, No.2), Tip (Fig.2, No.3), Element Support Pipe (Fig.2, No.4).
- (2) Turn Nipple (Fig.2, No.5) counterclockwise and remove it from Iron.
- (3) Pull both Heating Element (Fig.2, No.6) and Cord Asse'y (Fig.2, No.9) out of Handle (Fig.2, No.10) : toward Iron Tip.
- (4) Pull Grounding Spring (Fig. 2, No.7) out of D-Sleeve.
- (5) Measure the resistance value at Sensor and Heating Element of Terminal Board (Fig.2, No.8).
- (6) Desolder the Heater Lead Wire.
- (7) Solder new Heating Element. Solder two Sensor Leads (blue) and Heater Leads (red) on Terminalboard (Fig 2, No.8)
*In the above item (6) and (7), be careful not to damage the leads with soldering iron.
- (8) Insert Grounding Spring (Fig.2, No.7) into Heating Element (Fig.2, No.6). And connect Grounding Spring and D-Sleeve on the opposite side of Heater Leads.
- (9) Pull Cord Asse'y (Fig.2, No.9) and fix Heating Element in Handle to prevent rolling.
- (10) Turn Nipple (Fig.2, No.5) and secure Handle.
- (11) Replace Element Support Pipe (Fig.2, No.4), Tip (Fig.2, No.3), Tip Enclosure (Fig.2, No.2) and secure Nut (Fig.2, No.1)

WARNING: Make sure Nut securing Tip Enclosure assembly is properly tightened.

When Heating Element is replaced, unscrew Nut first, then unscrew Nipple. After replacing Heating Element, screw Nipple first and screw Nut. Opposite Procedure may cause the damage of Heating Element.

b. Recalibration of Iron Temperature

- (1) After replacing Heating Element, recalibrate the temperature of Soldering Iron.
- (2) Connect Plug of Soldering Iron to the Control Station and lock it.
- (3) Set Temperature Control Knob (Fig.1, No.4) at 400° C (752° F).
- (4) Turn Power Switch (Fig.1, No.1) on and wait till L.E.D. Heater Lamp (Fig.1, No.3) comes on and off.
- (5) Adjust the temperature of Tip at 400° C (752° F) by "CAL" (Soldering) on the rear pannel of Control Station using thermometer.

■ FOR DESOLDERING SIDE

a. Replacement of the Filters in Desoldering Iron

Should the suction power of the Desoldering Iron become reduced due to the accumulated solder in the Filter Pipe (Fig.3, No.12), replace the Steel Wool and Felt Filters (Fig.3, No.16 & 17) in the following manner.

- (1) Pull the Pipe Holder backward, then raise the front of the Holder and release it.

Caution : 1. If the Filter Pipe is hot, turn the Power Switch off and wait until the Pipe has cooled, or wear a glove while handling it.
2. Do not drop the Filter Pipe. It is made of Pyrex glass and is very fragile.

- (2) Remove the accumulated solder from the Filter Pipe. If necessary, replace the Steel Wool and Felt Filters. The Felt Filter should be replaced whenever it has become colored or hardened with flux.

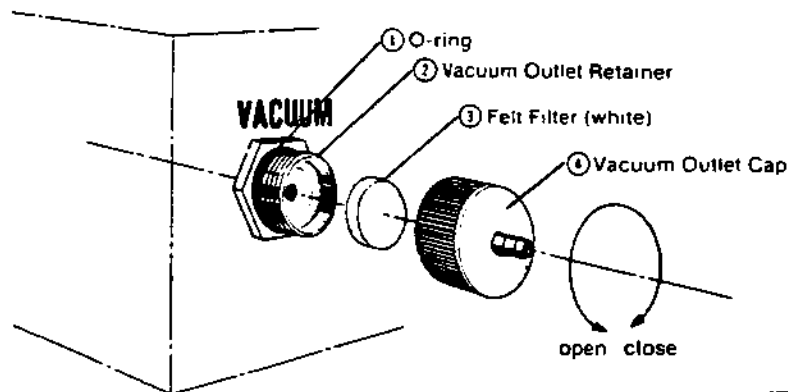
Caution : Never attempt to use the Desoldering Iron without the Filters in place as the Vacuum Pump may be damaged.

Note : Be sure to insert the Filters so that the Felt Filter (Fig.3, No.16) is at the back and the Steel Wool Filter (Fig.3, No.17) is at the front of it.

b. Replacement of Filter in Vacuum Outlet Retainer

- (1) Should the suction power remains still weak after replacement of Filters in Filter Pipe, Felt Filter in Vacuum Outlet Retainer (Fig.4, No.2) must be replaced. This should be done as follows.
- (2) Turn Vacuum Outlet Cap (Fig.4, No.4) to left and remove it.
- (3) Replace White Felt Filter (Fig.4, No.3) that is inside Vacuum Outlet Retainer (Fig.4, No.2).

REMARKS: Felt Filter in Vacuum Outlet Retainer is the same one used in Filter Pipe.



(Fig. 4)

c. Replacement of Nozzle

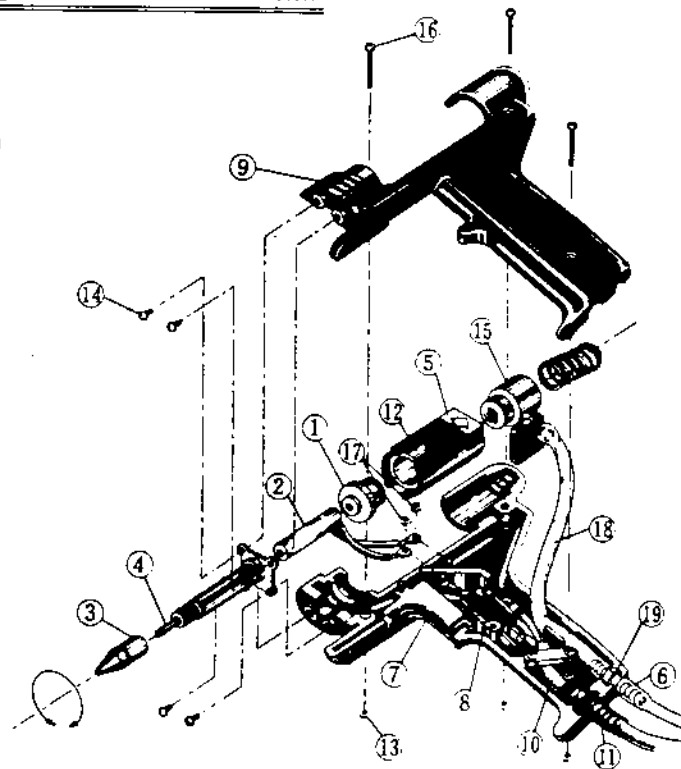
- (1) Use Cleaning Wrench to unscrew Nozzle (Fig. 5, No.3).
- (2) Coat the threads of New Nozzle with supplied Anti-seizing lubricant and screw Nozzle onto Desoldering Iron.

REMARKS: Nozzle should be replaced while Desoldering Iron is hot as solder may be binding Nozzle to Heating core (Fig.5, No.4). Be careful not to overtighten new Nozzle as you may slip the threads.

At the end of daily use, loosen Nozzle to prevent it from "freezing".

Desoldering Iron Construction Sketch

(Fig. 5)



- | | |
|-------------------------------|---|
| 1. Front Holder - 707-101 | 11. Cord Protective Spring - 800-036 |
| 2. Heating Element - 800M-H | 12. Filter Pipe - 481-002 |
| 3. Nozzle - 483-T-? | 13. Housing Nut |
| 4. Heating Core - 483-C12 | 14. Flange Set Screws |
| 5. Filter Pipe Holder | 15. Back Holder - 707-102 |
| 6. Hose | 16. Housing Set Screw |
| 7. Trigger - 707-014 | 17. Element Connection Nuts |
| 8. Micro-switch - 81026 | 18. Guide Hose - 481-011 |
| 9. Housing (Handle) - 707-016 | 19. Hose joint - 481-113 |
| 10. Cord Ass'y - 800-039 | 20. Iron Connector Plug (not shown) 700-999 |

Strain Relief

d. Replacement of Heating Element

Should the Heating Element break, replace it in the following manner.

- (1) Remove the Filter Pipe (Fig.5, No.12) by referring to steps 1 and 2 of the filter replacement procedure (P.6a)
- (2) Remove the Flange Set Screws (Fig.5, No.14)
- (3) Remove the Housing Set Screws (Fig.5, No.16) and carefully lift off the Housing (Fig.5, No.9)
- (4) Unscrew the Heating Element Connection Nuts (Fig.5, No.17).
- (5) Remove the Front Holder (Fig.5, No.1)
- (6) Replace the Heating Element (Fig.5, No.2).
- (7) Reassemble the Desoldering Iron by following the disassembly steps in reverse order.

*** * * After Replacement of the Heating Element * * ***

- (1) Loosen the fastener marked "CAL" on the back side of the pump unit.
- (2) Using a ".minus"(-) screwdriver, turn the temperature control potentiometer to Low (fully counterclockwise). After connecting the unit to the power supply, allow it to sit for 10 Minutes.
- (3) Turn the temperature control potentiometer clockwise until the temperature of the Desoldering gun Iron tip reaches a stable $400^{\circ}\text{C}/750^{\circ}\text{F}$.

f. Replacement of Heating Core Assembly and Element Cover

- (1) Remove the Filter Pipe (Fig.5, No.12) by referring to step 1 and 2 of the filter replacement procedure (P.6a).
- (2) Remove the Nozzle (Fig.5, No.3) by referring to step 1 of the Nozzle replacement procedure (P.7c).
- (3) Remove the 4 Flang Set Screws (Fig.5, No.14)
- (4) Remove the Front Holder (Fig.5, No.1)
- (5) Remove the Heating Core (Fig.5, No.4) by gently pulling it off.
- (6) Replace the Heating Core.
- (7) Insert the small stainless steel pipe of the Heating Core into the hole in the Front Holder.
- (8) Reassemble the Desoldering Iron by following the disassembly steps in reverse order.
- (9) Coat the threads of the new Nozzle with supplied Anti-Seizure and screw the Nozzle onto the Desoldering Iron.

g. Cleaning and Replacement of Diaphragm and Valve

- (1) Even though HAKKO 700 incorporates a 3-ply Filter structure in Desoldering side, flux may still occasionally cling to Diaphragm or Valve Plate, causing the vacuum suction power to drop after several days of usage. To clean or replace Vacuum Pump Diaphragm and Valve, follow the procedure outlined below.
- (2) Disconnect Power Supply Cord (Fig.1, No.25) from the power supply.
- (3) Unscrew Vacuum Outlet Retainer (Fig.4, No.2) and remove it.
- (4) Remove Holder Parts (Fig.1, Nos.26/27), Cleaning Pins (Fig.1, Nos.28/29) and Sponge Tray/Tray Holder from Control Station.
- (5) Unscrew the screws that secure Cover to Chassis and remove Cover.
- (6) Remove Pump Head (Fig.6, No.1).
- (7) Unscrew and remove Diaphragm Adjustment Plate (Fig.6, No.2) and Diaphragm (Fig.6, No.3).
- (8) Unscrew and remove Fixing Plate (Fig.7, No.3) from inside Pump Head (Fig.7, No.1), and remove Valve Plate (Fig.7, No.2).
- (9) Clean off any flux that is adhering to Valve Plate and Diaphragm with alcohol, etc. If any of Pump parts are cracked or deformed, replace them with new parts.
- (10) Reassemble the unit by above disassemble steps in reverse order.

WARNING: Be sure to reassemble Fixing Plate (Fig.7, No.3) in proper direction, i.e., so that the countersink in Fixing Plate is opposite the counterbored holes in Pump Head (Fig.7, No.1). Make sure that Crank Arm (Fig.6, No.6) is at the lowest position before replacing Diaphragm (Fig.6, No.3), Diaphragm Adjustment Plate (Fig.6, No.2) and Pump Head (Fig.6, No.1). Apply a little silicon oil to the surface of Valve Plate (Fig.7, No.2) and Diaphragm (Fig.6, No.3) before reassembling them. This will make future disassembly much easier. Be careful not to allow any dust or other foreign matter to enter Pump inside during reassembling.

h. Others for Maintenance

It is very recommendable to clean Nozzle and Heating Core in daily use referring Instruction Sheet which is attached to Cleaning Wrench.

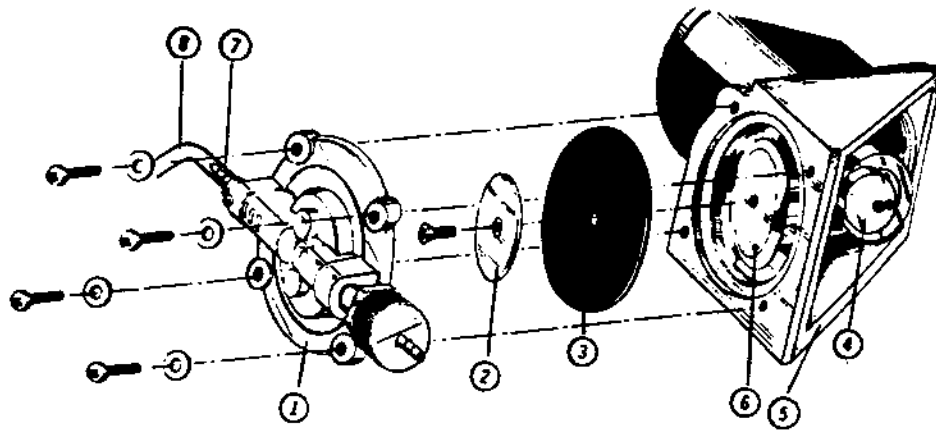


FIG. 6

1	481-203	PUMP HEAD	2	481-204	DIAPHRAGM ADJUST. PLATE
3	481-201	DIAPHRAGM	4		WEIGHT BALANCE
5		PUMP FRAME	6	481-206	CRANK ARM
7		AIR HOSE JOINT	8		AIR LEAD HOSE

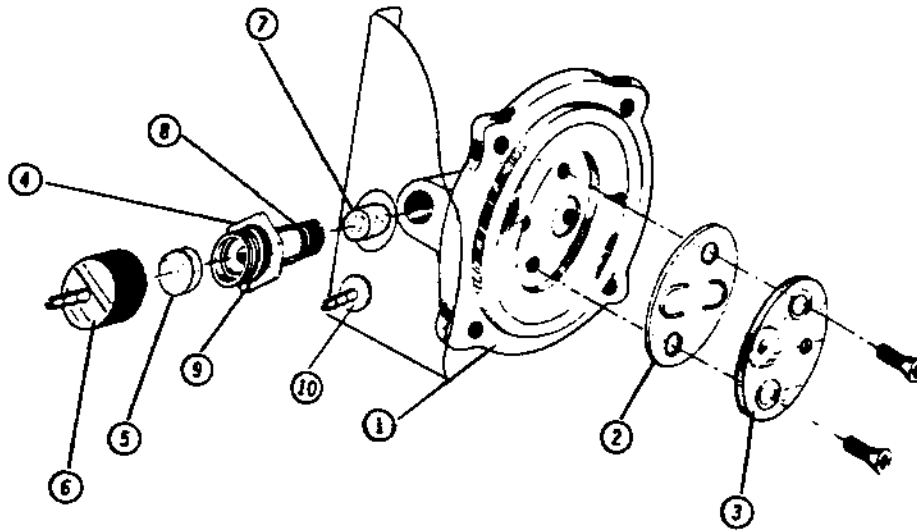


FIG. 7

1	481-203	PUMP HEAD	2	SEE BELOW	VALVE PLATE
3	SEE BELOW	FIXING PLATE	4		VACUUM OUTLET RETAINER
5	A1009	FELT FILTER	6	700-213	VACUUM OUTLET CAP
7	SEE BELOW	AIR INLET FILTER	8	481-209	O-RING P-9
9	481-211	O-RING P-18	10		AIR NOZZLE

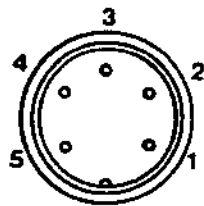
#2, #3 & #7 FROM FIG. 7 COME TOGETHER AS ON PART - THAT PART NUMBER IS 481-214

TRUBLE SHOOTING GUIDE

If Power Lamp does not light up and Unit cannot be operated, check first "Fuse" and "Power Cord" from power supply source before checking the following. Replace or repair them, if necessary.

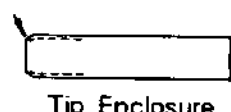
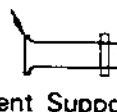
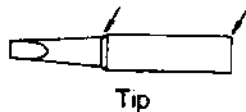
■ FOR SOLDERING SIDE

In spite Power Lamp lights up, but Soldering Iron does not heat-up, or uncontrollable and Tip becomes over-heat. After confirming Iron Plug is connected properly, disconnect Iron Plug and measure the resistance value between pins of Iron Connector as under:



a	Between pin 4 & pin 5 (Heating Element)	2.5-3.5 ohm (Normal)
b	Between pin 1 & pin 2 (Sensor)	43 ~ 58 ohm (Normal)
c	Between pin 3 & Tip (Grounding)	Under 10 ohm

- a. If the value of "a" and "b" is different from above value, replace Heating Element (Sensor) or Silicon Cord.
- b. If the value of "c" - between pin 3 and Tip (grounding) is over above value, remove the oxidization film by rubbing points shown as under with sand-paper or steel wool.



■ FOR DESOLDERING SIDE

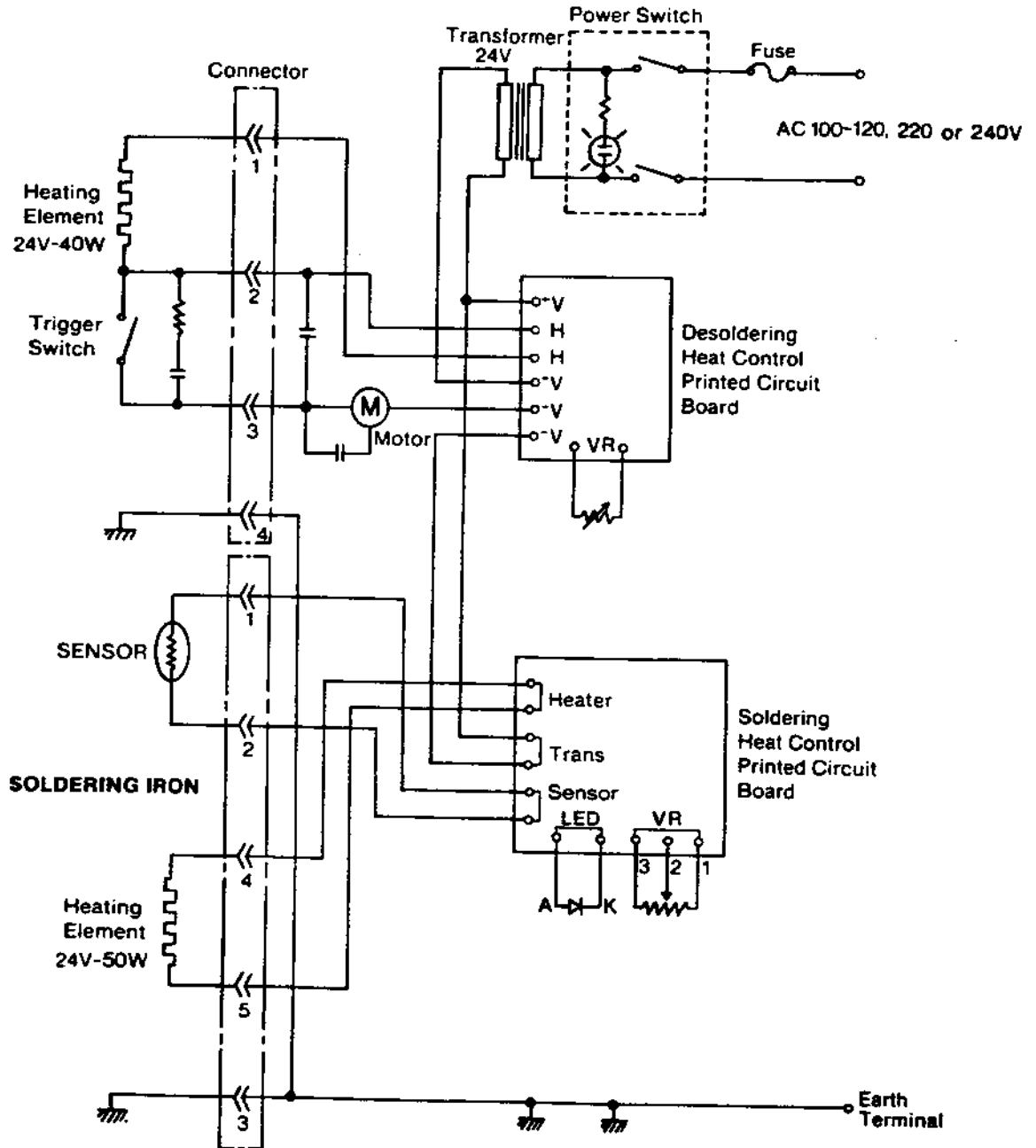
- a. Vacuum Pump does not work.
 - Is Desoldering Iron properly connected?
- b. Solder is not absorbed.
 - Is Vacuum Pump working?
 - Is Suction Tube properly connected?
 - Is Nozzle hot enough?
 - Is Filter Pipe full of accumulated solder?
 - Are Felt Filter hardened or discoloured with flux?
 - Is there a vacuum leakage between Filter Pipe and either Front or Back Holders?
 - Is there a vacuum leakage between Vacuum Outlet Retainer and Cap?
 - Is Nozzle or Heating Core clogged with solder?
- c. Solder cannot be melted completely.
 - Is Desoldering Iron properly connected?
 - Is Heating Element broken?
(in this case, Nozzle does not become warm at all)
 - Is Nozzle properly tightened?
 - Is Nozzle oxidized or become contaminated with flux?

- d. Melted solder is blown-out from Nozzle, when Pump begins to work.
- Place supplied Check Valve into Pump Head instead of Sponge Filter referring Instruction Sheet which is attached to Check Valve.

If the problem remains unsolved after checking Unit, please contact with your nearest HAKKO representative.

WIRING DIAGRAM

DESOLDERING IRON



REPLACEMENT PARTS

■ SOLDERING SIDE

PART NUMBER	DESCRIPTION	SPECIFICATIONS	CONTROL SETTING RESOLUTION
900M-T-1.6D	TIP		0 (480°C-896°F)
900M-T-2.4D	TIP		0 (480°C-896°F)
900M-T-3.2D	TIP		0 (480°C-896°F)
900M-T-B	TIP		0 (480°C-896°F)
900M-T-LB	TIP		-10°C (470°C-878°F)
900M-T-1C	TIP		0 (480°C-896°F)
900M-T-2C	TIP		0 (480°C-896°F)
900M-T-3C	TIP		0 (480°C-896°F)
900M-T-K	TIP		+30°C (510°C-950°F)
900M-T-I	TIP		-10°C (470°C-878°F)



900M TIP OUT DIAM. 6.5Ø

900M-H A1321	HEATING ELEMENT	
900M-002 B1786	TIP ENCLOSURE	
900M-006 B1784	NUT	
900M-044 B1921	NIPPLE	
900M-101	TERMINAL BOARD	
900-039(S)	POWER CORD	(S) WOULD BE FOR ESD TYPE
900-001(S)	HANDLE	(S) WOULD BE FOR ESD TYPE
900-034	GRIP	

CAUTION

- 1) Use exclusive tips for the 926 only. All tips have hallmarks of 900M-T-() and black line.
- 2) The set temperature should be adjusted according to the tip configuration. If required, adjust the temperature with "CAL" potentiometer on the rear panel of the station when changing tip configurations. The temperature is increased by turning "CAL" clockwise.
- 3) When using the Soldering Iron continuously, loosen Tip and remove oxide once a week. This helps prevent seizure and reduction of tip temperature.
- 4) Tin the tip daily as follows:
 1. Clean the Tip.
 2. Set the temperature at 200°C(392°F).
 3. Melt the solder gradually at the tip.

■ DESOLDERING SIDE
DESOLDERING GUN

PART NO.	PART NAME	SPECIFICATIONS															
483-T-0.8	NOZZLE 0.8Ø	 <table border="1" data-bbox="1101 415 1497 562"> <tr> <td></td> <td>0.8φ</td> <td>1.0φ</td> <td>1.3φ</td> <td>1.6φ</td> </tr> <tr> <td>A</td> <td>0.8</td> <td>1.0</td> <td>1.3</td> <td>1.6</td> </tr> <tr> <td>B</td> <td>2.5</td> <td>2.5</td> <td>3.0</td> <td>3.0</td> </tr> </table>		0.8φ	1.0φ	1.3φ	1.6φ	A	0.8	1.0	1.3	1.6	B	2.5	2.5	3.0	3.0
	0.8φ		1.0φ	1.3φ	1.6φ												
A	0.8		1.0	1.3	1.6												
B	2.5		2.5	3.0	3.0												
483-T-1.0	NOZZLE 1.0Ø																
483-T-1.3	NOZZLE 1.3Ø																
483-T-1.6	NOZZLE 1.6Ø																
483-T-1.0T	NOZZLE 1.0Ø	 <table border="1" data-bbox="1221 613 1334 739"> <tr> <td></td> <td>1.0φ</td> </tr> <tr> <td>A</td> <td>1.0</td> </tr> <tr> <td>B</td> <td>2.0</td> </tr> </table>		1.0φ	A	1.0	B	2.0									
	1.0φ																
A	1.0																
B	2.0																
481-021	FILTER SET	ONE STEEL WOOL & 2 CERAMIC FILTERS															
481-002	FILTER PIPE WITH HOLDER	WITH FILTER SET															
707-002	HEATING ELEMENT																
800M-H	HEATING ELEMENT	CERAMIC HEATER 40W-24V															
483-012	HEATING CORE																
707-101	FRONT HOLDER	WITH O-RING															
707-102	REAR HOLDER	WITH O-RING															
A1012	O-RING	P12															
481-201	DIAPHRAGM SET	VALVE PLATE, DIAPHRAGM AND SPONGE FILTERS															
B1085	CLEANING PIN	HEATING CORE															
B1086	CLEANING PIN	0.8MM NOZZLE															
B1087	CLEANING PIN	1.0MM NOZZLE															
B1088	CLEANING PIN	1.3MM NOZZLE															
B1089	CLEANING PIN	1.6MM NOZZLE															
483-020	CLEANING WRENCH																