

HAKKO 931

SOLDERING STATION

Soldering Station

Instruction Manual

Thank you for purchasing the HAKKO 931 soldering station. This manual describes the use and maintenance of the HAKKO 931. Please read this manual before operating the HAKKO 931. Keep this manual readily accessible for reference.

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1.PACKING LIST

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2.SPECIFICATIONS

Name	HAKKO 931
Power consumption	100W

● Station

Name	Station
Output	AC24V
Temperature range	200-450°C(392-842°F)
Temperature accuracy	±10°C(±18°F) of set temperature ±2°C(±3.6°F) at idle temperature
Dimensions	135(W) x 95(H) x 190(D)mm (5.3 x 3.7 x 7.5 in.)
Weight	2.7Kg (6.0 lb.)

● Iron holder

Part no.	631-01
Part name	HAKKO 631
Specifications	one soldering iron (for M/L)
Base dimensions	80(W) x 137(D)mm (3.1 x 5.4 in.)
Soldering iron holder inner diameter	30mm(1.2 in.)

⚠ CAUTION:

■ Electrostatic Protection

This product includes such features as electrically conductive plastic parts and grounding of the handpiece and station as measures to protect the device to be soldered from the effects of static electricity. Be sure to observe the following instructions:

1. The handle and other plastic parts are not insulators, they are conductors. When replacing parts or repairing, take sufficient care not to expose live electrical parts or damage insulation materials.
2. Be sure to ground the unit during use.

● Soldering station

Name	HAKKO 902
Power consumption	AC24V 90W
Standard tip	A1080 (2.4D)
Tip to ground resistance	< 2 Ω
Tip to ground potential	< 0.6mV
Heating element	Intergrated heater
Connecting plug	5-pin screw-in plug
length (w/o cord)	180mm (7.0 in.)
Weight (w/o cord)	45g (0.09 lb.)

★ Tip temperature

Temperature listed above are those measured with the HAKKO 191 tip thermometer.

- * This product is protected against electrostatic discharge.
- * This product meets China RoHS requirements.
- * Specifications and design are subject to change without notice.

中國RoHS: 產品中有毒有害物質或元素的名稱及含量

部件名稱	有毒有害物質或元素					
	鉛(Pb)	汞(Hg)	鎘(Cd)	六價鉻(Cr(VI))	多溴聯苯(PBB)	多溴二苯醚(PBDE)
焊鐵部	×	○	○	○	○	○
電線組件插頭	×	○	○	○	○	○

○: 表示該有毒有害物質在該部件所有均質材料中的含量均在SJ/T 11363-2006 標準規定的限量要求以下。
 ×: 表示該有毒有害物質至少在該部件的某一均質材料中的含量超出 SJ/T 11363-2006 標準規定的限量要求。

3. WARNINGS AND CAUTIONS

WARNING

Warnings and cautions are placed at critical points in this manual to direct the operator's attention to significant items. They are defined as follows:

 **WARNING:** Failure to comply with a WARNING may result in serious injury or death.

 **CAUTION :** Failure to comply with a CAUTION may result in injury to the operator, or damage to the items involved.

● **Be sure to observe the following for the safety.**

CAUTION

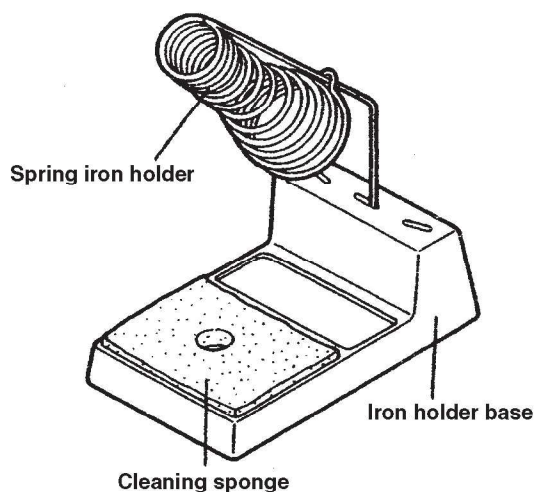
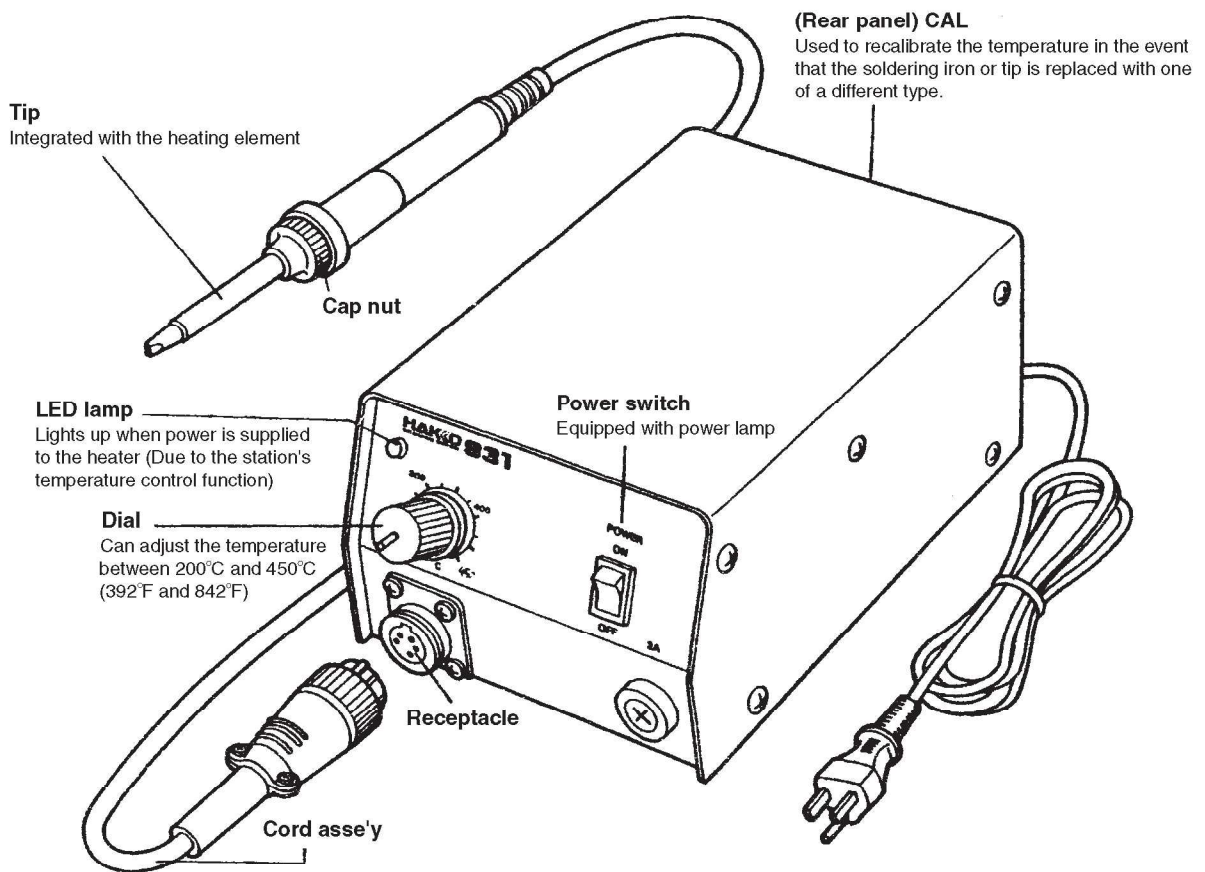
When power is ON, tip temperatures will be between 200 and 450°C (392 to 842°F). To avoid injury or damage to personnel and items in the work area, observe the following:

- Do not touch the tip or the metal parts near the tip, and the part of spring iron holder.
- Do not allow the tip to come close to, or touch flammable materials.
- Inform others in the area that the unit is hot and should not be touched.
- Turn the power off when not in use, or left unattended.
- Turn the power off and allow sufficient time for cooling off when changing some parts or storing the unit.

● **To prevent accidents or damage, be sure to observe the following:**

- Do not use the HAKKO 931 for applications other than soldering.
- Do not strike the iron against hard objects to remove excess solder. This will damage the iron.
- Be sure the cap nut is fastened securely before use.
- Do not modify the HAKKO 931.
- Use only genuine HAKKO replacement parts.
- Do not allow the HAKKO 931 to become wet, or use it when hands are wet.
- Be sure the work area is well ventilated. Soldering produces smoke.
- Refrain from taking behaviours that seem dangerous.

4. PART NAMES



Cap nut wrench



5. OPERATION

1. Assemble the iron holder.

- Attach the spring iron holder to the base.
- Dampen the cleaning sponge and set it in the base.

⚠ CAUTION:

The sponge is compressed. It will swell when moistened with water. Before using the unit, dampen the sponge with water and squeeze it dry. Failure to do so may result in damage to the soldering tip.

2. Insert the soldering iron into the spring iron holder on the base.

3. Connect the soldering iron to the Station.

- Insert the plug on the cord asse'y into the receptacle on the station and turn the ring on the plug clockwise to lock it in place.

⚠ CAUTION:

Be sure to turn the power OFF before inserting or removing the plug.

4. Set the temperature with the temperature adjustment dial.

5. Turn on the power.

- Insert the power plug into the outlet and turn the ON/OFF switch to the ON position.

6. Begin soldering.

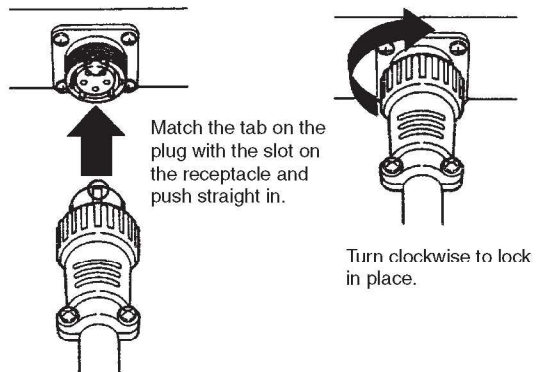
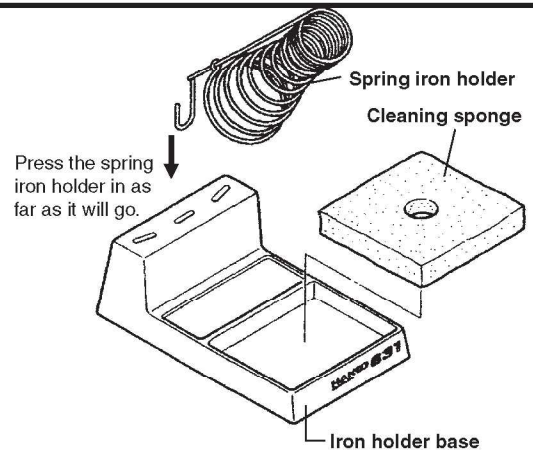
- The temperature of the tip will reach the set temperature approximately 30 seconds after the power has been turned on.

⚠ CAUTION:

Place the soldering iron in the iron holder after use.

⚠ CAUTION:

Always clean the tip and coat it with fresh solder after use. This guards against oxidation.



⚠ CAUTION:

High soldering temperatures can degrade the tip. Use the lowest possible soldering temperature. The excellent thermal recovery characteristics ensure efficient and effective soldering even at low temperatures. Low temperatures also protect the soldered items from thermal damage.

6. WHEN AN ERROR OCCURS

When the unit is not functioning properly or an error has occurred, check the following items. It may be possible to fix the unit by replacing a worn-out part or by conducting simple repairs.

Problem		Cause
Tip does not become hot	Lamp on power switch is not lit	<ul style="list-style-type: none">• Power plug is not inserted properly into outlet• Fuse burnout
	Lamp on power switch is lit but LED is unlit	<ul style="list-style-type: none">• Heater burnout• Break in cord asse'y• Plug of cord asse'y is not properly inserted into receptacle
	Both LED and lamp on power switch are lit	<ul style="list-style-type: none">• Heater burnout• Break in cord asse'y• Improper CAL adjustment• Plug of cord asse'y is not properly inserted into receptacle
Tip becomes too hot		<ul style="list-style-type: none">• Improper CAL adjustment
Tip sometimes becomes hot and sometimes does not become hot		<ul style="list-style-type: none">• Cord is beginning to fray
Solder does not wet the tip		<ul style="list-style-type: none">• Temperature is set too high• Oxidation film or dirt on tip

NOTE:

When returning the unit for repair, please remove the soldering iron from the station, pack both items in the box, and deliver the box to a HAKKO sales office or representative.

7. MAINTENANCE

● Tip maintenance

When the tip is adhesived by oxidization or dirt, remove the film or dirt using the procedure described below. Tips that are very dirty should be replaced.

1. Set the temperature to 250°C(482°F) and wait approx. 30 seconds for the tip temperature to stabilize.
2. Rub the tip gently with the cleaning sponge to remove any dirt or oxidation.

⚠ CAUTION:

Never file the tip to remove oxides!

3. Coat the tip with fresh solder.

● Inspecting the ground line

The ground line should be inspected periodically.

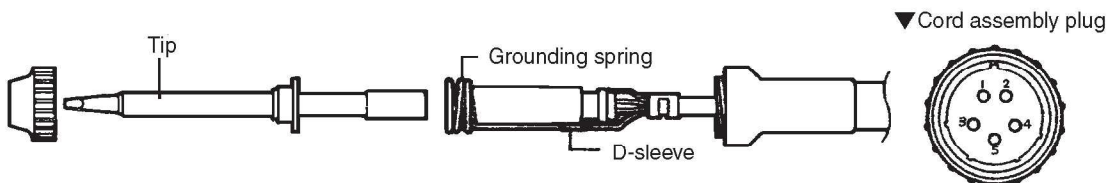
The line is normal if the resistance between the tip and the 1-pin on the plug of the cord assembly is 2Ω or less.

If the resistance is greater than 2Ω , check the following:

*Pin 1 on plug D-sleeve in soldering iron

When the resistance between these two points is more than 2Ω , there is a break in the ground line of the cord assembly.

* Check to whether the grounding spring and the tip are in proper contact.



● Checking for heater burnout

Measure the resistance between the plug pins listed below.

If the values differ from those listed below, replace the heating element.

* Heater Pin 3 - Pin 5 $5.0 - 5.5\Omega$ (at 23°C /73°F)

* Sensor Pin 2 - Pin 4 108.3Ω (at 23°C /73°F)

8. PARTS REPLACEMENT

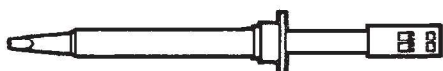
● Replacing the tip

The tip will eventually become worn out. When soldering becomes difficult, the tip should be replaced.

Before replacing parts, turn the power off and allow the unit to cool to room temperature.

★ Tip

The tip is integrated with the heating element. Under NO circumstances should you attempt to separate the tip from the heating element.



<Procedure>

1. Turn the power off

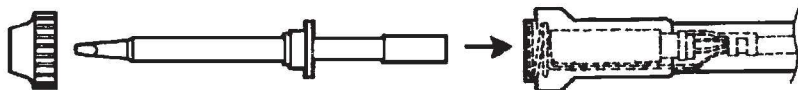
2. Remove the soldering iron from the station.

3. Remove the cap nut

- Use the cap nut wrench (included with the unit) and remove as shown in the figure at right.

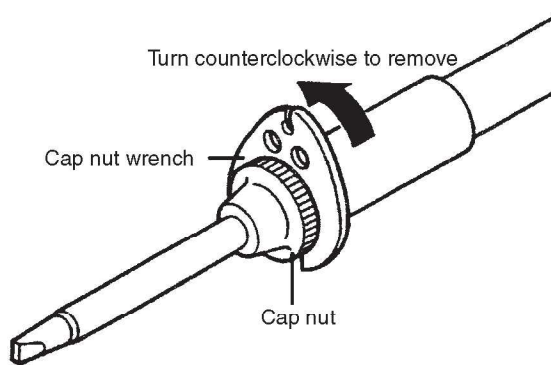
4. Replace the tip

Remove the old tip and insert the new tip.



⚠ CAUTION:

- Be sure to use only genuine HAKKO soldering iron tips of the specified type.
- Be sure to recalibrate the temperature after replacing the tip with one of a different type.



5. Replace the cap nut

⚠ CAUTION:

Be sure to fasten the cap nut securely. Using the iron with the cap nut loose may damage the heating element.

6. Recalibrate the temperature

See page 8 for instructions on how to calibrate the temperature.

9. CALIBRATING THE TEMPERATURE

The temperature should be recalibrated in the following situations:

- * When the soldering iron has been changed
- * When the tip (combination heating element and tip) has been replaced with one of a different type.

<Procedure>

1. Turn on the power

2. Set the temperature of the tip

3. Measure the temperature of the tip

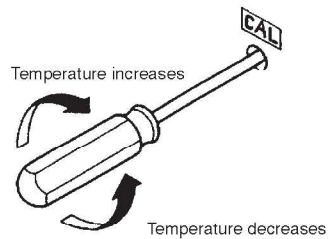
- Wait 30 seconds after turning on the power for the temperature to stabilize.

4. Calibrate the temperature

- Using a flat-head screwdriver, adjust the potentiometer on the rear panel of the station (labeled "CAL") until the tip temperature is 400°C(752°F).

Turn the potentiometer clockwise to increase the temperature, and counter-clockwise to decrease the temperature.

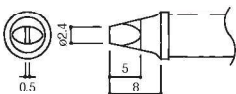
- * Use HAKKO 191 or 192 when measuring the tip temperature.



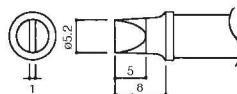
10. REPLACEMENT PARTS

Unit : mm

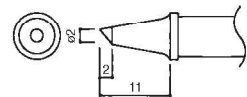
A1080 SHAPE-2.4D



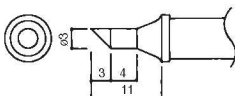
A1081 SHAPE-5.2D



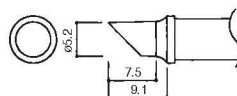
A1160 SHAPE-2C



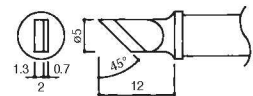
A1161 SHAPE-3C



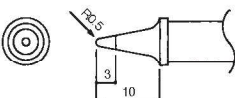
A1162 SHAPE-5C



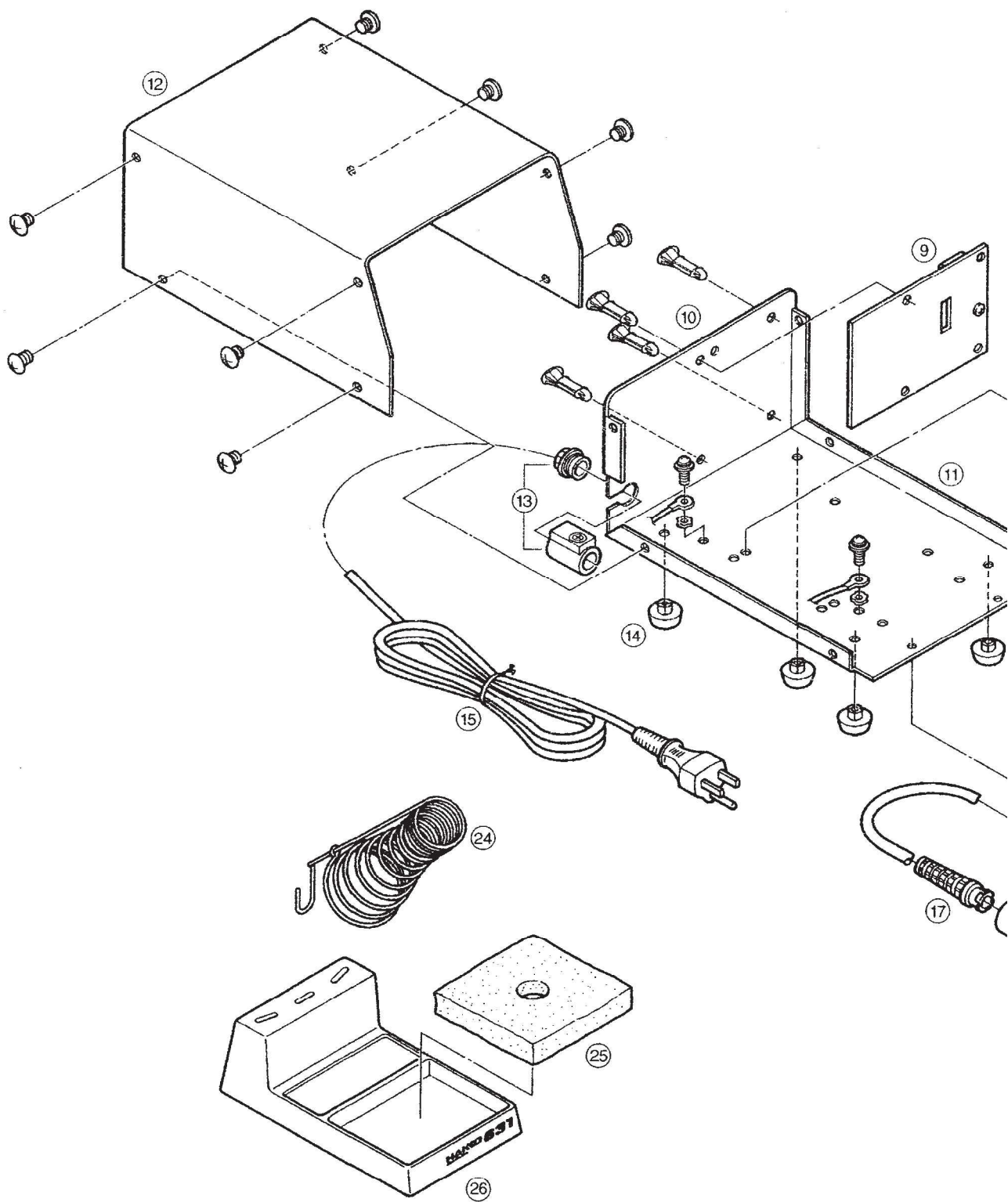
A1163 SHAPE-K

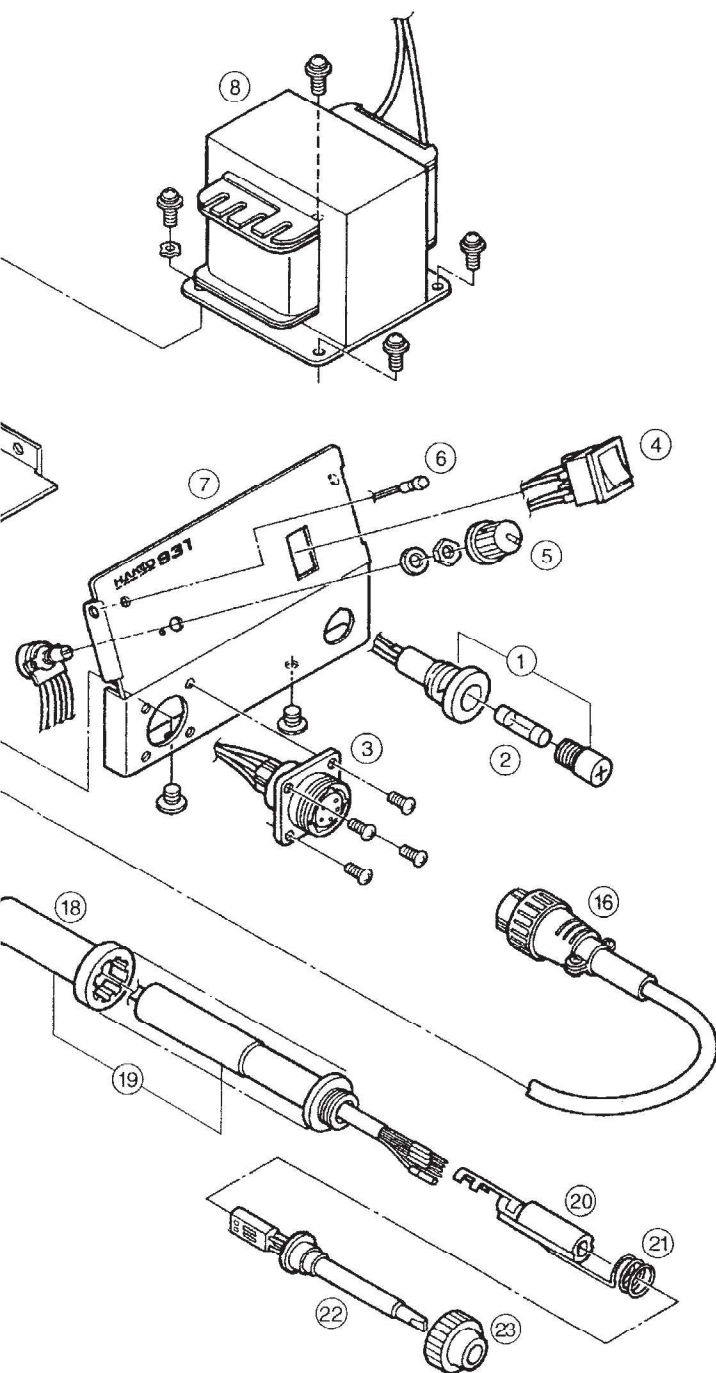


A1173 SHAPE-B



11. PARTS LIST





Item No.	Part No.	Part Name	Specifications
1	B1041	Fuse holder	
2	B1042	Fuse	2A-125V
	B1132	Fuse	2A-250V
3	B1485	Receptacle	
4	B1487	Power switch	100-120V
	B2604	Power switch	220-240V
5	B1486	Knob	
6	B2138	L.E.D. Lamp	
7	B1488	Panel	
8	B1493	Transformer	100V
	B1592	Transformer	110V
	B1593	Transformer	220-240V
9	B1491	P.W.B.	
10	B1855	Locking spacer	Set of 4
11	B1490	Chassis	
12	B1489	Cover	
13	B1208	Cord stopper	
14	B1204	Rubber foot	Set of 4
15	B1104	Power cord, 3 core & American plug	
	B1130	Power cord, but no plug	
	B1170	Power cord, 3 core & European plug	
	B1135	Power cord, 3 core & Australian plug	
	B1716	Power cord, 3 core & European plug	korea
	B2487	Power cord, 3 core & Chinese plug	
16	B1327	Cord asse'y	
17	B1100	Cord bushing	
18	B1098	Handle cover	
19	B1321	Handle	With Handle cover
20	B1550	Terminal	
21	B1549	Grounding spring	
22	--	Soldering tip	See page 8
23	B1096	Cap nut	
24	B1468	Spring iron holder	
25	A1042	Cleaning sponge	
26	B1470	Iron holder base	



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