

HAKKO 950

SMD HOT TWEezer

SMD電熱鑷子 日本白光牌

Instruction Manual

使用說明書

Thank you for purchasing the HAKKO 950 SMD Hot Tweezer.

Please read this manual before operating the HAKKO 950.

Store the manual in a safe, easily accessible place for future reference.

承蒙惠顧 HAKKO 950 SMD 電熱鑷子，謹致謝忱。本說明書敘述 HAKKO 950 的使用與保養方法。請在使用之前，先閱讀之。閱讀之後，妥善保存，以供日後參考。

CAUTION

- The HAKKO 950 cannot function by itself. It must be connected to a HAKKO station. Specific information can be found in the instruction manual for your particular HAKKO station.
- Before operating the HAKKO 950 for the first time, be sure to calibrate the station.
- Do not set the tip temperature to over 400°C.

注意

- HAKKO 950 無法單獨使用。必須連接到 HAKKO 控制臺。請參閱所使用 HAKKO 使用說明書，以獲得相關資料。
- 第一次使用 HAKKO 950 之前，請校準鑷子頭溫度。
- HAKKO 950 的使用溫度不能超過攝氏 400度。

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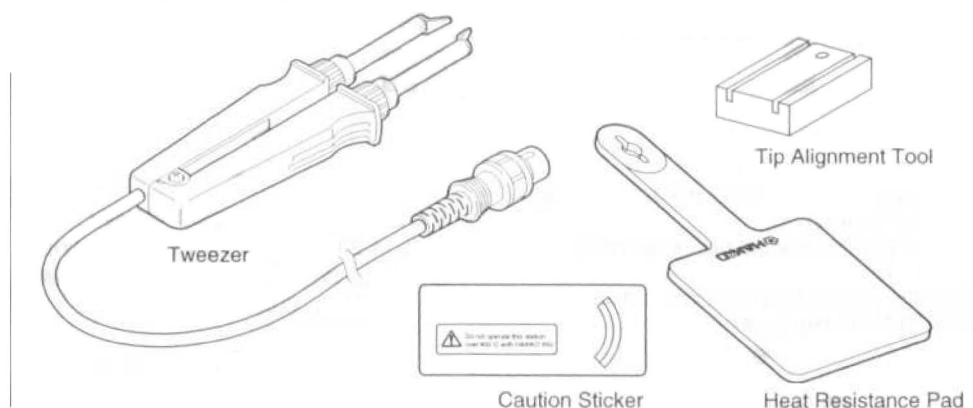
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Packing List

Please check the contents of the HAKKO 950 package and confirm that all the items listed below are included.

Tweezer	1
Caution Sticker	1
Heat Resistance Pad	1
Tip Alignment Tool	1
Instruction Manual	1



Applicable Models

In order to function, the HAKKO 950 must be connected to one of the following HAKKO stations: HAKKO 700, 701, 702, 926, 927, 928, 936, 937, 939.

Specifications


Name	HAKKO 950
Power Consumption	50W
Temperature Range	200-400°C/392-752°F
Tip to Ground Resistance	Under 2Ω
Tip to Ground Potential	Under 2mV
Heating Element	Ceramic Heater
Cord Assembly	1.2m (4 ft.)
Total Length (w/o Cord)	186mm (7.3 in.)
Weight (w/o Cord)	93g (0.2 lbs.)


* Specifications and design subject to change without notice.

Precautions

In this instruction manual, “warning” and “caution” are defined as follows.

WARNING

 **WARNING:** Misuse may potentially cause death of, or serious injury to, the user.

 **CAUTION :** Misuse may potentially cause injury to the user or physical damage to the objects involved.

For your own safety, be sure to comply with these precautions.

CAUTION

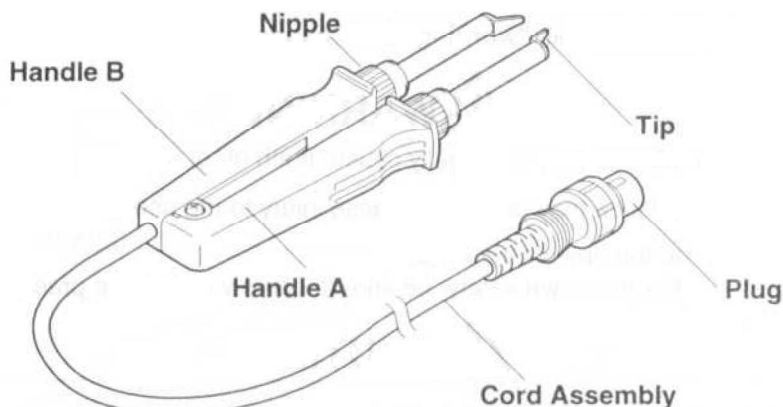
When the power is on, the tip temperature is between 200°C/392°F and 400°C/752°F. Since mishandling may lead to burns or fire, be sure to comply with the following precautions.

- Do not touch the metallic parts near the Tip.
- Do not use the product near flammable items.
- Advise other people in the work area that the unit can reach a very high temperature and should be considered potentially dangerous.
- Turn off the power while taking breaks and when finished using the unit.
- Before replacing parts or storing the unit, turn off the power and allow the unit to cool to room temperature.

To prevent damage to the unit and ensure a safe working environment, be sure to comply with the following precautions.

- Do not use the unit for applications other than those specifically described in the instruction manual.
- **Before using the HAKKO 950 for the first time, calibrate the tip temperature.**
- **Do not set the tip temperature to over 400°C/752°F.**
- Do not rap the HAKKO 950 against the work bench to shake off residual solder, or otherwise subject the iron to severe shocks.
- Do not modify the unit.
- Use only genuine HAKKO replacement parts.
- Do not wet the unit or use the unit when your hands are wet.
- The operating process will produce smoke. Make sure the area is well ventilated.
- Pull on the plug to disconnect the HAKKO 950 from the station outlet. Do not pull the cord.
- While using the unit, don't do anything which may cause bodily harm or physical damage.

Names of Parts



Setting up the HAKKO 950

1. Affix the caution sticker to the station.

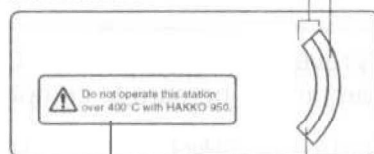
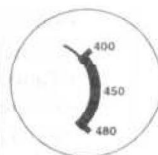
The HAKKO 950 cannot be used at temperatures above 400°C (752°F). Higher temperatures may damage the station. Be sure to affix the caution sticker to the station.

When using the HAKKO 950 SMD Hot Tweezer, do not operate this station at temperatures over 400°C (752°F).

For HAKKO 700,702

Dial type sticker only

Place the sticker above the temperature indicator lines.

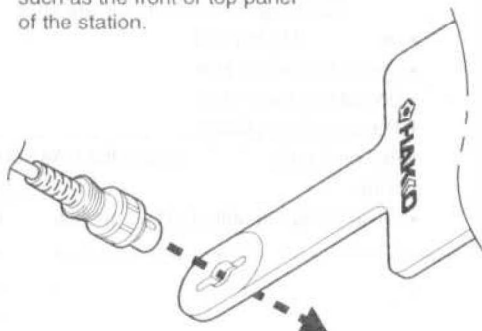


For HAKKO 926,936
928,701

Put the sticker in a visible area such as the front or top panel of the station.

2. Install the Heat Resistance Pad

Insert the cord plug through the hole in the Heat Pad. The Heat Pad is used when the soldering tip is replaced.



3. Iron holder

(Optional, part no. C1313)

An optional iron holder (part no. C1313) is available for use with the HAKKO 950.

1. Dampen the small cleaning sponge with water and squeeze it dry. Place it in one of the 4 openings in the iron holder base.

2. Add water to approximately the level shown in illustration. The small sponge will absorb water to keep the larger sponge above it wet at all times.

Note: The large sponge may be used separately (without the small sponge and water).

3. Dampen the large cleaning sponge and place it on the iron holder base.

4. Connections

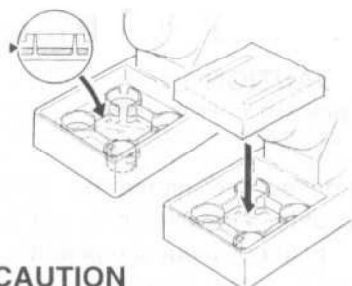
1. Connect the Plug to the receptacle.
2. Place the HAKKO 950 in the iron holder.
3. Plug the power cord into the power supply. Be sure to ground the unit.

5. Calibration

Before operating the HAKKO 950, be sure to calibrate the station using a tip thermometer (HAKKO 191 Thermometer or 192 Soldering Tester.

When calibrating the tip for removing SOP's, place the edge of the tip on the measuring point of the HAKKO 191 or 192, See sketch.).

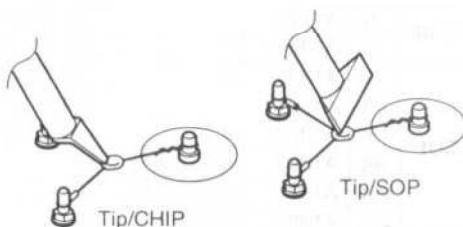
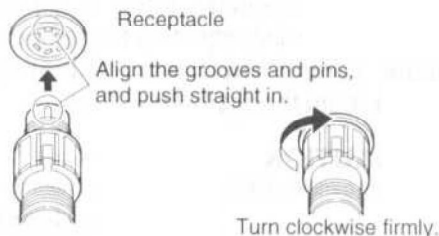
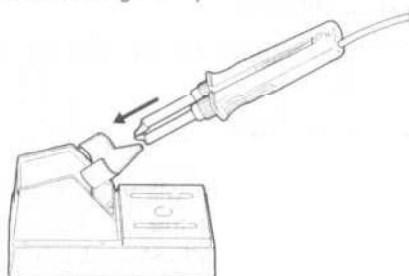
Please refer to the instruction manual for your station.



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.

Always use a damp sponge to clean the tip. Never wipe the tip clean on a dry sponge as this can damage the tip.



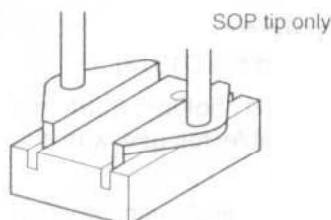
Tip selection/Replacing the Tip

Replacing the Tip

⚠ CAUTION

Be sure to turn off the power switch before replacing the tip.

1. Loosen the nipple by turning it counterclockwise. It is not necessary to pull it out completely.
2. When the tip is heated, grasp the pipe part using the heat resistance pad of the tip and pull.
3. Insert the new tip as far as it will go, and align it so that it is parallel to the other tip.
4. Tighten nipple to fix the tip in place.



Use the tip alignment tool to easily align the two tips in parallel.

⚠ CAUTION

The tip is very hot. If handled improperly, it can cause serious burns. Do not hold onto the heat resistance pad for a long period.

Tip Selection (Refer to P13)

The tip temperature will vary according to the shape of the tip. The preferred method of adjustment uses a tip thermometer. (See your station's instruction manual.) Less accurate methods include adjusting the temperature control knob and calibrating with a room thermometer.

⚠ CAUTION

Use only genuine HAKKO 950 replacement tips.

			Dial Type Station	Digital Type Station
Part No.			Difference From CHIP 2L	Compensation Value
CHIP	1L	A1379	0	+4°C (+7°F)
	2L	A1378	—	+4°C (+7°F)
	8L	A1380	0	+4°C (+7°F)
	10L	A1381	0	+4°C (+7°F)
SOP	13L	A1382	0	+4°C (+7°F)
	18L	A1383	-5°C (-9°F)	0
	20L	A1384	-5°C (-9°F)	0
	25L	A1385	-5°C (-9°F)	0

1. Dial type station

Example: When using an SOP 25L tip at a temperature of 400°C (750°F), the difference between this tip and CHIP 2L is -5°C (-9°F).

Set the temperature control knob to 405°C (759°F).

2. Digital type station

Digital type stations can be calibrated with a room thermometer. Refer to the compensation value chart below.

Specific instructions can be found in your station's instruction manual.

1. Set the Temperature

CAUTION

Never set the temperature to any value over 400°C (752°F). Doing so may damage the station.

Set the temperature according to the type of work to be done.

2. Apply solder or flux.

If there is insufficient solder on the PWB, or the soldered area is too small, apply solder or flux to the PWB. Solder may also be applied to the tip.

3. Melt the solder

Place the tip on the soldered part and melt the solder. Confirm that the solder is fully melted. See sketch 'A'.

4. Remove the component

After confirming that the solder is fully melted, lightly squeeze the tweezer to grasp the component and lift to remove the component. See sketch 'B'.

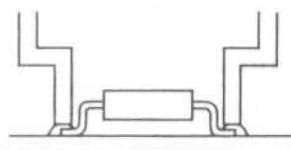
CAUTION

(For users of the HAKKO 937 Soldering Station)

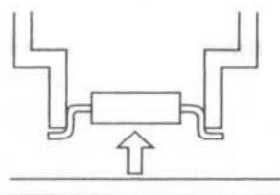
The HAKKO 950 contains a sensor—attached to the heating element in handle B—to detect the tip temperature. The HAKKO 937 Soldering Station's heater error function will not operate if the heating element in handle A is broken.

CAUTION

Very high tip temperatures may damage the printed circuit board, possibly causing the printed pattern to become detached. HAKKO recommends setting the tip temperature to 300°C (572°F) for all normal work, and raising it only when a specific job requires a higher temperature. Using the lowest possible effective temperature not only helps protect parts that are sensitive to heat, it also helps protect the tip from deterioration caused by heat.



A



B

English Troubleshooting Guide



WARNING Disconnect the power plug before servicing.
Failure to do so may result in electric shock.

More information can be found in your station's instruction manual.

Problem 1.
The tip does not heat up.

Check 1. Is the cord assembly broken ?

- Refer to 'Checking for breakage in the cord assembly.'

Check 2. Is the Heating Element broken?

- Refer to 'Checking for breakage in the heating element.'

Problem 2.
The tip heats up intermittently.

➡ **Check 1**

Problem 3.
The tip is not wet.

Check 3. Is the tip temperature too high?

- Set an appropriate temperature.

Check 4. Is the tip clean?

- Refer to 'Tip Care and Use'

Problem 4.
The tip temperature is too low.

Check 5. Is the tip coated with oxide?

- Refer to 'Inspect and clean the tip'

Check 6. Is the iron calibrated correctly?

- Recalibrate.

Problem 5.
The tip can not be pulled off.

**Check 7. Is the tip seized?
Is the tip swollen because
of deterioration?**

- Replace the tip and the heating element.

Problem 6.
**The tip doesn't hold the
desired temperature.**

➡ **Check 6 above.**

Checking for breakage of the heating element, cord assembly, and tip to ground resistance

English

Disconnect the plug and measure the resistance between the connecting plug pins as follows.

If the values of 'a' and 'b' are outside the ranges shown in the chart, replace the heating element (sensor) and/or cord assembly.

1. Broken heating element

⚠ CAUTION

Be sure to measure the resistance of the heating element in both handles A and B. If one of the heating elements is found to be broken, replace both heating elements.

Disassembling the HAKKO 950
(Refer to P11,12)

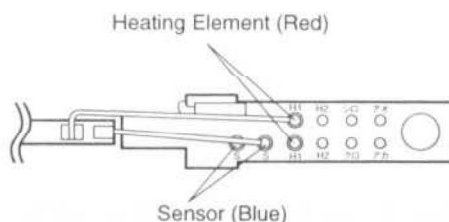
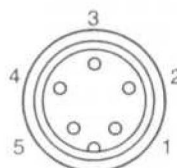
1. Loosen the nipple by turning it counterclockwise.
2. Pull out the tip.
3. Remove the screw.
4. Remove the strut pin, and detach handles A and B.

⚠ CAUTION

Do not lose the tension spring.

5. Remove the self-tapping screw and the handle cover.
6. Pull out the PWB and the heating element.

a	Between pins 4&5 (Heating Element)	2.5 - 4.5 Ω (Normal)
b	Between pins 1&2 (Sensor)	43 - 58 Ω (Normal)
c	Between pin 3&Tip	Under 2 Ω



Measure when the heating element is at room temperature.

1. Resistance value of heating element (RED) 2.5 - 4.5 Ω
2. Resistance value of sensor (BLUE) 43 - 58 Ω If the resistance value is not normal, replace the heating element.
(Refer to the instructions included with the replacement part.)

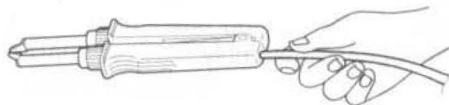
2. Broken Cord

There are two methods of testing the cord.

CAUTION

The LED heater lamp will flicker even with a normal cord if the temperature reaches 400°C (752°F).

1. Turn the unit ON and set the temperature to 400°C (752°F). Then wiggle and kink the iron cord at various locations along its length, including the strain relief area. If the LED heater lamp flickers, then the cord needs to be replaced.



2. Check the resistance between the pin of the plug and the wire on the terminal in the handle B.

Pin 1: Red

Pin 2: Blue

Pin 3: Green

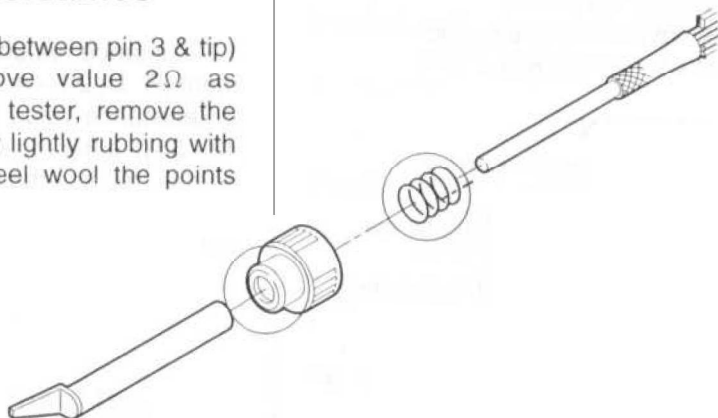
Pin 4: White

Pin 5: Black

The value should be 0 Ω. If it is greater than 0 Ω or is ∞, the cord should be replaced.

3. Checking the tip to ground resistance

If the value of 'c' (between pin 3 & tip) is over the above value 2 Ω as measured with a tester, remove the oxidization film by lightly rubbing with sand-paper or steel wool the points shown below.



Inspect and Clean the Tip



CAUTION

Never file the Tip to remove oxide.

1. Set the temperature to 250°C (482°F).
2. When the temperature stabilizes, clean the tip with the cleaning sponge and check the condition of the tip.
3. If there is black oxide on the solder-plated portion of the tip, apply new solder (containing flux) and wipe the tip on the cleaning sponge. Repeat until the oxide is completely removed. Coat with new solder.
4. If the tip is deformed or heavily eroded, replace it with a new one.

Tip Care and Use

•Tip Temperature _____

High operating temperatures can degrade the tip. Use the lowest possible operating temperature.

•Cleaning _____

Clean the tip regularly with a cleaning sponge, as oxides and carbides from the solder and flux can form impurities on the tip. These impurities can result in defective joints or reduce the tip's heat conductivity.

•When Not in Use _____

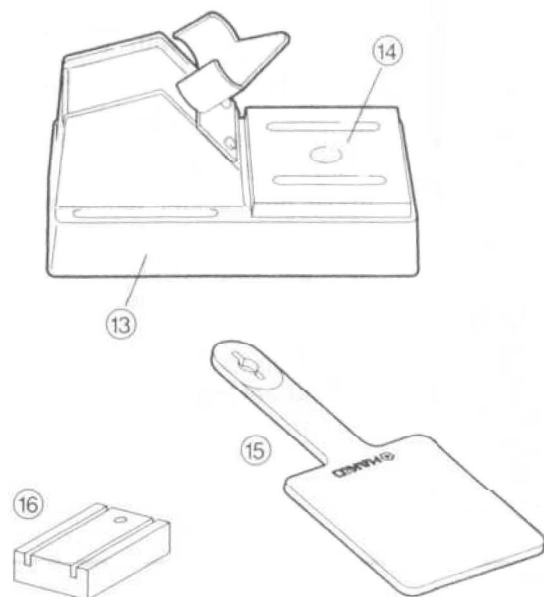
Never leave the HAKKO 950 sitting at high temperature for long periods of time, as the tip's solder plating will become covered with oxide, which can greatly reduce the tip's heat conductivity.

•After Use _____

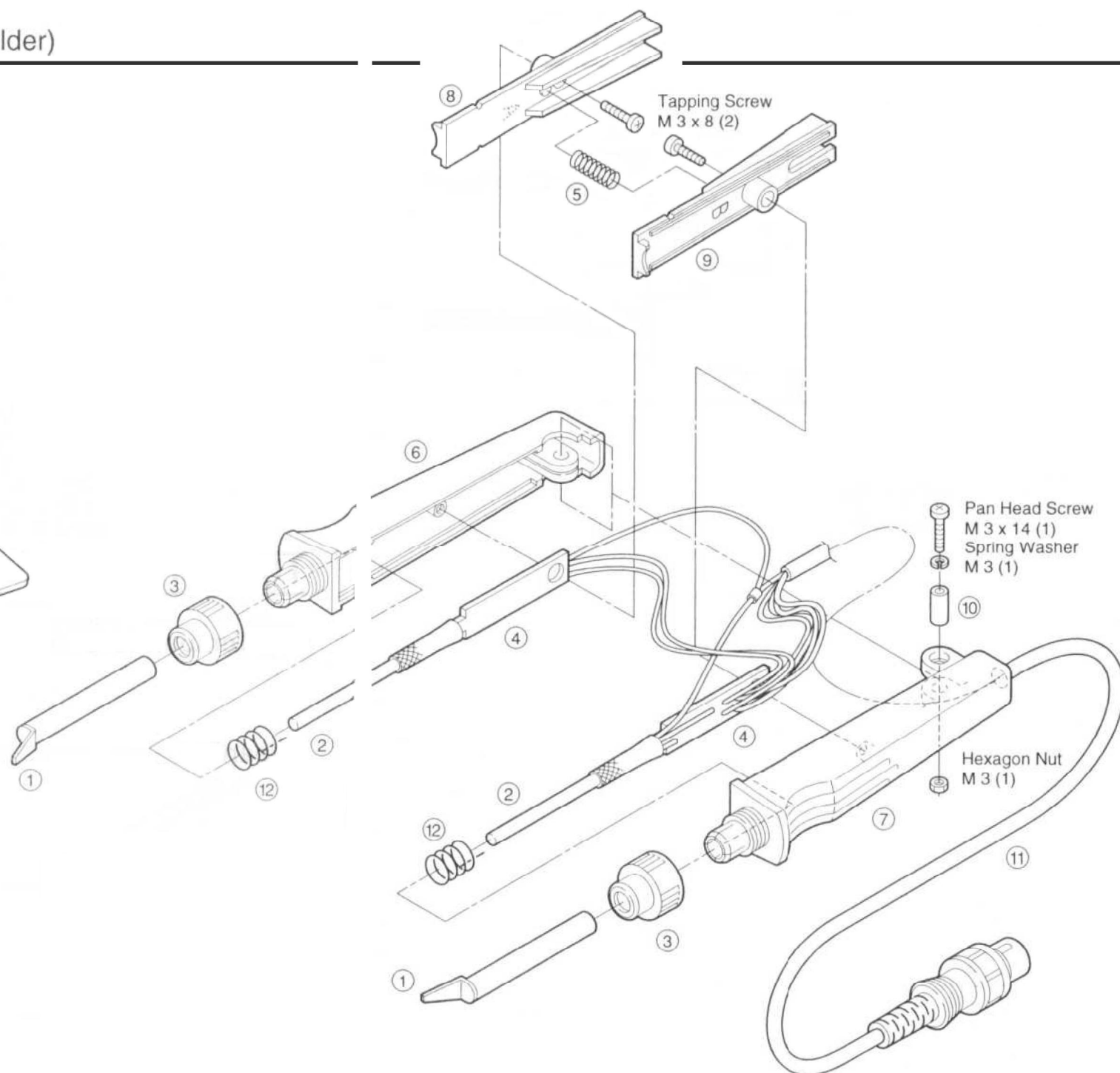
Wipe the tip clean and coat the tip with fresh solder. This helps prevent tip oxidation.

Parts List (Tweezer/Iron Holder)


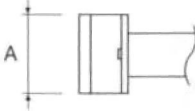
Note: Spare or repair parts do not include mounting screws, if they are not listed on the description. Screws must be ordered separately.

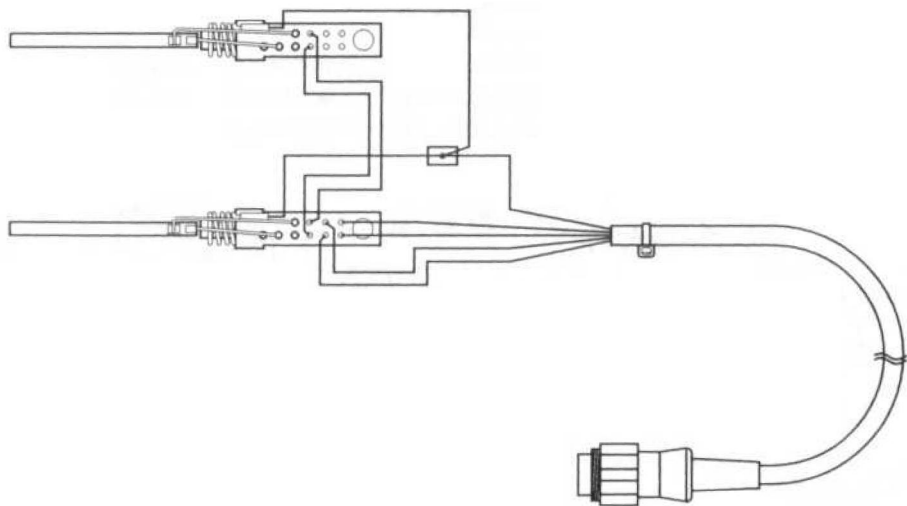


Item No.	Part No.	Part Name	Description
1		Tip	See P.13
2	A1377	Heating Element	24V-50W (25W x 2)
3	B2289	Nipple	
4	B2290	Terminal	
5	B2295	Tension Spring	
6	B2292	Handle A	
7	B2294	Handle B	
8	B2291	Handle Cover A	
9	B2293	Handle Cover B	
10	B2296	Strut Pin	
11	B2297	Cord Asse'y	
12	B2032	Grounding Spring	
13	C1313	Iron Holder	With Cleaning Sponge
14	A1386	Cleaning Sponge	
15	B2300	Heat Resistance Pad	
16	B2301	Tip Alignment Tool	



Parts List (Tips)

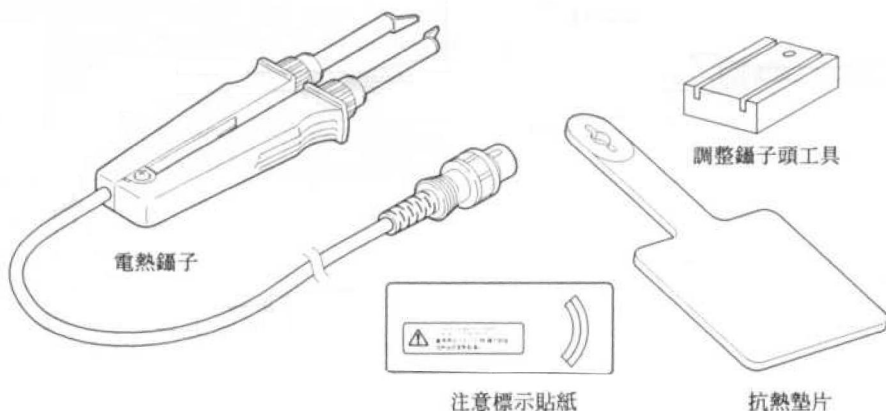
	Part No.	Part Name	Size A	Shape
CHIP	A1379	Tip/CHIP 1L	1mm (0.04 in.)	
	A1378	Tip/CHIP 2L	2mm (0.08 in.)	
SOP	A1380	Tip/SOP 8L	8mm (0.31 in.)	
	A1381	Tip/SOP 10L	10mm (0.39 in.)	
	A1382	Tip/SOP 13L	13mm (0.51 in.)	
	A1383	Tip/SOP 18L	18mm (0.71 in.)	
	A1384	Tip/SOP 20L	20mm (0.79 in.)	
	A1385	Tip/SOP 25L	25mm (0.98 in.)	



包裝清單

請檢查 HAKKO 950 的包裝內容，以確定下列各項都包含在內。

電熱鑷子	1
注意標示貼紙	1
抗熱墊片	1
調整鑷子頭工具	1
使用說明書	1



適用機型

HAKKO 950 必須連接到下列 HAKKO 控制臺中之一，才能操作：HAKKO 700, 701, 702, 926, 927, 928, 936, 937

規格

名稱	HAKKO 950
耗電	50 瓦特
溫度範圍	攝氏 200-400 度
鑷子頭至接地電阻	2 歐姆以下
鑷子頭至接地電勢	2 毫伏特 (TYP. < 代表值 > 0.6 毫伏特) 以下
發熱元件	陶瓷發熱器
電線組件	1.2 米
總長度 (不包含電線)	186 毫米
重量 (不包含電線)	93 公克

* 規格與設計得逕行變更，恕不通知。

注意事項

在本使用說明書內，“警告”與“注意”定義如下：

警告

- △警告：** 使用錯誤會有潛在危險，可能導致使用者死亡或嚴重受傷。
- △注意：** 使用錯誤會有潛在危險，可能導致使用者受傷或機器受損。
為了自身安全，請遵守下列注意事項。

注意

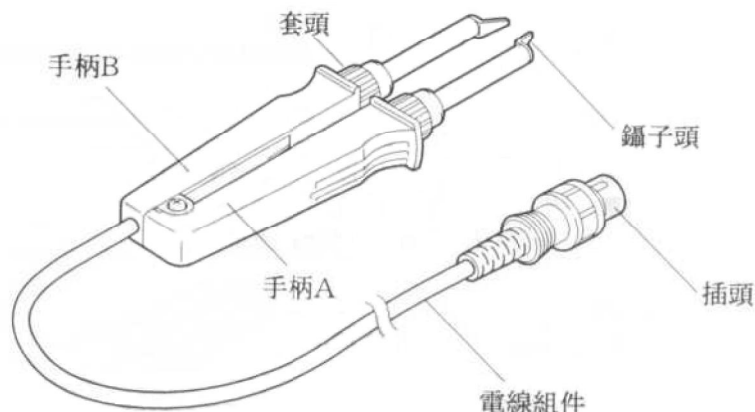
在電源開關開著時，鑷子頭極為炙熱，可能高達攝氏200～400度。在電熱鑷子通電或使用期間，請遵守下列安全事項，以免燙傷或失火。

- 請勿觸摸靠近鑷子頭之金屬部位。
- 請勿在易燃物品附近使用本機器。
- 告訴工作區內之其他人，本機器會極為炙熱，應該視為有潛在危險。
- 如果暫停作業或工作結束時，請將電源開關關掉。
- 在更換部件或收起本機器之前，請將電源關掉，並使機器冷卻至室溫。

請遵守下列安全事項，否則可能發生個人受傷或機器受損。

- 請勿使用本機器於使用說明書所述以外之工作。
- **第一次使用 HAKKO 950 之前，請校準鑷子頭溫度。**
- **HAKKO 950 的使用溫度不能超過攝氏400度。**
- 請勿用 HAKKO 950 敲打工作桌以除去錫屑，此舉可能嚴重震損。
- 請勿改裝本機器。
- 請務必僅使用 HAKKO 正廠更換部件。
- 請勿弄濕本機器或以濕手使用本機器。
- 操作過程中會產生煙霧。注意工作區內通風良好。
- 當將 HAKKO 950 之連接電線自控制臺的電線插座拔出時，要抓住插頭，不要拉住電線。
- 使用本機器時，不要做任何會導致人體受傷或機器受損的事。

部件名稱



組裝 HAKKO 950

1. 將注意標示黏貼在控制臺上

HAKKO 950 的使用溫度不能超過攝氏 400 度。

溫度過高會造成控制臺損壞。

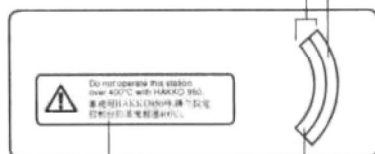
請確實將注意標示黏貼在控制臺上。

使用 HAKKO 950 SMD 電熱鑷子時，請勿設定溫度超過攝氏 400 度。

供 HAKKO 700, 702 用

字盤型標示貼紙

將標示貼紙黏貼於溫度指示線上之位置。



供 HAKKO 926, 936, 928, 701 用

將標示貼紙貼在容易看到之他方，如在控制臺前面或面板上。

2. 安裝抗熱墊片

將電線插頭穿過抗熱墊片的洞。抗熱墊片是在更換鑷子頭時使用。



3. 電熱鑷子支架

(選購品，部件編號 C1313)

可選購焊鐵架 (部件編號 C1313)，配合 HAKKO 950 使用。

1. 將小塊清潔海綿霧濕並擰乾，然後放進電熱鑷子支架底座四個開口中之一內。

2. 加水至如圖示高度。小海綿會吸水以保持其上海綿經常潮濕。

註：大海綿可分開使用 (不需小海綿及水)。

3. 將大塊清潔海綿霧濕，放在電熱鑷子支架底座上。

4. 連接

1. 將插頭連接到插座上。

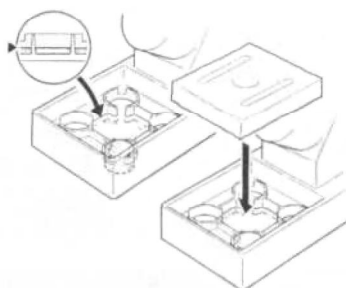
2. 將 HAKKO 950 放到支架上。

3. 將電源線插到電源插座內，並確實將主機接地。

5. 校準

操作 HAKKO 950 之前，請務必使用鉗頭溫度計來校準控制臺 (使用 HAKKO 191 溫度計或 192 焊鐵測試器。如果校準拆除 SOP 鑷子頭時，將鑷子頭端部放在 HAKKO 191 或 192 的量測點上)。

請參閱所使用控制臺的使用說明書。



△ 注意

海綿是經過壓縮的。霧濕後會膨脹。使用本機前，霧濕海綿並擰乾。

一定要使用潮濕海綿來清拭鑷子頭。絕不要用乾海綿清拭鑷子頭，否則會造成鑷子頭損壞。

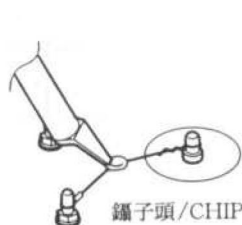


插座

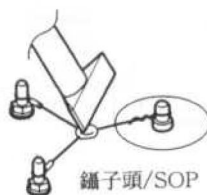
對準溝槽及接腳，
然後筆直插入。



順時針方向牢固轉緊。



鑷子頭/CHIP



鑷子頭/SOP



更換鑷子頭 / 鑷子頭選擇

更換鑷子頭

△注意

請務必在更換鑷子頭之前關掉電源。

1. 反時針方向轉開套頭，但不需完全拉出。
2. 如果鑷子頭尚熱，使用抗熱墊片包住管子部分後拉出。
3. 將新鑷子頭插入到底，並調整使其與另外的一邊平衡。
4. 轉緊套頭使鑷子頭定位。

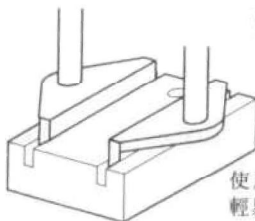
鑷子頭選擇 (參閱第 27 頁)

不同款型鑷子頭的溫度可能有所不同。最好使用溫度計來作溫度調整。(參閱所使用控制臺使用說明書。)較不精確的方法是調整溫度控制旋鈕並以室內溫度計校準。

△注意

更換鑷子頭時，應採用 HAKKO 950 原件。

僅為SOP鑷子頭用



使用調整鑷子頭工具可輕易地把雙頭排整。

△注意

鑷子頭溫度極高。如果處理不當，會引起嚴重灼傷。

切勿拿著抗熱墊片長久。

1. 字盤型控制臺

例如：如果在溫度攝氏 400 度使用 SOP 25L 鑷子頭時，此鑷子頭與 CHIP 2L 之差值為攝氏負 5 度。請設定溫度控制旋鈕為攝氏 405 度。

2. 數位型控制臺

數位型控制臺可使用室內溫度計來校準。請參閱補償值表。特殊事項可參閱所使用控制臺使用說明書。

			字盤型控制臺	數位型控制臺
			CHIP 2L 之差值	補償值
CHIP	1L	A1379	0	攝氏 +4 度
	2L	A1378	-	攝氏 +4 度
SOP	8L	A1380	0	攝氏 +4 度
	10L	A1381	0	攝氏 +4 度
	13L	A1382	0	攝氏 +4 度
	18L	A1383	攝氏 -5 度	0
	20L	A1384	攝氏 -5 度	0
	25L	A1385	攝氏 -5 度	0

使用方法

1. 設定溫度

△注意

絕對不可設定溫度超過攝氏 400 度。

超過的話可能使控制臺損壞。

根據所要完成的工作形態來設定溫度。

2. 塗上焊錫或焊劑

如果印刷電路板上焊錫不夠，或焊接區域太小的話，可塗上焊錫或焊劑。焊錫亦可塗在鑷子頭上。

3. 熔化焊錫

將鑷子頭放在焊接部位以熔化焊錫。確認焊錫已完全熔解。參閱 'A' 圖。

4. 拆下組件

焊錫已完全熔解後，輕輕壓合鑷子以夾住組件，並提起拆走。參閱 'B' 圖。

△注意

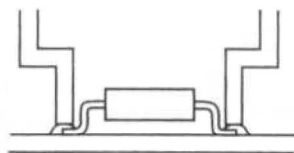
(供 HAKKO 937 焊接控制臺使用者)

HAKKO 950 含有傳感器—連接到手柄 B 內之發熱元件—以測知鑷子頭溫度。

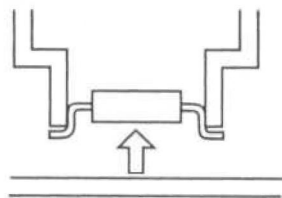
如果手柄 A 內之發熱元件故障的話，HAKKO 937 焊接控制臺的發熱器產生錯誤檢測，機能就不會作用。

△注意

鑷子頭溫度過高時會損壞電路板而引起其線路圖被剝離。HAKKO 建議您在一般工作上使用溫度在於攝氏 300 度而隨著工作條件可漸漸地將鑷子頭溫度提高。儘可能使用最低溫度來操作，以防止損壞對於溫度敏感之元件及防止鑷子頭之性能減退。



(圖A)



(圖B)

排除故障指南

⚠警告：維修前請拔掉電源插頭，否則可能會造成觸電。

所使用控制臺的使用說明書內含有其他相關資料。

故障 1

鐮子頭無法熱起來。

故障 2

鐮子頭斷斷續續地昇溫。

故障 3

鐮子頭澀不上焊錫。

故障 4

鐮子頭溫度太低。

故障 5

鐮子頭無法拔出。

故障 6

鐮子頭無法保持所需要的溫度

檢查 1 · 電線組件是否壞掉？

· 參閱「檢查電線組件的破損」

檢查 2 · 發熱元件是否壞掉？

· 參閱「檢查發熱元件的破損」

→檢查 1

檢查 3 · 鐮子頭溫度是否過高？

· 設定適當的溫度

檢查 4 · 鐮子頭是否已清理乾淨？

· 參閱「鐮子頭維修及使用」

檢查 5 · 鐮子頭是否有氧化物覆蓋？

· 參閱「檢查及清理鐮子頭」

檢查 6 · 電熱鐮子是否正確校準？

· 重新校準。

檢查 7 · 鐮子頭是否因過熱而卡死？

鐮子頭是否因老化而膨脹？

· 更換鐮子頭及發熱元件。

→檢查 6 上述。

檢查發熱元件與電線組件的破損，以及鑷子頭至接地的電阻

拔掉插頭並量測連接插頭接腳間的電阻如下：

如果附表上的“a”及“b”值超出所示的範圍時，更換發熱元件（傳感器）及／或電線組件。

1. 發熱元件損壞

△注意

務必量測手柄A及B二個發熱元件的電阻。如果發現其中之一損壞的話，二個發熱元件都須更換。

分解 HAKKO 950
(參閱第 25，26 頁)

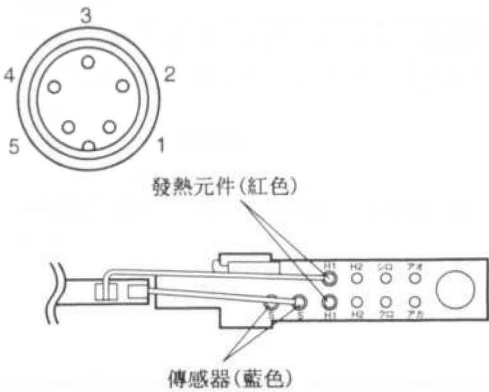
- 1. 反時針方向轉開套頭。
- 2. 拉出鑷子頭。
- 3. 拆下螺絲。
- 4. 拆下支桿柱，並把手柄 A 及 B 分開。

△注意

切勿弄丟張力彈簧。

- 5. 拆下攻螺絲頭釘及手柄護套。
- 6. 拉出印刷電路板及發熱元件。

a	接腳 4 與 5 之間 (發熱元件)	2.5-4.5 歐姆 (正常)
b	接腳 1 與 2 之間 (傳感器)	43-58 歐姆 (正常)
c	接腳 3 與鑷子頭之間	2 歐姆以下



當發熱元件回復到室溫時測量：

- 1. 發熱元件（紅色）的電阻值 2.5-4.5 歐姆。
- 2. 傳感器（藍色）的電阻值 43-58 歐姆。

如果電阻值不正常，更換發熱元件。
(參閱包含在更換部件內之說明)

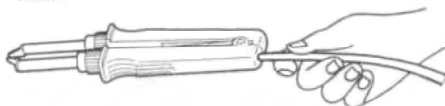
2. 電線破損

有二種方法可測試電線

△注意

如果溫度達到攝氏400度時，即使電線正常也好，發熱器的發光二極管指示燈也會閃爍。

1. 將機身電源打開，並設定溫度為攝氏400度。然後在電線全長各處（包括連接端點）擠擰。如果發熱器的發光二極管指示燈會閃的話，電線必須更換。



2. 檢查插頭接腳與手柄B內端子接線之間的電阻。

接腳1：紅色

接腳2：藍色

接腳3：綠色

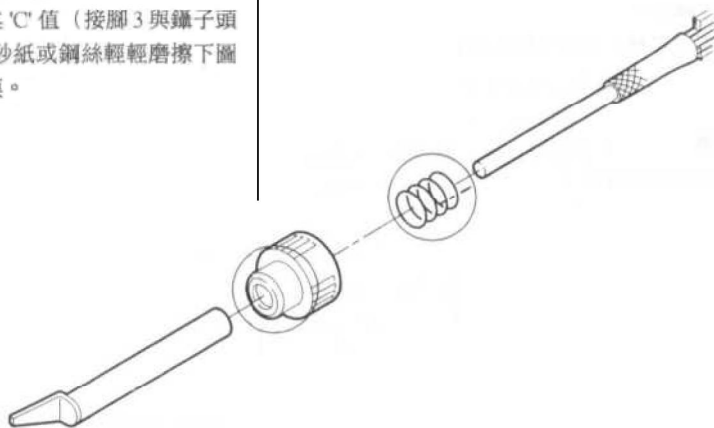
接腳4：白色

接腳5：黑色

其值應該是0歐姆。如果比0歐姆大，或是無限大時，電線必須更換。

3. 檢查鑷子頭至接地間的電阻

如果以測試器量測，前述'C'值（接腳3與鑷子頭之間）超過2歐姆時，以砂紙或鋼絲輕輕磨擦下圖所示各點，清除其氧化膜。



保養

檢查及清理鑷子頭

△注意

切勿以銼刀除去鑷子頭的氧化物。

1. 將溫度設定為攝氏 250 度。
2. 等候溫度穩定後，將鑷子頭在清潔海綿上輕輕擦拭，並檢查鑷子頭的狀況。
3. 如果鑷子頭的鍍錫部份含有黑色氧化物時，以新焊錫（含助焊劑）塗抹在鑷子頭上，再以清潔海綿擦拭鑷子頭。如此重複，直到氧化物完全除去為止。
最後再覆上一層新焊錫。
4. 如果鑷子頭變形或嚴重腐蝕的話，必須更換新的。

鑷子頭維護與使用

・鑷子頭溫度 _____

・清理 _____

・當不使用時 _____

・使用後 _____

操作溫度太高會使鑷子頭性能退化。操作時儘可能使用低溫。

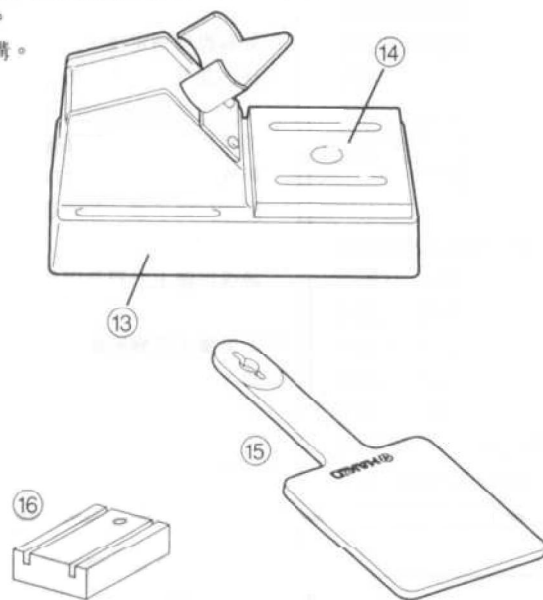
經常以清潔海綿擦拭鑷子頭，因為焊錫與助焊劑所產生之氧化物與碳化物會在鑷子頭上形成髒污。這些髒污會造成接頭不良或減低鑷子頭之導熱性。

切勿長時間放置HAKKO 950於高溫狀態下，因為鑷子頭的焊錫電鍍層會被氧化物覆蓋，而大大減低鑷子頭之導熱性。

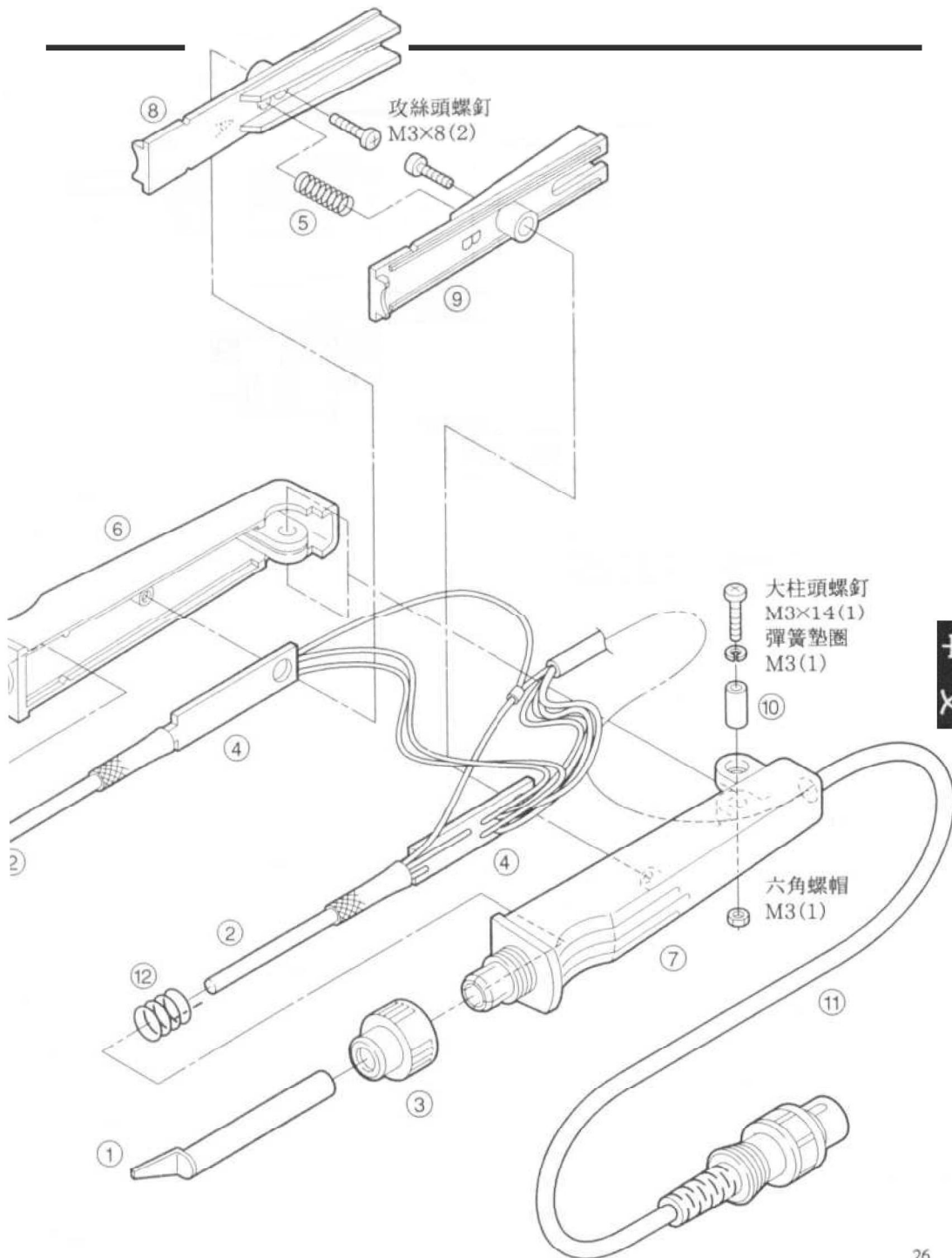
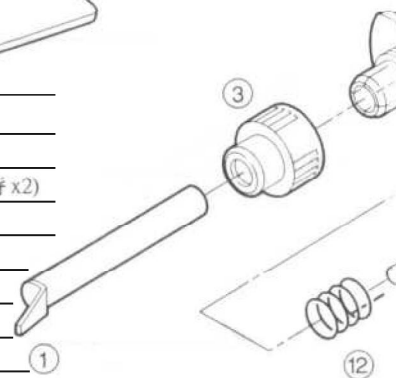
將鑷子頭擦拭乾淨，並覆上一層新焊錫，以防止鑷子頭引起氧化作用。

部件清單 (電熱鑷子 / 電熱鑷子支架)

註： 備用或維護部件之固定螺絲，如果敘述中未列出，則不包含在內。
螺絲須另外訂購。

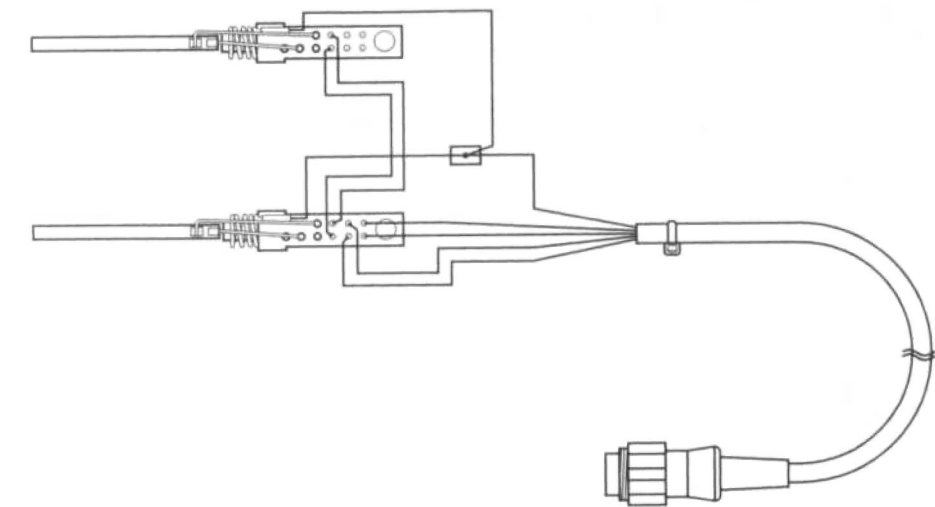


序號	部件編號	部件名稱	說明
1		鑷子頭	見第 27 頁
2	A1377	發熱元件	24 伏特 -50 瓦特 (25 瓦特 x2)
3	B2289	套頭	
4	B2290	端子	
5	B2295	張力彈簧	
6	B2292	手柄 A	
7	B2294	手柄 B	
8	B2291	手柄蓋 A	
9	B2293	手柄蓋 B	
10	B2296	支撐柱	
11	B2297	電線組件	
12	B2032	接地彈簧	
13	C1313	電熱鑷子支架	附清潔海綿
14	A1386	清潔海綿	
15	B2300	抗熱墊片	
16	B2301	調整鑷子頭工具	



部件清單 (鑷子頭)

	部件編號	部件名稱	尺寸 A	形狀
CHIP	A1379	鑷子頭 /CHIP 1L	1 毫米	
	A1378	鑷子頭 /CHIP 2L	2 毫米	
SOP	A1380	鑷子頭 /SOP 8L	8 毫米	
	A1381	鑷子頭 /SOP 10L	10 毫米	
	A1382	鑷子頭 /SOP 13L	13 毫米	
	A1383	鑷子頭 /SOP 18L	18 毫米	
	A1384	鑷子頭 /SOP 20L	20 毫米	
	A1385	鑷子頭 /SOP 25L	25 毫米	





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