



# **HAKKO 936** SOLDERING STATION

SOLDERING STATION

## **Instruction Manual**



**Thank you for purchasing the HAKKO 936 soldering station.  
Please read this manual before operating the HAKKO 936.  
Keep this manual readily accessible for reference.**



### **CAUTION**

When seeking tip replacements, select only “HAKKO” genuine soldering iron tips that are intended for your particular model of soldering iron (Please refer to the instruction manual). If an incompatible tip or a tip made by another manufacturer is used, the original performance of the soldering iron may not be obtained. Furthermore, the heating element, P.W.B. and transformer may be damaged.

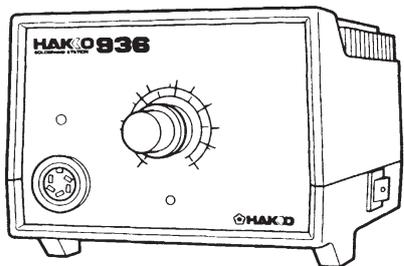
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# 1. PACKING LIST

Please check the contents of the HAKKO 936 package and confirm that all the items listed below are included.

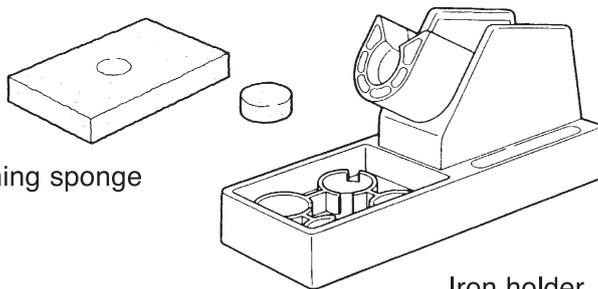
- HAKKO 936 Station ..... 1
- Soldering Iron (HAKKO 900 (S), 907 or 908) ..... 1
- HAKKO Iron Holder (With Cleaning Sponge) ..... 1
- Hex Wrench (1.5 mm, 0.059 in.) ..... 1
- Instruction Manual ..... 1



Station

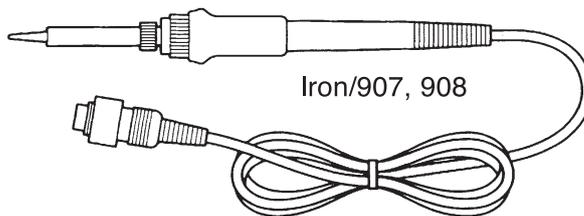


Hex wrench

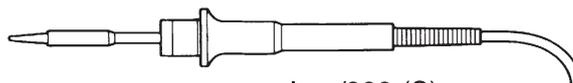


Cleaning sponge

Iron holder



Iron/907, 908



Iron/900 (S)

# 2. SPECIFICATIONS

Name	HAKKO 936
Power consumption	100, 110, 220-240V/60W 120V/65W

## ●Station

Part name	936 Station/936 Station ESD
Output voltage	24V AC
Temperature range	200~480°C/392~896°F
Dimensions	120 (W) × 93 (H) × 70 (D)mm (4.7 × 3.7 × 6.7 in.)
Weight (w/o cord)	1,300 g (2.9 lbs.)

- \* The tip temperature was measured using HAKKO 191 thermometer.
- \* This product is protected against electrostatic discharge.
- \* This product meets China RoHS requirements.
- \* Specifications and design are subject to change without notice.

## ■Electrostatic Protection

The product with the **ESD SAFE** mark 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 Iron

	900S 900S-ESD	907 907-ESD	908 908-ESD
Power Consumption	24V AC-50W		
Tip to Ground Resistance	< 2 Ω		
Tip to Ground Potential	< 2 mV		
Heating Element	Ceramic heater		
Cord Assembly	1.2 m (4 ft.)		
Total Length (w/o Cord)	176 mm (7 in.)	190 mm (7.5 in.)	200 mm (7.9 in.)
Weight (w/o Cord)	25 g (0.06 lbs.)	44 g (0.09 lbs.)	54 g (0.12 lbs.)

### 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	×	○	○	○	○	○
插座	×	○	○	○	○	○
接地終端板	×	○	○	○	○	○
電路板	×	○	○	○	○	○
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

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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 480°C/ 896°F.

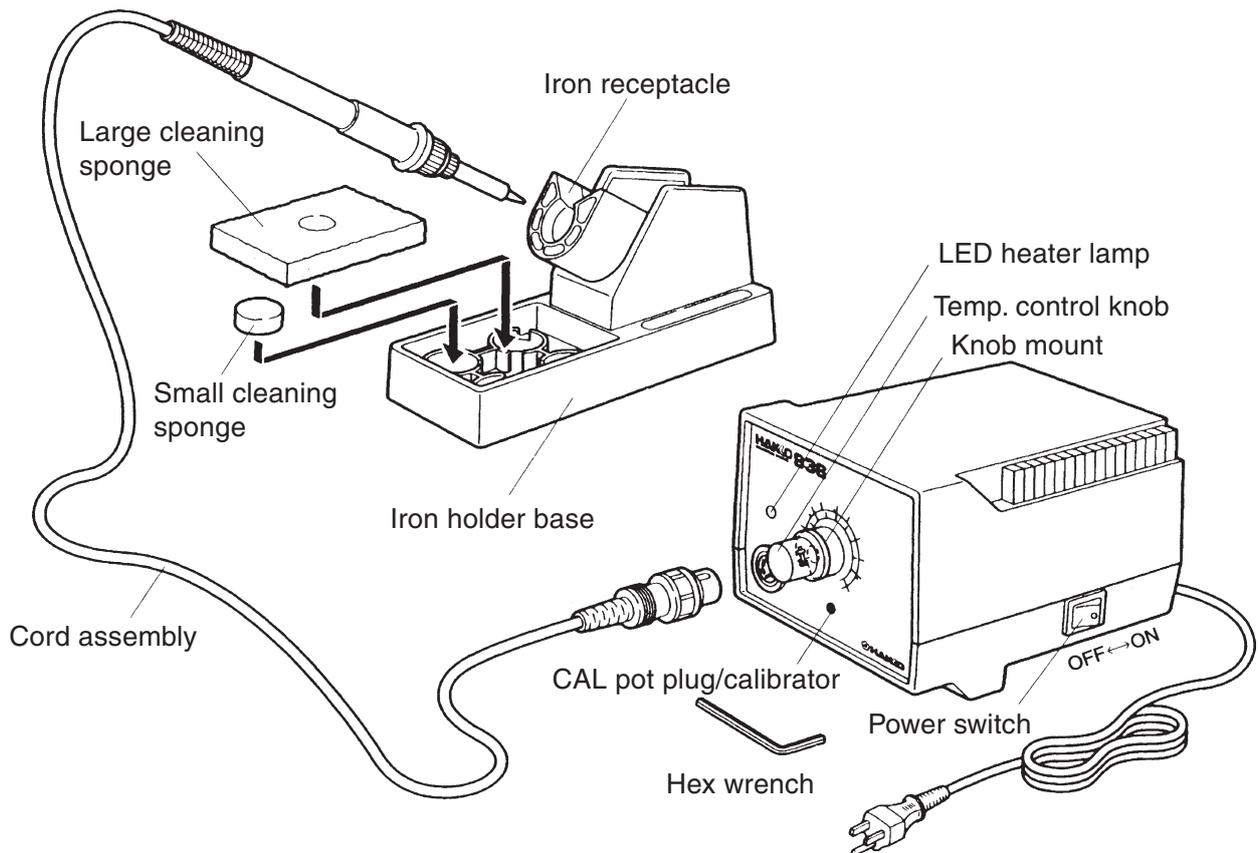
Since mishandling may lead to burns or fire, be sure to comply with the following precautions.

- 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 the power off while taking breaks and when finished using the unit.
- Before replacing parts or storing the unit, turn the power off 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 soldering.
- Do not rap the soldering iron 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 soldering process will produce smoke, so make sure the area is well ventilated.
- While using the unit, don't do anything which may cause bodily harm or physical damage.

## 4. PART NAMES



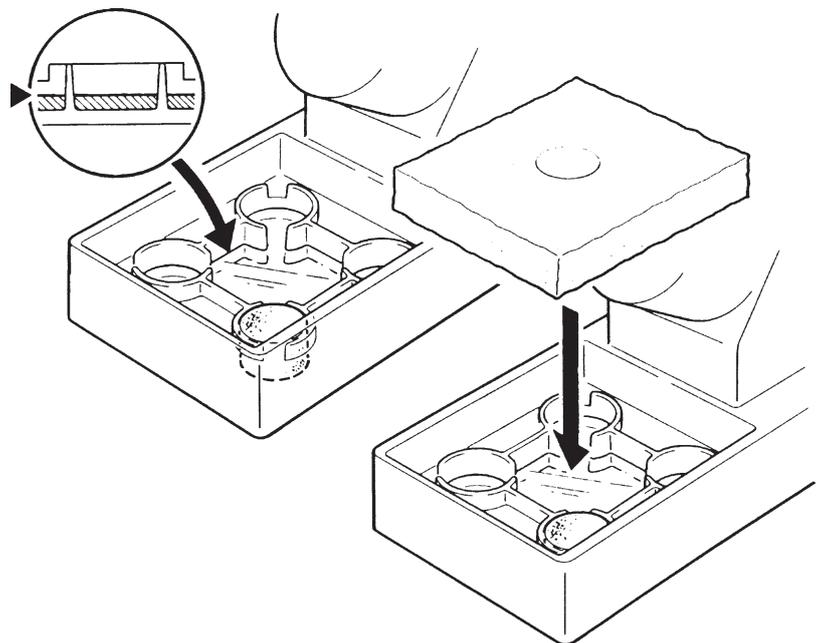
## 5. SETTING UP & OPERATING THE HAKKO 936

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

### A. Iron holder

1. Small cleaning sponge  
Dampen the small cleaning sponge with water and then squeeze it dry. Place it in one of the 4 openings of the iron holder base.
2. Add water to approximately the level as shown. The small sponge will absorb water to keep the larger sponge above it wet at all times.  
\*The large sponge may be used alone (w/o small sponge & water).
3. Dampen the large cleaning sponge and place it on the iron holder base.

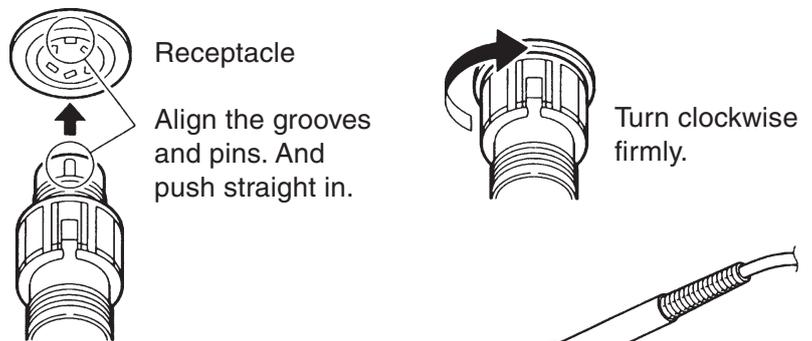
**Note:** The iron receptacles for the 900 (S) and the 907/908 soldering irons are different. Be sure to use the proper one for each type of soldering iron. (Refer to Parts List).



**⚠ CAUTION :** Be sure to turn off the power switch before connecting or disconnecting the soldering iron. Failure to do so may damage the P.W.B.

## B. Connections

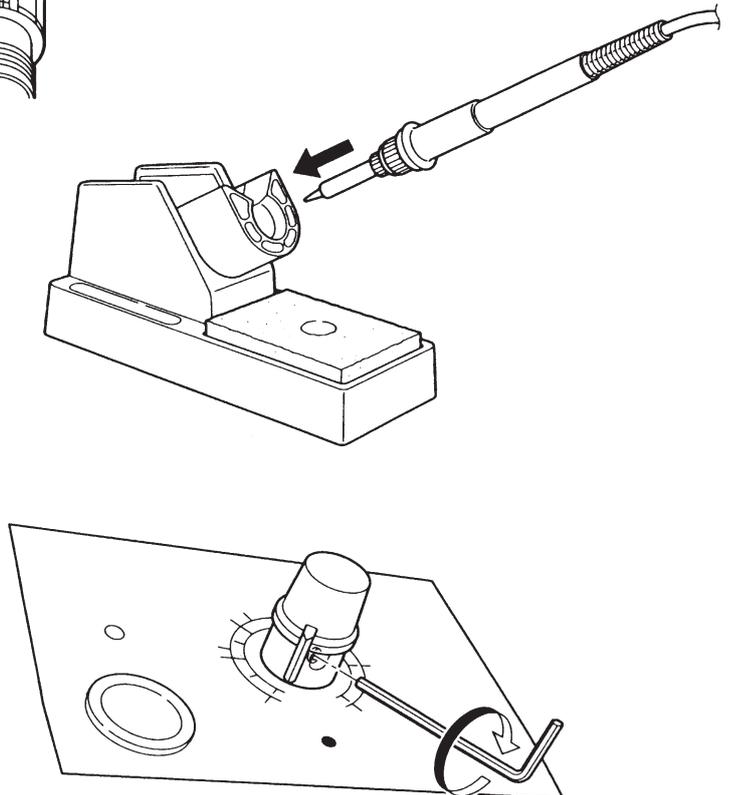
1. Connect the cord assembly to the receptacle.
2. Place the soldering iron in the iron holder.
3. Plug the power cord into the power supply. Be sure to ground the unit.



## C. Set the temperature

1. Set the temperature control knob to the desired temperature.
2. Lock the knob.

The HAKKO 936 station is equipped with a temperature control knob lock. After setting the desired temperature, tighten the hex nut on the underside of the knob mount using the supplied hex wrench. Turn the nut clockwise to tighten the knob lock.



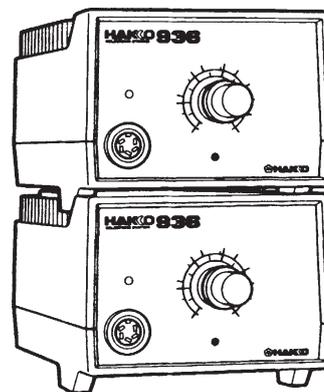
**⚠ CAUTION :**

- Don't overtighten the knob lock.
- Don't attempt to turn the knob when the knob lock is on.

## D. Turn on the power switch.

The heater lamp blinks on and off when the tip temperature reaches the set temperature. The unit is now ready to perform soldering work.

For greater convenience, and soldering efficiency, two stations can be securely stacked as shown.



**⚠ CAUTION :** The soldering iron must be placed in the iron holder when not in use.

# 6. TIP CARE AND USE

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- **Tip temperature** — 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. This also protects the soldered items from thermal damage.
- **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 using the soldering iron continuously, be sure to loosen the tip and remove all oxides at least once a week. This helps prevent seizure and reduction of the tip temperature.
- **When not in use** — Never leave the soldering iron 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.

# 7. MAINTENANCE

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## 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.

# 8. CALIBRATING THE IRON TEMPERATURE

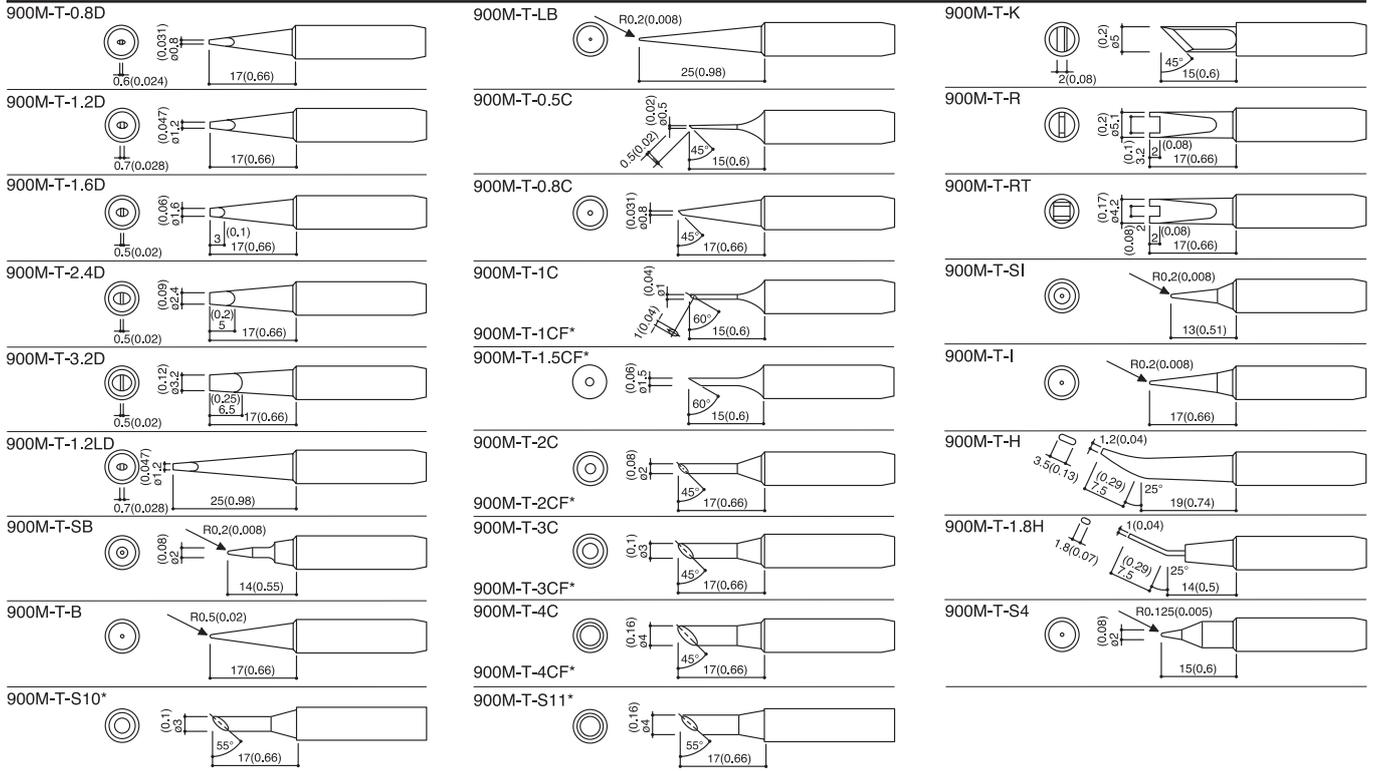
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The soldering iron should be recalibrated after changing the iron, or replacing the heating element or tip.

1. Connect the cord assembly plug to the receptacle on the station.
2. Set the temperature control knob to 400°C (750°F).
3. Turn the power switch to "ON" and wait until the temperature stabilizes. Remove the CAL potentiometer plug.
4. When the temperature stabilizes, use a straight-edge (-) screwdriver or small plus (+) screwdriver to adjust the screw (marked CAL at the station) until the tip thermometer indicates a temperature of 400°C (750°F).  
Turn the screw clockwise to increase the temperature and counterclockwise to reduce the temperature.  
Replace the CAL pot plug.  
\* We recommend the HAKKO FG-100 or FG-101 thermometer for measuring the tip temperature.

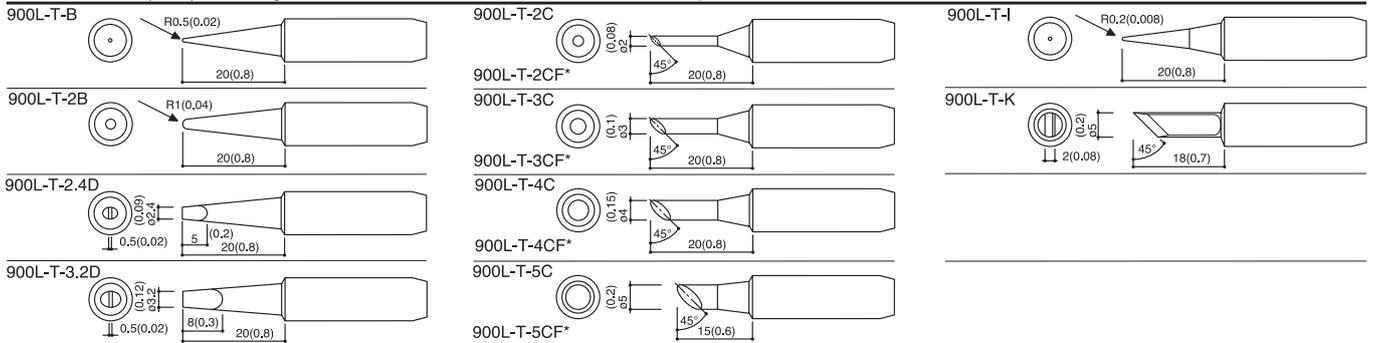
# 9. TIP STYLES

## 907



\*900M tip Out Dia.  $\phi 6.5$

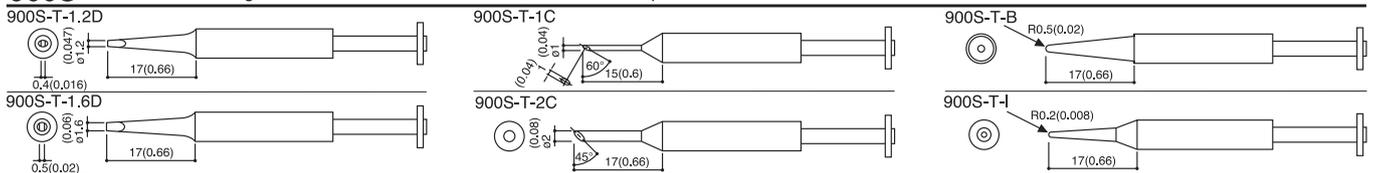
## 908 For heavy duty soldering HAKKO recommends the 908 iron with heavier tips.



\*900L tip Out Dia.  $\phi 8.5$

\*These tips are tinned flat only.

## 900S For micro soldering HAKKO recommends the 900S iron with fine tips.



\*900S tip Out Dia.  $\phi 5.8$

# 10. TROUBLESHOOTING GUIDE

**⚠ WARNING :** \* Disconnect the power plug before servicing.  
Failure to do so may result in electric shock.  
\* If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarity qualified person in order to avoid personal injury or damage to the unit.

Problem 1.  
**The heater lamp does not light up.**

**Check 1. Is the power cord and/or connecting plug disconnected?**

- Connect it.

**Check 2. Is the fuse blown?**

- Determine why the fuse blew and eliminate the cause, then replace the fuse.
- a. Is the inside of the iron short-circuited?  
b. Is the grounding spring touching the heating element?  
c. Is the heating element lead twisted and short-circuited?

Problem 2.  
**The heater lamp lights up but the tip does not heat up.**

**Check 3. Is the soldering iron cord broken?**

- Refer to “Checking for breakage in the cord assembly.”

**Check 4. Is the Heating Element broken?**

- Refer to “Checking for breakage in the heating element.”

Problem 3.  
**The tip heats up intermittently.**

➡ **Check 3**

Problem 4.  
**The tip is not wet.**

**Check 5. Is the tip temperature too high?**

- Set an appropriate temperature.

**Check 6. Is the tip clean?**

- Refer to “Tip Care and Use”

Problem 5.  
**The tip temperature is too low.**

**Check 7. Is the tip coated with oxide?**

- Refer to “Inspect and clean the tip”

**Check 8. Is the iron calibrated correctly?**

- Recalibrate.

Problem 6.  
**The tip can not be pulled off.**

**Check 9. Is the tip seized?**

**Is the tip swollen because of deterioration?**

- Replace the tip and the heating element.

Problem 7.  
**The tip doesn't hold the desired temperature.**

➡ **Check 8**

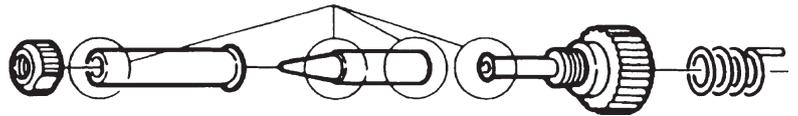
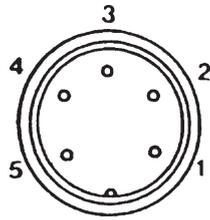
# 11. CHECKING FOR BREAKAGE OF THE HEATING ELEMENT AND CORD ASSEMBLY

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

If the values of “a” and “b” are outside the above value, replace the heating element (sensor) and/or cord assembly. Refer to Procedures 1 and 2.

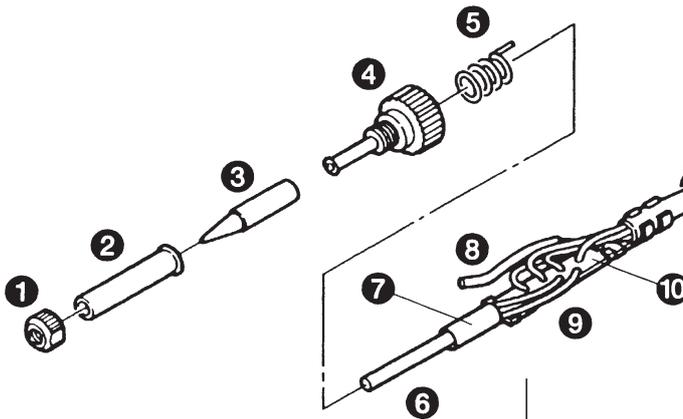
If the value of “c” is over the above value, remove the oxidization film by lightly rubbing with sand-paper or steel wool the points shown below.

a	Between pins 4&5 (Heating Element)	2.5 - 3.5 Ω (Normal)
b	Between pins 1&2 (Sensor)	43 - 58 Ω (Normal)
c	Between pin 3&Tip	< 2 Ω



Disassembling the 907/908

## 1. Broken Heating Element



Heating Element (Red)      Sensor (Blue)



1. Turn the nut (1) counterclockwise and remove the tip enclosure (2), the tip (3).
2. Turn the nipple (4) counterclockwise and remove it from the iron.
3. Pull both the heating element (6) and the cord assembly (11) out of the handle (12). (Toward the tip of the iron).
4. Pull the grounding spring (5) out of the sleeve.

Measure when the heating element is at room temperature.

1. Resistance value of heating element (RED) 2.5 - 3.5 Ω
2. Resistance value of sensor (BLUE) 43- 58 Ω

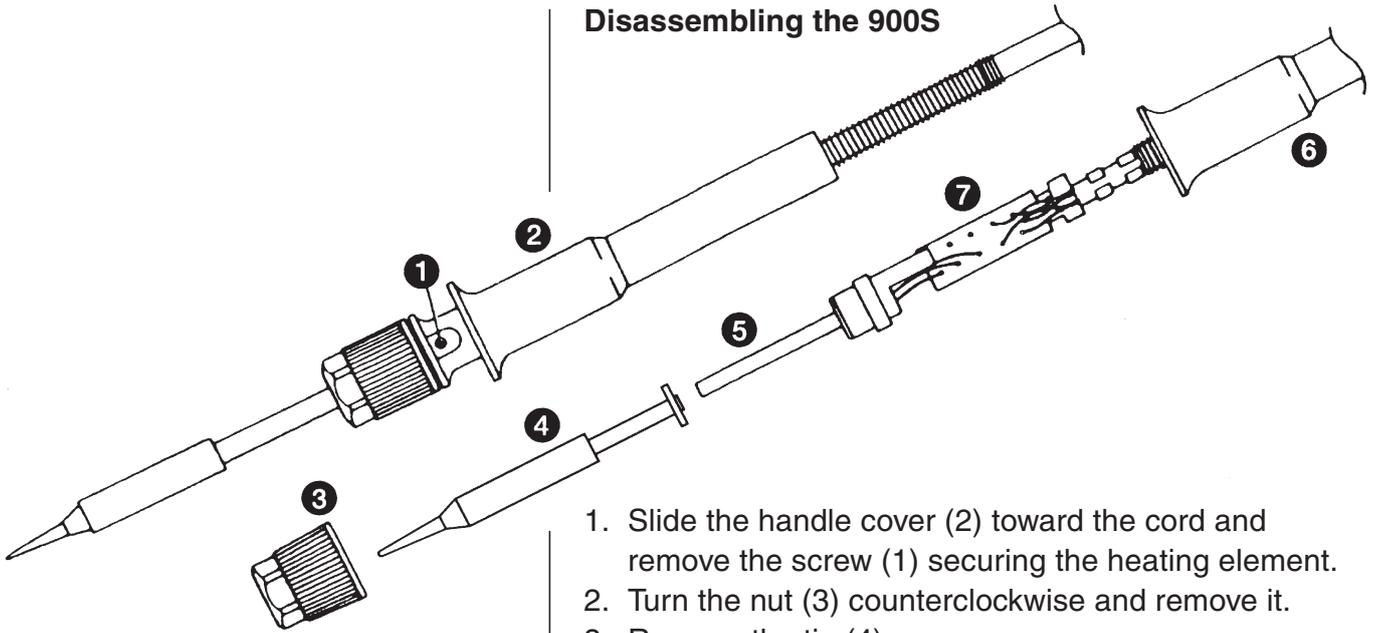
If the resistance value is not normal, replace the heating element.

(Refer to the instructions included with the replacement part.)

After replacing the eating Element,

1. Measure the resistance value between 1) pins 4 and 1 or 2; 2) pins 5 and 1 or 2. If it is not ∞, the heating element and sensor are touching. This will damage the P.W.B.
2. Measure the resistance value “a”, “b”, and “c” to confirm that the leads are not twisted and that the grounding spring is properly connected.

## Disassembling the 900S



1. Slide the handle cover (2) toward the cord and remove the screw (1) securing the heating element.
2. Turn the nut (3) counterclockwise and remove it.
3. Remove the tip (4).
4. Pull both the heating element (5) and the cord toward the tip of the iron and out of the handle (6).

Measure the resistance values at the sensor and the heating element of the terminal board.

The resistance value should be the same as for the 907, 908.

To replace the heating element, refer to the instructions included with the replacement part.

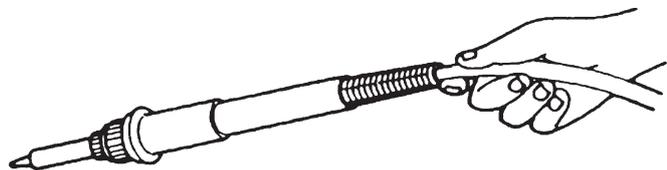
## 2. Broken Soldering Iron Cord

There are two methods of testing the soldering iron cord.

### **⚠ CAUTION**

The LED heater lamp will flicker even with a normal Iron cord if the temperature reaches 480°C (896°F).

1. Turn the unit ON and set the temperature control knob to 480°C (896°F). Then wiggle and kink the iron cord at various locations along its length, including in 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.

Pin 1: Red Pin 2: Blue Pin 3: Green Pin 4: White  
Pin 5: Black

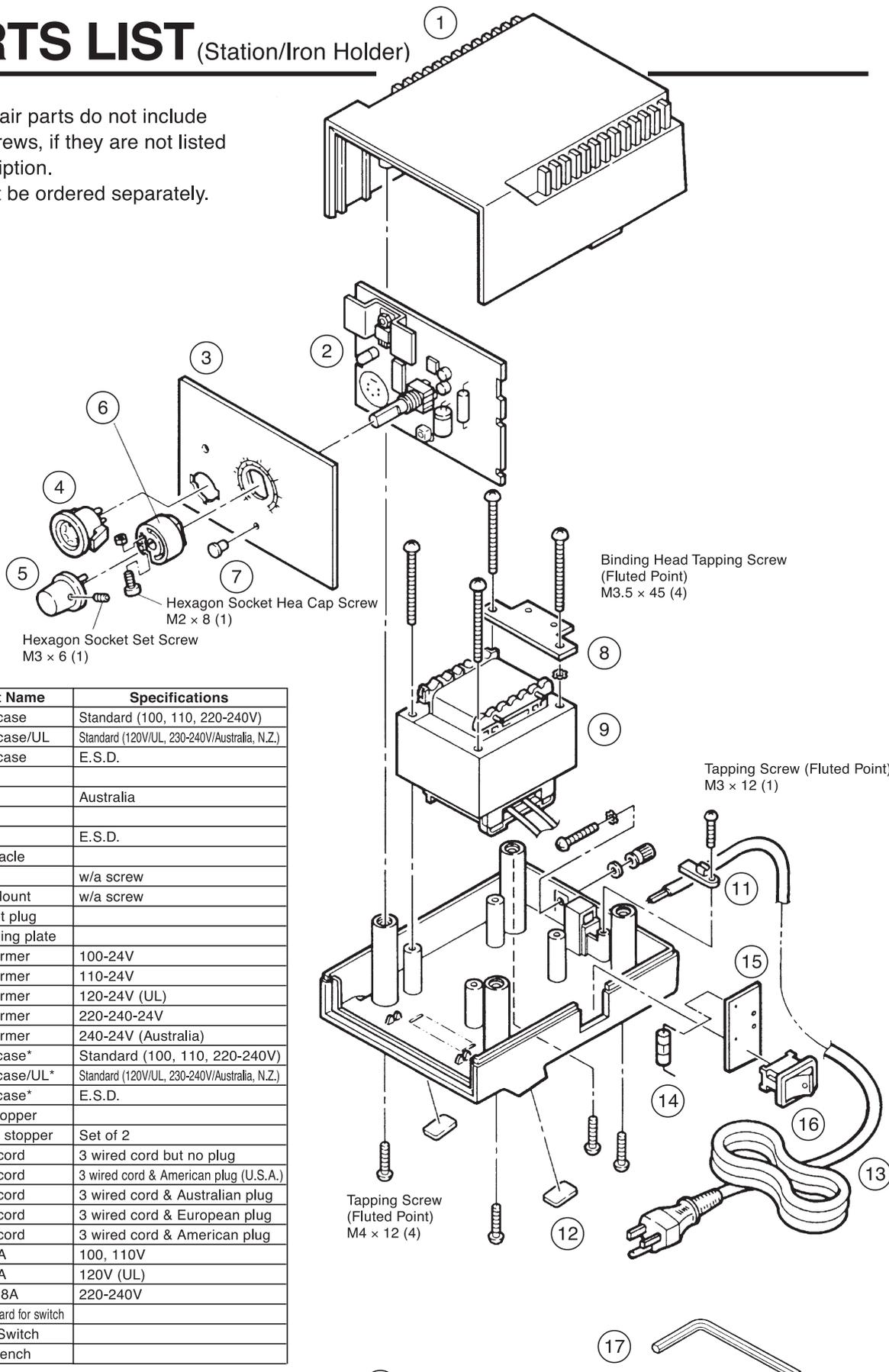
The value should be 0 Ω. If it is greater than 0 Ω or is ∞, the cord should be replaced.

## 3. Replacing the Fuse

Refer to the drawing in the replacement parts section of this manual. Desolder the blown fuse and remove it. Solder on a new one.

# 12. PARTS LIST (Station/Iron Holder)

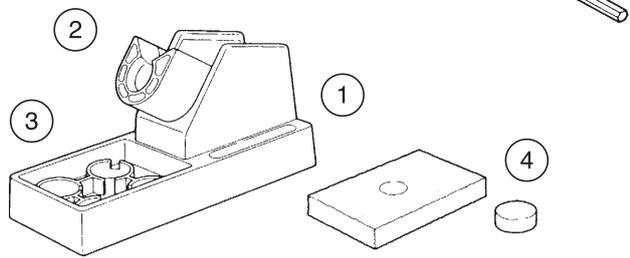
**Note:** Spare or repair parts do not include mounting screws, if they are not listed on the description.  
Screws must be ordered separately.



Item No.	Part No.	Part Name	Specifications
①	B2048	Upper case	Standard (100, 110, 220-240V)
	B2225	Upper case/UL	Standard (120V/UL, 230-240V/Australia, N.Z.)
	B2001	Upper case	E.S.D.
②	B2229	P.W.B.	
	B2319	P.W.B.	Australia
③	B2003	Panel	
	B2287	Panel	E.S.D.
④	B2006	Receptacle	
⑤	B2004	Knob	w/a screw
⑥	B2005	Knob Mount	w/a screw
⑦	B2018	CAL pot plug	
⑧	B2227	Grounding plate	
⑨	B2011	Transformer	100-24V
	B2012	Transformer	110-24V
	B2228	Transformer	120-24V (UL)
	B2014	Transformer	220-240-24V
	B2088	Transformer	240-24V (Australia)
⑩	B2000	Lower case*	Standard (100, 110, 220-240V)
	B2226	Lower case/UL*	Standard (120V/UL, 230-240V/Australia, N.Z.)
	B2002	Lower case*	E.S.D.
⑪	B2015	Cord stopper	
⑫	B2016	Rubber stopper	Set of 2
⑬	B1318	Power cord	3 wired cord but no plug
	B1319	Power cord	3 wired cord & American plug (U.S.A.)
	B2042	Power cord	3 wired cord & Australian plug
	B2043	Power cord	3 wired cord & European plug
	B3504	Power cord	3 wired cord & American plug
⑭	B2007	Fuse/2A	100, 110V
	B2224	Fuse/2A	120V (UL)
	B2008	Fuse/0.8A	220-240V
⑮	B2103	Wiring board for switch	
⑯	B1084	Power Switch	
⑰	B2017	Hex Wrench	

\*w/Rubber stopper

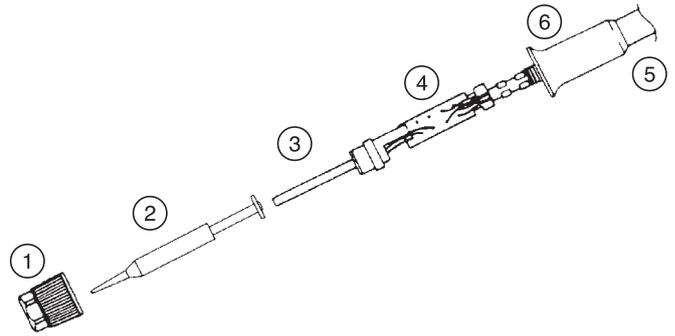
Item No.	Part No.	Part Name	For
①	C1141	Iron holder	900S
	C1142	Iron holder	907, 908
②	B2020	Iron receptacle	900S
	B2021	Iron receptacle	907, 908
③	B2019	Iron holder base	900S, 907, 908
④	A1042	Cleaning sponge	900S, 907, 908



# 12. PARTS LIST (Iron)

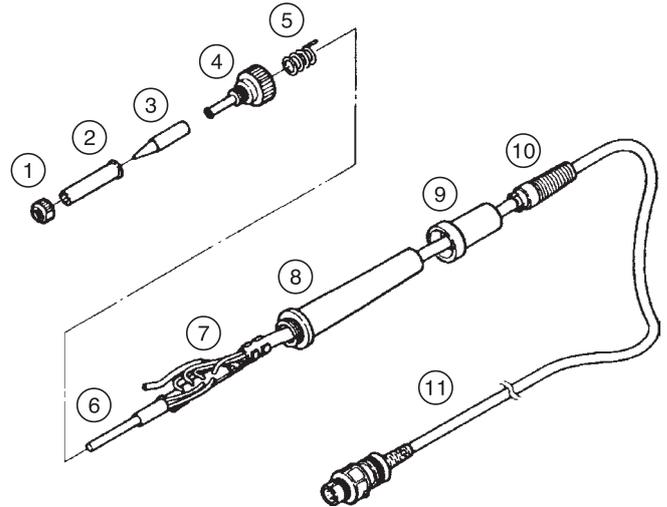
## 900S

Item No.	Part No.	Part Name	Specifications
①	900S-006	Nut	
	900S-006S	Nut	E.S.D.
②		Soldering tip	See P.6
③	A1322	Heating element	Old part No.900S-H
④	900S-101	Terminal board	w/Cord stopper
⑤	900S-001	Handle	w/Handle cover
	900S-001S	Handle	w/Handle cover, E.S.D.
⑥	900S-034	Handle cover	
	900S-034S	Handle cover	E.S.D.
⑦	900S-010	Cord bushing	(Not shown)
⑧	900S-039	Cord asse'y	(Not shown)
	900S-039S	Cord asse'y	E.S.D. (Not shown)

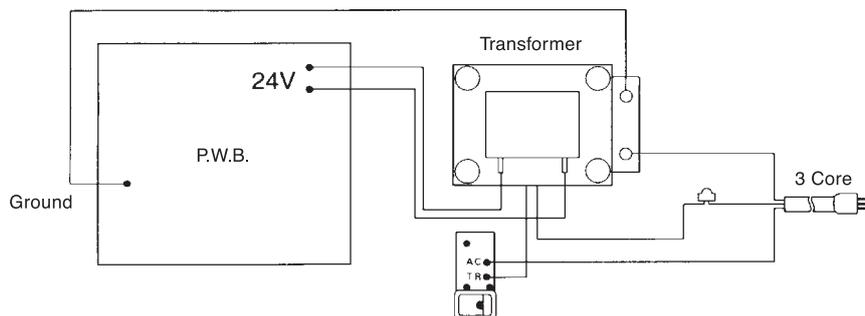


## 907, 908

Item No.	Part No.	Part Name	Specifications	For
①	B1784	Nut		907
	B1794	Nut		908
②	B1786	Tip enclosure		907
	B1787	Tip enclosure		908
③		Soldering tip	See. P.6	907
		Soldering tip	See. P.6	908
④	B2022	Nipple		907
	B2033	Nipple		908
⑤	B2032	Grounding spring		907, 908
⑥	A1321	Heating element	Old part No.900M-H 900L-H	907, 908
⑦	B2028	Terminal board	w/Cord stopper	907, 908
⑧	B2023	Handle	w/Handle cover	907
	B2024	Handle	w/Handle cover, E.S.D	907
	B2025	Handle	w/Handle cover	908
	B2026	Handle	w/Handle cover, E.S.D.	908
⑨	B2027	Handle cover		907, 908
⑩	B2031	Cord bushing		907, 908
⑪	B2029	Cord asse'y		907, 908
	B2030	Cord asse'y	E.S.D.	907, 908



# 13. WIRING DIAGRAM



## HAKKO CORPORATION HEAD OFFICE

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